

Research on the Impact of Central Bank Digital Currency on Third-party Payment and Countermeasures

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Abstract: Based on the existing public information, this paper analyzes the advantages of central bank digital currency by comparing with the third-party payment. Although the foundation of third-party payment will not be shaken, the legal digital currency of the central bank has brought opportunities and challenges to a certain extent. Therefore, the third-party payment platform should do a good job in "wallet" service, optimize user experience, scenario cooperation, make efforts to end B and explore cross-border payment.

1 INTRODUCTION

With the rocketing progress of information technology, the digital economy characterized by mobile technology, big data, blockchain, IOT and other emerging technologies is booming, reshaping the business model of all walks of life and bringing a huge impact on the payment industry. At the same time, with the spread of COVID-19 in the world, the monetary policy has also been hindered. Under the dual influence, the use of digital currency is particularly important.

Digital currency can be called another major revolution in the process of currency evolution. Many countries in the world are carrying out the research and development of central bank digital currency, including the eurozone, Japan and Russia. And other major economies have decided to launch CBDC and enter the proof of concept or research and development (R&D) stage. China's digital currency pilot work is also advancing steadily. The people's Bank of China took the lead in opening the analysis topic of China's official digital currency. With the field tests carried out in the selected pilot cities, the veil of legal digital currency worn by the central bank has been gradually lifted.

2 OVERVIEW OF CENTRAL BANK LEGAL DIGITAL CURRENCY

2.1 Concept Definition

Central bank legal tender (DCEP) is a legal tender issued in digital form by the people's Bank of China (the Central Bank of China). Fundamentally, the central bank's legal digital currency has the same payment positioning as RMB paper currency. It will enable users to have more payment options during transaction payment by replacing part of M0. In daily life, it will be mainly used in retail, high-frequency and small amount scenarios such as shopping centers.

2.2 Six Core Characteristics

By combing the existing public data, the writer believes that the legal digital currency of the central bank has the following six core characteristics, which are specifically shown as follows.

2.2.1 Issued by the People's Bank of China

The currency is guaranteed and issued by the people's Bank of China (central bank). With the credit endorsement of the central bank, it has more authority and high stability. It uses distributed accounting technology to form a series of encrypted strings, which can realize point-to-point direct payment and has higher security. In contrast to the current third-

party payment institution, it undoubtedly has a certain bankruptcy risk. The digital currency stored by users is difficult to be protected, so they can only participate in bankruptcy liquidation.

2.2.2 Adopt the Double-layer Operation Mode

The operation of the central bank's legal digital currency adopts the "central bank to commercial bank" dual structure model which has been well applied for a long time. In short, the central bank, as the back-end, needs to perform the responsibility of issuing digital currency and supervising its dynamic flow, while the commercial bank, as a secondary organization, should play a front-end role to facilitate the public to access or exchange digital currency. Therefore, a dual investment and two-tier operation system is formed in which the central bank and financial institutions reach front-end and back-end cooperation and commercial banks connect with the public.

2.2.3 Account Loose Coupling Model

The central bank's legal digital currency adopts the loose coupling mode of bank accounts that is not used by most institutions, that is, it provides users with two feasible options. One option is to bind the bank account like the third-party payment, and the other option is not to bind the account, but to make independent payment directly by relying on the central bank's legal digital currency wallet, which eliminates the "running cost" and quickly shortens the waiting time. But now the account tightly coupled mode is adopted by most of the non cash payment agencies. This means that if the third party payment is used, the bank account must be tied up, otherwise it will not be able to pay. This obviously exists natural business barriers. For example, Alipay and fortune paid (WeChat payment) can not transfer transactions across the platform. Therefore, the central bank's legal digital currency, which completes the payment task without any intermediate link, can meet the public's demand for efficiency. Especially after the popularity of 5g network, there will be a significant difference in the transaction speed affected by the clearing step of intermediary or not.

2.2.4 No Interest, No Handling Charge

The legal digital currency of the central bank has no interest, and no service charge will be charged whether it is in the exchange process of commercial banks or paid under commodity transactions, and the

transaction cost is zero. At the same time, because it is separated from physical materials, it avoids the loss and difficulties of paper money and coins in the issuance and circulation, and greatly reduces the cost.

