Research on the Impact of Digital Currency on Commercial Banks

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Abstract

Digital currency, as a new form of currency, has a substantial impact on the evolution of currency. Due to its cheaper transaction costs, faster transaction speeds, and improved security level, the digital currency has become a significant part of the currency issue. In addition, compared with traditional currency, it is more in line with the requirement for development in the age of the digital economy and big data. The digital currency has greatly decreased operational expenses, diversified financial services, and enhanced the efficiency of cross-border settlements of commercial banks. Despite the benefits, it has confronted commercial banks with challenges in terms of risk prevention and control, business competitiveness, and overall profitability.【1】 To this end, commercial banks must enhance their comprehensive risk management capabilities, expedite the development of digital systems and expand their financial services in order to keep pace with the development of digital currency and meet China’s financial development needs.

Keywords: *digital currency, commercial banks, financial services, risk prevention and control*

1. Introduction

On April 16, 2020, the first application scenario of the central bank's digital currency was launched in Xiangcheng District, Suzhou. All district-level organs and enterprises and institutions in Xiangcheng District, Suzhou require the installation of digital currency wallets, of which 50% of the transportation subsidy in the salary in May will be distributed in the form of digital currency to promote the application test of digital currency.

Since I studied international economics and trade in college, I have done a lot of research on currency and exchange rates, and because I live in Suzhou, I have the opportunity to observe and think about digital currency issuance and application test results. Combined with the internship experience in Suzhou Agricultural Bank at the beginning of this year, I have been exposed to more related applications of digital currency, so I have the opportunity to conduct in-depth analysis and research on "the impact of digital currency on commercial banks".

This article makes an in-depth analysis of the connotation of digital currency, the impact of digital currency issuance on commercial banks (including opportunities and challenges), and the countermeasures and suggestions that commercial banks should take for digital currency issuance.

Since the digital currency is in the trial operation stage, I feel that the depth and breadth of its analysis is not enough. I hope that it will be further improved in the future work and study process.

2. What is the digital currency

(1) Definition and advantages

According to the central bank, digital currency is a new type of electronic currency that is equivalent to traditional paper currency, whereas Digital Currency DC/EP (Digital Currency Electronic Payment, DC/EP) is a national digital currency of China constructed with blockchain and cryptographic technology and issued by the central bank. Digital cash does not exist in a tangible form, but rather through mobile applications. After downloading a particular application, it is possible to transfer money without the Internet by merely touching the mobile phones together. In contrast to online payments, digital currency DC/EP payments can be completed even if both parties lose their internet connection.

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(2) Advantages

1. Low transaction cost

Digital currency is essentially a digital program, which eliminates the need for banknote printing and coin melting. Therefore, it offers apparent manufacturing cost advantages over conventional cash. In addition, digital currency can be used on any trading platform and settlement scenario mandated by the state. Both parties merely need to agree on the way and time of the transaction with no additional expense incurred. Traditional bank transfers necessitate in-person transactions, and cross-bank payments entail a fee. In contrast, digital currency requires only face-to-face transactions, the cost of which is relatively low.

2. High transaction efficiency

The mode of transaction for digital currency is peer-to-peer payment, which eliminates the need for clearing agencies. The blockchain technology utilized by digital money accomplishes decentralization, allowing transactions to be executed at any time and in any place.

3. Good security

Because digital currency can be encoded, coded, and separated from the paper carrier, it eradicates property crimes to a considerable extent. Moreover, digital currency can monitor its circulation and mitigate risks such as money laundering and financial fraud.

