Theoretical and Practical Analysis of Financial Innovation Driven by Block-chain

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Abstract: Block-chain, as the underlying technology of digital currency, has received much attention in modern times. With the gradual development of Internet technology, block-chain technology has also been widely used. The financial infrastructure and the entire financial system have had a significant impact on innovation driven by block-chain. The credit mechanism has been reshaped and transaction costs have been reduced. The author first analyzes block-chain, then analyzes theoretical impact of block-chain on financial innovation, and finally analyze specific form of financial innovation driven by block-chain.

Introduction

Digital currencies such as Bitcoin have attracted more and more attention, and the block-chain technology in this type of digital currency has also attracted attention from all walks of life. In 2014, a research group was set up in China to conduct research on legal digital currencies, and its key technologies have also made progress on the impact of financial system. In 2018, Zhou Xiaochuan, President of the People's Bank of China (PBOC), made it clear that digital currency based on block-chain has been recognized by PBOC. Therefore, it is theoretical and practical significance to study financial innovation driven by block-chain.

1. Analysis of block-chain

Block-chain can store, transmit, and encrypt data from digital technology. The data block formed by this encryption algorithm can reflect detailed online transactions of digital currency in each data to ensure the authenticity of digital currency. There are two types of encryption algorithms, namely elliptic curve digital signature algorithms, and distributed node consensus algorithms. In the process of implementing storage, computing and transmission from Internet, there is no need for a third party, and it can directly face up with users on the other side of Internet. This decentralized feature also makes block-chain highly democratic and open. The transaction information of each node of block-chain is highly concealed and has good reliability under the encryption algorithm that cannot tamper with information. These four characteristics make modern financial institutions express greater affirmation of block-chain. They believe that in the era of Internet, there can be an equivalent that is not affiliated with any national central bank. In the course of currency development, it is also recorded in history that Americans have chosen whisky and tobacco as equivalents for exchange as long as the government guarantees them as currency.

2. Theoretical research on financial innovation driven by block-chain

2.1 Research on financial innovation driven by block-chain based on AI

The development of AI is the only way of global development in the future. Once block-chain technology is mature and recognized, many intermediaries in traditional financial industry, including banks or third-party payment platforms, will be canceled. In addition, traditional payment system and structure framework will change, and many defects in traditional financial service industry will be made up. So block-chain can play a positive role in the financial services of AI and drive the development of financial innovation. In the future, the AI financial industry can find new

development from big data and cloud computing. Customers can get the best investment plan through AI, and the right to use, autonomy and ownership of customers' assets will not be affected. And the financial industries such as password numbers and credit cards will face new challenges.

2.2 Research on financial innovation driven by block-chain in the era of Internet

The Internet of Value, that is, the exchange of point-to-point value from Internet. At present, all over the world has basically realized information transmission through Internet, but the Internet of Value can not be completed. In fact, if the Internet of Value can be developed, the inconvenience of circulation of traditional paper money, the credit system and ownership system of modern financial system will gradually withdraw from the stage of people. Nowadays, the chaos of Internet has a negative impact on the development of Internet. In the development of block-chain technology, the cancellation of financial intermediaries, transaction costs, marginal costs, ownership, democracy, reliability and openness will be recognized by Internet customers. As a result, the Internet of Value has gradually formed, and financial innovation driven by block-chain has really formed.

3. Practical research on financial innovation driven by block-chain

3.1 Financial innovation driven by block-chain from digital bills

For a long time, financial industry has been faced with such illegal acts as forgery and tampering. These acts have damaged the credit system, even disturbed the normal bill business, and increased the risk of entire financial system. The digital bill in block-chain technology is an upgrade of the existing commercial bill system structure, which can make up control loopholes. Besides, it accelerates turnover of funds, stimulate circulation of goods, and really cut off the possibility of interference and illegal transactions from the source. In addition, the digital bill in block-chain technology can be traced back in the time node and financial data from its generation to its final demise. The credit in the whole stage is ensured, reducing financial risks and standardizing market order. For example, the international alliance organization of block-chain released commercial paper trading system in 2016, which was supported by famous international financial giants at that time. With the development in recent years, the whole system operates normally and the effect is affirmed. Hang Hai and Midea in China have gradually joined digital bill of block-chain.

3.2 Innovation in securities trading models

Securities transactions are now completed by third-party institutions. The development of block-chain technology can allow securities transactions to be completed directly, which effectively improves transaction efficiency. The block-chain itself has smart contracts that can automate the entire transaction. The two parties complete transaction directly from point to point. The error rate and transaction cost of security transaction are reduced, and the security of transaction is greatly guaranteed. After Nasdaq launched block-chain platform in 2016, pharmaceutical companies in American also launched block-chain securities trading platforms in 2018. In the past two years, block-chain securities trading platforms have been practiced all over the world. After a period of development, traditional securities trading model will undergo drastic changes under the influence of block-chain.

3.3 Creation of new digital currencies

Among digital currencies, the most familiar and famous one is Bitcoin, which is the earliest digital currency applied in block-chain technology. After the advent of Bitcoin in 2009, 1,300 Bitcoins could be obtained for one dollar, and many people only regard it as a trading game. With the development of Internet and the advancement of financial field, one Bitcoin was available only for one dollar in April 2011. And two months later, one Bitcoin was available for thirty dollars. When people think that bitcoin had a high market value, it immediately collapsed, and one Bitcoin was available for two dollars on February 2012. And then Bitcoin developed gradually. It had doubled in 2013, which is 500 times of 2012. In 2017, it had 18 times of 2013, that is, one bitcoin can be obtained for 18,000 dollars. The main reason for success of Bitcoin is the complete

decentralization. Countries can exchange Bitcoin freely. Without intermediaries in the middle, they can directly transact customers' currencies. The concealment of this transaction is extremely high, and the tax-free and regulatory measures make it more vulnerable. Therefore, China completely blocked Bitcoin in 2017. Bitcoin was first popular in Japan, the United States, and Germany. Later, countries such as Venezuela and Zimbabwe even adopted Bitcoin as a hard currency. Analyzing from these aspects, it is obvious that digital currency stimulate the development of finance, and financial innovation cannot be separated from digital currency.

3.4 Development of finance driven by block-chain

Block-chain can stimulate financial innovation and has great development significance in the future. But objectively speaking, the maturity of block-chain technology has not reached the ideal, block-chain products applied on a large scale are still in a blank state, and the development of computer technology has not fully met the development of block-chain technology. The information in block-chain technology is stored with computer hardware system. And a steady stream of information requires a steady stream of hardware, which is currently difficult to solve. On the other hand, whether digital currency can become legal tender is still a problem that human beings need to solve. Internet users can accept digital currency, but in China, it is still a mystery for farmers who have long cultivated and have insufficient education to support digital currency. Most importantly, the development of modern technology is not enough to support the government to regulate the development of digital currency.

4. Conclusion

The financial innovation driven by block-chain can make the Internet of Value and AI developed significantly, and make new progress in digital bill, securities trading and digital currency. But we should still face up to its lack of effective supervision and immature technology. In the future, we still need to accelerate the construction of infrastructure, accelerate research and development of digital currency, and pay attention to supervision of financial products, so as to promote healthy development of block-chain finance in China.

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