2.2.5 Controllable Anonymity

Anonymity: before the advent of digital RMB, third-party payment institutions can easily capture the user's "digital footprint", including a large number of personal accounts and credit information, so as to accurately depict the user's exclusive portrait and promote their own financial products in a personalized and targeted manner. Let's compare the actual use of the central bank's legal digital currency. Users do not need to bind any account. Through the regional network technology, their personal account content will be packaged and then encrypted, which closes the door for third-party payment institutions to directly obtain user information, prevents third-party payment institutions from deliberately using or disclosing private information, and maximizes the protection of user privacy. Prevent users from being cheated by telecom payment due to information being sold.

Controllable: Although the legal digital currency of the central bank can be anonymous, it cannot be completely anonymous. If it is completely anonymous and its transaction is extremely rapid, it is very likely to facilitate criminals to commit crimes. Therefore, it must emphasize the core characteristics of "controllable anonymity". First, protect users' privacy. Second, the people's Bank of China should ensure that it has certain control. Therefore, with the help of encryption, blockchain and other technologies, the user data traded with digital RMB is only disclosed to the central bank, monitor the flow of funds in real time, master the real M0, and effectively avoid and crack down on money laundering Corruption and terrorist financing.

2.2.6 Support Offline Payment

Online and offline parallel payment in two ways can be implemented on the central bank statutory digital currency, which is significantly different from the mobile payment led by Alipay and fortune paid (WeChat payment). There is no need to connect to the network. Even if there are extreme conditions such as earthquakes, if the mobile phone is available, the user can carry out the digital RMB transfer through mobile phone operation. This also determines that the daily trading limit of digital RMB is not high, which is mainly used in small and high-frequency retail scenarios.

3 OVERVIEW OF THIRD PARTY PAYMENTS

3.1 Concept Definition

Third party payment refers to the payment activity in which the payer or payee uses electronic equipment without interaction between users of both parties on a specific exclusive equipment, uses the Internet to issue payment instructions without actual meeting, and in the intermediate link, the third-party payment institution carries out collection and payment coordination.

According to the data of China industry information network, we can get the market scale and growth rate of the third-party payment platform from 2013 to 2020, as shown in Figure 1. It can be seen that in recent years, the transaction scale of China's third-party payment platform has been increasing. Based on the above data, it can be seen that the third-party payment platform plays an important role in China's economic development and will also become a powerful power source to promote the steady and rapid development of China's economy.

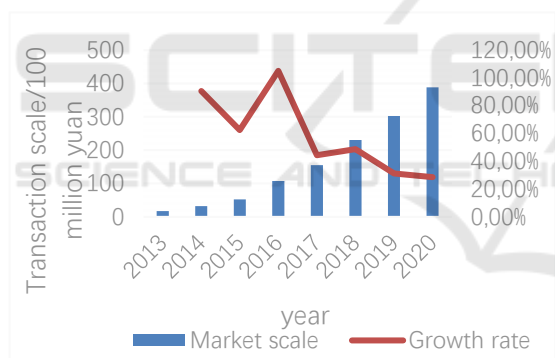


Figure 1: Market scale and growth rate of third-party payment platform from 2013 to 2020.

3.2 Profit Model

At present, third-party payment institutions can obtain income from multiple links in their long industrial chain, including transaction commissions, service fees for providing solutions for other platforms and interest income from stored funds. Third party payment institutions avoid direct collision with the main businesses of commercial banks - asset business and liability business, and find another way based on user data to successfully explore the road of payment and e-finance business. First, they help to realize fund transfer payment, and second, they develop payment products to gather

users.

The key features of the above Central Bank digital currency and third-party payment platform are listed in Table 1. It can be seen that compared with the central bank's digital currency, although the third-party payment platform has advantages in terms of guarantee and cost, it has disadvantages in terms of security, payment environment, privacy protection and account mode. Therefore, the issuance of the central bank's digital currency will have varying degrees of impact on the third-party payment platform.