3. Development opportunities for commercial banks brought by digital currency

(1) Reducing the cost for commercial banks

With the entry of Internet corporations into the payment industry, people’s payment practices have undergone dramatic changes. As Alipay and WeChat have become the predominant payment methods, the use of currency continues to dwindle. Although cash transactions still represent a significant component of commercial banks’ activity, this share is rapidly decreasing. Their cash business consists mostly of cash storage, currency exchange, and inventories. Apart from recognizing counterfeit or mutilated currencies, banks also need to bundle and package cash and wait for the armored cars to transfer the cash, which requires a great deal of staff daily. Also, commercial banks must implement stringent security systems and utilize equipment to ensure a high level of cash security, causing significant expenses. In addition, commercial banks incur substantial costs associated with circulation. Investing a great deal of labor, money, and technology is necessary to assure the security of every aspect of cash transactions, resulting in a large amount of cost. Based on blockchain and encryption technology, digital currency displays a number that does not need to be materialized. Moreover, the digital form of legal cash can freely circulate, be traded, counted, and preserved. Thanks to cloud technology, digital currency is exempt from operations such as inventory, allocation, unpacking, and transportation, considerably reducing expenses for commercial banks.

(2) Creating more opportunities for financial services

To decrease the operational and moral risks associated with cash transactions in commercial activities, the central bank designs digital currency using the same “central bank-commercial bank” dual issuance model as paper currency. Commercial banks, therefore, utilize their high-performance systems to supply consumers with digital currency transaction services and new businesses such as digital currency exchange, settlement, and custody via the management of individual accounts. Commercial banks are now powerful intermediaries for the circulation of digital currency, which is favorable to the expansion of various new businesses and the adaptation of the original business model for cash to digital currency. Digital money can follow the flow of funds, allowing for greater risk management in the traditional banking and loan industry, hence reducing non-performing loan rates by preventing borrowing for other reasons, fraud, and other illegal activities. As a result, businesses that banks previously shied away from, such as rural finance and inclusive finance, can now be grown gradually, better helping small and medium-sized businesses as well as the real economy. In addition, China’s local development is uneven, resulting in the unbalanced level and quality of financial infrastructure services in urban and rural areas. There are fewer banks in rural areas and some even have no banks, meaning that people lack access to adequate financial services. With the continued spread of digital currency, the public will be able to convert cash into digital currency, reducing cash transactions and benefiting from improved financial services. Commercial banks can not only increase the number of accounts and deposits but also expand the financial market.[2]

(3) Improving the efficiency of cross-border settlement

Commercial banks also engage in the cross-border settlement as a core activity. However, in the past, there were few clearing channels, making the settlement of huge sums of money inconvenient and risky, which severely capped its expansion. With the advent of digital currency, decentralization is now realizable. A string of encrypted numbers represents the settlement amount and maintains the consistency of the flow of information and capital. International settlements will no longer be hindered by limited clearing routes as peer-to-peer transactions can significantly facilitate cross-border transactions by shortening the processing time and mitigating the hazards of capital transport. Small transactions can be conducted anonymously with digital currency, whereas large transactions can be tracked. Central banks provide a procedural channel, via which cross-border payments should be performed, so that transactions may be monitored. Moreover, because of the traceability of digital currency, commercial banks are able to use the central bank’s big data to track the movement of cash, thereby enhancing their anti-money laundering capabilities.

4. Challenges of digital currency to commercial banks

(1) Changes in risk prevention and control

As a comprehensive byproduct of modern technology, the digital currency has had a significant impact on the evolution of money. After its birth, the risk management system based on the traditional physical currency has been unable to adapt to changing business conditions. For commercial banks, keeping up with the times and enhancing their risk control systems is a brand-new problem. First, digital currency is based on the internet and blockchain technology, which implies that the system will record transaction information. Therefore, it is necessary to consider how to secure the technical security of the digital currency and the confidentiality of user information. In addition, the proliferation of digital currency poses challenges to the systematic carrying capacity and security of commercial institutions. Internal and external systems must be optimized and the infrastructure for risk prevention and management must be consolidated. Second, the diversification of digital currency transaction scenarios and settlement methods has unavoidably created a space for money laundering. In the face of an infinite number of new sorts of money laundering, digital currency should also construct a defense against it. Equal attention should be paid to traditional businesses such as exchange, custody, and storage. The elimination of impostors and fraudulent documents is also of paramount importance when opening digital wallet accounts. [3]

(2) Possible deposit competition with the central bank

Commercial banks’ primary responsibilities within the financial system consist of deposits and loans, currency exchange, and clearing. The relationship between the central bank and commercial banks is that of guiding and being guided, supervising and being supervised, with no competition. Through funds, commercial banks establish service relationships with depositors and businesses. Commercial bank deposits are funds that can be utilized to invest, lend, and inject vitality into the real economy. Digital money, on the other hand, is a sovereign currency backed by national credit, which ensures stronger security and credit ratings than commercial banks, resulting in performance variations between digital currencies and conventional currencies. When the economy swings, depositors are more likely to switch the funds or cash they have placed in commercial banks for digital currency in order to reduce their exposure to risk. This will diminish the lending function of commercial banks and the money multiplier effect, resulting in a decline in market liquidity, which is detrimental to economic growth. It will also undoubtedly enhance the monetary competition between the central bank and commercial banks over the long term.

(3) Influence on overall profitability

For a period of time, the distinctive business model of digital currency will impair the basic business logic and operational efficiency of commercial banks. First, digital money heightens the rivalry between commercial banks and central banks in the monetary industry. In a market-driven environment, commercial banks must not only contend with deposit competition but also with capital siphon brought by digital currency, resulting in an unstable deposit scale. Once the scale is reduced, the related loan cap is lowered, disrupting commercial banks’ investment income. To entice more depositors, large commercial banks seek to boost deposit rates and introduce wealth management services. However, the digital currency will diminish the public’s desire to deposit funds with commercial banks. With fewer clients, banks will have to exert greater effort to acquire deposits, so raising competition and causing a vicious cycle. Thirdly, due to peer-to-peer real-time settlement, digital currency minimizes intermediate counting, reconciliation, and other processes, making it more convenient and time-efficient for customers. However, this results in fewer clearing and settlement operations for commercial banks, which is especially detrimental for smaller and medium-sized banks with less diverse businesses. Small and medium-sized banks may increase the number of high-risk credit operations to cover the business void, so raising the systemic risk of the entire financial system. [4]

5. Suggestions for commercial banks to deal with the challenges brought by digital currency

(1) Improve risk prevention and control capabilities comprehensively

Digital currency differs from the traditional currency in its form, method of issuance, technical support, and way of circulation. As the agent for the issuance of digital currency, commercial banks must assure the security of use and bolster their risk control capabilities in light of the trend toward the continual promotion of digital currency.

First, refine the relevant laws and regulations. Presently, China lacks a comprehensive set of laws and regulations regarding digital currency. Therefore, it is vital to enhance and codify fundamental legislation on the issuance, circulation, and use of digital money, thereby clarifying the position of digital currency as legal tender. Consequently, there will be laws and regulations governing the use of digital currencies in various situations.

Second, develop the technical system and security standards for digital currency. As agents of digital currency issuers, commercial institutions should collaborate to reach a consensus on security protection, identify potential vulnerabilities in order to mitigate them in a timely manner, enhance technological assistance, and guarantee the secure and stable circulation of digital currency. [5]

Third, strengthen the dynamic supervision. For new businesses such as digital currency exchange and financial management, commercial banks should have the foresight to develop dynamic monitoring mechanisms based on their experience with traditional currency business and the new characteristics of digital currency in order to identify and dispose of digital currency risks in a timely manner, thereby ensuring the overall stability of the financial system.

(2) Accelerate the construction of digital systems

Digital currencies are all based on the Internet, distributed ledger, encryption, and blockchain technology. The traditional financial system with commercial banks as the main players should prepare to transform for new technologies.