Table 1: Comparison of characteristics between central bank digital currency and third-party payment platform

Characteristic type	Central bank digital currency	Third party payment platform
Security	It has unlimited legal compensation	There may be a bankruptcy crisis
Payment environment	Support dual offline payment	Rely on good network
Privacy protection	Controllable anonymity	Some degree of anonymity
Guarantee function	Direct settlement to merchant account	The payment for goods shall be kept by the platform, and the payment for goods shall reach the merchant's account after being confirmed by the buyer
Settlement mode	Direct settlement of digital currency by the central bank	User's bank deposit settlement
Cost advantage	unknown	Scale effect, with cost advantage
Account model	loose coupling	Tight coupling, bank card must be bound

4 OPPORTUNITIES AND CHALLENGES BROUGHT BY THE CENTRAL BANK'S LEGAL DIGITAL CURRENCY TO THIRD-PARTY PAYMENT

On June 30, 2018, the provision interest, part of the important revenue source of third-party payment was cut off. Provision, refers to the funds actually received in advance from the client but not yet delivered by the third-party payment institution when processing the transaction business. The ownership of the reserves belongs to the user. Before the introduction of this policy, the third-party payment institution has maintained a direct contact network with commercial banks. The third-party payment institution deposits the user's reserves in the reserve account opened in the bank and can transfer funds at any time. Then the third-party payment institution can obtain the interest on the reserve deposit. Especially when the third-party payment attracts many loyal users, it precipitates a large amount of reserve. When they deposit in commercial banks, the third-party payment institution will obtain higher interest by virtue of large deposits. In fact, the third-party payment institution, by collecting the interest on reserves, is exercising cross-border liquidation that does not belong to its functions, which is beyond the business scope permitted by law. Therefore, the central bank stipulates that non bank payment institutions (including third-party payment institutions) must deposit full reserves before January 14, 2019, that is, the current third-party payment institutions have been completely "disconnected", so their revenue growth will be mainly contributed by the payment field and its derivative business.

Through the above analysis, although the central bank's legal digital currency and third-party payment exist in different levels, its excellent six core characteristics make it inevitable to collide with third-party payment head-on in some fields. It will not only shake the current situation of duopoly monopoly third-party payment market, but also mainly affect the "disconnection and direct connection" The future payment field and its derivative business.

4.1 Service Fee Income is Affected

At present, when the user selects the third-party payment platform as the payment path, the third-party payment institution needs to complete the fund transfer step by step. The first step is to complete the bookkeeping process, and then the second step is to

carry out the clearing process. As the intermediary of transactions, they also provide commercial services, so users need to pay handling fees to them.

When the payee receives the digital currency under the transaction supported by the legal digital currency of the central bank, it can deposit it in the relevant settlement account for free in real time. In other words, the legal digital currency of the central bank instantly enters the payee's bank card deposit account. This greatly saves the trouble of going to the bank to deposit money after receiving cash, and also saves the handling fee that must be paid for withdrawing cash from a third-party payment institution. A more convenient and cost-effective payment method may lead to a large loss of third-party payment users, so that third-party payment institutions cannot profit from this business.

4.2 Third Party Payment Derivative Business is Affected

Moreover, the derivative business income based on user payment information is also one of the important sources of third-party payment profits. Relying on the accumulated user information, third-party payment institutions constantly create new scenarios. On the one hand, they develop microfinance and other businesses, on the other hand, they open a third-party credit investigation window and provide risk identification services, such as sesame credit scoring system.

After the landing of digital RMB, a lot of this cake will be cut off. The central bank can analyze and evaluate users' financial assets and debt repayment ability, judge the loan risk status, and then control the lending speed according to the risk status. As a result, third-party payment institutions cannot directly capture users' personal information from the transaction process, and the profit scope of credit investigation business will be greatly encroached and reduced.