First, expedite the development of the digital system. Technology is the foundation of digital currency security. Therefore, commercial institutions must devote greater resources to researching the fundamental technology of digital currency and mastering its technical characteristics. Additionally, research, development, and transformation of a top-tier financial system, as well as optimization of its technological architecture, can boost the system' s responsiveness to business needs and customer experience, thereby maximizing the benefits of digital currency.

Secondly, speed up the digital transformation of traditional businesses. In fact, blockchain, distributed accounting, and other emerging technologies can still be utilized to optimize conventional operations. Traditional businesses may enhance their procedures, processing efficiency, and customer experience using big data and blockchain technology. Financial technology serves to improve and alter traditional businesses, promote interconnection with future digital currency firms, and assist commercial banks to have a broad customer base while marketing digital currency.

Thirdly, expand the digital system architecture and get prepared for the technological revolution. For the issuing of digital currency, technological advancement is necessary, and the central bank must handle financial stability, currency circulation, and anti-money laundering, among other issues. It is a systemic effort, which means that all reasonable requirements of central banks, commercial banks, third-party payment providers, and customers must be met. From the perspective of business development, commercial banks should actively engage with digital currency issuing institutions, such as the central bank and third-party payment platforms, and collaborate on techniques, business models, security architecture, and other major aspects. [6] By collaborating on the development of digital systems, stakeholders can: gain an understanding of the system architecture and the opinions of multiple parties; improve mutual understanding; construct systems more rationally; and leave enough technical space for future business and system development.

(3) Broaden the function of financial services

Since digital currency is a favorable opportunity for commercial banks to develop new businesses, they should seize this chance to accelerate the reform of financial services, increase the innovation of financial businesses, and broaden the scope of financial services.

First of all, create a reasonable dual interest rate system. According to the usage, security, reliability, and stability of digital money, different transaction limitations and frequencies should be established. Commercial banks can set a zero interest rate for daily use of digital currency and hold it for free; another type of use, namely digital currency collection and storage, can charge custodial fees, similar to a negative interest rate, to promote the currency' s circulation in the life and business fields. By establishing a proper two-tier or even multi-tier interest rate, it is possible to ease the deposit competition between the central bank and commercial banks. This protects commercial banks' monetary creation capacity, the normal operation of the credit business, and their contribution to the real economy. [7]

Secondly, shift the mode of development and actively investigate off-balance-sheet businesses. As agents of digital currency, commercial banks must comprehend the technological benefits of digital currency and the underlying business model transformation. Historically, the conventional deposit and lending model was overly competitive, yielding diminishing profitability. As society continues to evolve, more and more financial needs are emerging with the new industry and new standards, and so are people' s expectations for the convenience and safety of financial transactions. The security of digital currency, which is supported by encryption, has earned a stellar reputation.

Inclusive finance, rural finance, and green finance are examples of industries that might be reviewed and expanded as a result of the development of the digital currency. Traceability of its flow can ensure that money is not diverted to other uses, while also engaging in the production process to aid in the growth of businesses. Simultaneously, research on the exchange and custody of digital money must be accelerated in order to further expand these off-balance sheet enterprises.

Thirdly, speed up the construction of digital currency application scenarios. Long-established at the forefront of business, commercial banks should prioritize the application requirements of digital currency. By conducting additional research on the evolving application scenarios of digital currency, practicability can be improved. At the same time, they should interface with government services and third-party payment platforms so that digital currency can penetrate more directly into people' s lives, allowing the public to enjoy the novel experience that digital money offers.

6. Conclusion

The unavoidable progression of digital currency is a trend that commercial institutions must recognize. Commercial institutions ought to bolster their cooperation with central banks, peers, and payment platforms by using their business expertise, techniques, infrastructure, and system structure. Active participation in the development and use of digital currency, combined with a deeper theoretical understanding and optimized business models, can help companies consolidate their market positions, further improve operational efficiency, and provide more and better financial services to the real economy and people.

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