4.3 Promote the Emergence of Emerging Businesses

Although the legal digital currency of the central bank has brought a certain blow to the traditional profit channels of third-party payment institutions, it has also created a more complete and sound financial trading system for third-party payment institutions. Under this system, third-party payment institutions can reduce their dependence on e-bank accounts and gateway interfaces of major banks, so as to

continuously stimulate innovation and find opportunities for emerging businesses.

5 CONCLUSION AND COUNTERMEASURES

5.1 Main Conclusions

Based on the above analysis, the strong attack of the central bank's legal digital currency means that the tangible RMB is gradually transitioning to the intangible digital currency, and the cash society is moving into the cash free society in an orderly manner. Although the foundation of third-party payment will not be shaken, the current monetary system will not be greatly adjusted, and there will be no outlier changes in transaction payment channels and application scenarios, the launch of the central bank's legal digital currency can be regarded as a reminder signal, which has brought different opportunities and challenges to a certain extent. Therefore, the third-party payment platform should take precautions and make full preparations in advance to deal with the surging wave of legal digital currency of the central bank.

5.2 Coping Strategies

The regulations on optimizing the business environment came into force on January 1, 2020. The regulations show that we should treat the relationship between the government and the market in a scientific and reasonable way. Although the third-party payment faces many unknown situations and uncertainties, it can still make full use of the long-term accumulation to meet the challenges under the changing situation. Now, the following countermeasures are proposed for the future development of the third-party payment institutions for reference.

5.2.1 Doing a Good Job in the "Wallet" Service

As "money", the central bank's legal digital currency has not yet entered the "wallet" industry. Therefore, the central bank's legal digital currency needs the infrastructure support provided by the digital wallet. "Money" and "wallet" complement each other, so the wallet, as a basic tool, plays an indispensable role in the monetary payment system. It is expected that in the future, the central bank's legal digital currency will coexist with third-party payment. Third party

payment institutions can focus on fully developing the wallet function and adding procedures for it. On the one hand, they can benefit from providing operational technical support for the central bank's legal digital currency, On the other hand, we can also rely on original technology to help other central bank legal digital currency operators, so as to make profits.

5.2.2 Optimizing the User Experience

Third party payment occupies a strong congenital characteristic in terms of user experience. In the early stage, it squeezed commercial banks with good user experience, gained a firm foothold in the market, was widely accepted by the public and difficult to shake, and its advantages in the transaction payment system developed more mature. Then third-party payment institutions can further optimize the user experience based on huge data and strong technical strength. In the early promotion, a good user experience is indispensable for the central bank's legal digital currency. If a third-party payment institution can provide better experience support for the application process of the central bank's legal digital currency, the third-party payment institution can stand out from many third-party payment institutions and precipitate a considerable number of loyal users for the institution.

5.2.3 Cooperation based on Scenario

At present, the central bank's legal digital currency still needs to be piloted for many times, which has not officially covered all regions of the country, the application scenario still needs to be developed, the customer group has not been transformed on a large scale, and the user habits have not been significantly changed. The widespread application of Alipay and WeChat has brought great difficulty to the promotion of the legal digital currency of the central bank. In the early stage, the promotion of the central bank's legal digital currency is bound to spread out the application scenarios as much as possible. Then, the third-party payment institutions can seize the gap period between the central bank's legal digital currency and it, constantly create new scenarios, and develop strong coverage and wide application scenario cooperation with other central bank legal digital currency operators.

5.2.4 Applying Force to Business

The saturated competition in the C-end market may make many institutions and companies shift their strategic focus from locking the competition between

the C-end to seizing the potential market of the b-end. Third party payment institutions can focus on promoting the closer combination of mobile payment and the b-end business model, expand intelligence and personalization, and then start a new round of strategic deployment.

5.2.5 Exploring Cross-Border Payment

In recent years, with the expansion and deepening of economic globalization and the continuous growth of Chinese people's consumption demand in Z era, the growth of Chinese people's demand for cross-border payment is obvious. From the current situation, the central bank's legal digital currency has not yet moved into the field of overseas payment. Third party payment institutions can explore in the field of cross-border payment with great growth potential, explore new opportunities from overseas shopping and tourism, and then quickly expand overseas layout.

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