

The Impact of COVID-19 on Digital Currency

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Abstract: In modern society, science and technology are developing rapidly, and people's life has gradually become inseparable from scientific and technological products. In terms of transactions and payment, scientists have developed a digital currency. As a new currency, the digital currency has gradually affected the application of paper money in the market. With the outbreak of COVID-19, people have paid more attention to the protection measures of transactions, and digital currency and online payment can make people more secure to trade.

Keywords: COVID-19, digital currency, paper money, recent years

1. Introduction

In April 2020, the bank for International Settlements released an article on the epidemic's impact on digital currency [1]. The study said that paper covid-19 is more likely to carry viruses on the surface of paper money, which will lead to more people being infected. Therefore, digital currency and online payment have become more popular because they are both safe and convenient, decreasing the number of paper currency only. This shows that the epidemic has promoted digital currency's development.

In another report in April 2020[2], it appears that COVID-19 has exposed the fragility of the market, and the deterioration of market liquidity has become faster and more comprehensive. The shortage of funds has led to global market turbulence. This highlights the urgent need for new technology to deal with this sudden situation. COVID-19 has accelerated the development of the digital currency. At the same time, digital currency has played a role in alleviating the economic crisis under this situation.

Because of the impact of the novel coronavirus, online transactions have become more frequent [3]. In many European countries, the number of transactions through digital payment has increased significantly. Some studies indicate that novel coronavirus may become a catalyst for developing digital currency.

The virus makes the world realize that the development of digital currency will bring many benefits to humans. For example, it reduces the cost of paper currency and improves the smoothness and convenience of transactions; It can also enable banks to pay more time on the direction and security of money, thus reducing the occurrence of some illegal acts. The prevalence of novel coronavirus makes banks Worldwide try new technology to create a safer and better trading environment. ECB officials said that "digital currency may gradually replace cash in European countries." The Bank of France in France has begun testing digital currency research. In Asia, South Korea and China

have launched pilot tests of digital currencies to cope with possible emergencies in the future. Some studies show that shortly, innovative payment will become the most popular payment method, and the utilization rate of cash will gradually decline.

2. Digital Currency

The electronic version of paper currency is called digital currency. Digital currency and cryptocurrency belong to digital currency. Digital currency can be considered a virtual currency based on network and digital encryption algorithms. There are three core characteristics of digital currency. First, due to specific procedures, the digital currency does not have an entity, so all countries or private institutions cannot control it; Secondly, the total number of digital currencies can be a quantitative one, eliminating the possibility of economic problems caused by excessive issuance of some virtual currencies; Finally, because the transaction process needs the approval of all the nodes in the network, the transaction process of digital currency becomes more secure. Digital currency can be divided into three different types: one is entirely closed, has no connection to the real economy, and can only be used in some designated virtual communities, such as the currencies in games; Second, real money can buy digital money, but on the contrary, digital money cannot be exchanged back for real money. It can be used to buy virtual goods and services, such as money recharged from the real world into the game; Third, it can be exchanged with real currencies at a stable rate. It can also be used to buy virtual goods and services or tangible goods and services, such as bitcoin and your clothes or phones. To trade through digital currency, you generally need to use a platform to act as an agent. First, register your account on the platform and fill in your personal information. Then you can buy and sell digital currency with the money in your cash account. The transaction can continue if both parties agree to this price [4].

For example, like bitcoin, bitcoin is the earliest digital currency. When the global financial crisis broke out in 2008, a person named Satoshi Nakamoto published a paper on a website called P2P, and then bitcoin was born. Unlike lawful currency, Bitcoin does not have a meaningful creator but is generated by computing on the network nodes. Anyone can participate in the production of bitcoin, which can be used worldwide. You can buy or sell bitcoin on any computer that can connect to the Internet. No matter where you are, anyone can buy, sell or receive bitcoin. The identity information of both parties during the transaction is confidential. On January 5, 2009, bitcoin, which the bank or any institution does not control, was born. Bitcoin is a virtual currency that can be exchanged for real currency; It can be converted into many countries' currencies. Anyone can use bitcoin to buy some virtual items, such as clothes, weapons, equipment, etc., in the game. You can even use bitcoin to buy real-life items. After the advent of bitcoin, the central bank began researching and developing digital currency. Central bank digital currency is collectively referred to as CBDC. The Bank of England defines CBDC as the electronic form of paper money, which families or enterprises can use for payment and storage. As technology becomes increasingly digital, businesses need to predict consumer demand. As a new means of payment, CBDC can bring good help to people. However, there has never been a safe and reliable trading platform in the online payment system, which may cause consumers to be hurt or deceived [5]. If more people want to trade online in the future, then a stable trading platform is needed to act as an agent. Therefore, the central bank decided to add some procedures to the system of CBDC to meet the needs of consumers, as well as the safety and convenience of money. Currently, CBDC cannot meet the needs of consumers and businesses, so it needs some private money to promote it [6].

3. Chinese Digital Currency

The epidemic will accelerate the transition from monetary form to digital payment. So, they studied CBDC, whose full name is a primary digital currency [7].

Central bank digital currencies can be called by a joint name: "CBDC." The Bank of England defines CBDC as follows: the central bank's digital currency is the electronic form of the central bank's paper currency, which households and companies can use for payment and value storage. However, the Chinese version of digital currency is called DCEP, a digital currency of the central bank. The international clearing center conducted a questionnaire survey on more than 60 central banks in the world. The questionnaire includes the progress of central banks' work on digital currency, the reason for studying digital currency, and the possibility of publishing digital currency. According to the report, 70% of the central banks expressed their participation in digital currency research.

In this context, the digital currency DCEP researched by the people's Bank of China is still in the experimental stage, but it has received global attention. The top-level design, standard formulation, function research and development, joint commissioning, and testing of DCEP have been completed, and the internal closed pilot test started in April 2020.

What is DCEP? DCEP is a legal but not yet issued a digital currency of the people's Bank of China. The whole literal meaning of DCEP is digital currency electronic payment. DC refers to digital currency, and EP refers to electronic payment, which is the number transmitted by payment in some way [7]. At present, digital currency has been steadily developed and tested in all parts of the country.

China may become the first country in the world to launch a legal digital currency. Not only because we have invested money but also because our technology has been enough to support our research and development.

From the legal digital currency, we can accelerate economic development and scientific and technological progress. Once China issues a digital currency, it will lead the world by a large margin and may also allow the RMB to appreciate it [8]. If digital currency is issued in the future, it may accelerate the global de-dollarization, thus affecting the application of the dollar in the world. DCEP is likely to become the world's first international digital currency.

4. China's Cross-border Payment

China's cross-border payment system has long relied on the international payment system dominated by swift. In 2015, the RMB cross-border payment system CIPS was launched [9]. This system supports using RMB for cross-border transactions, investment, and financing. In this way, the international payment system market monopolized by the United States for a long time will be improved [10]. The online CIPS system is conducive to easing the restrictions some western countries impose on the cross-border payment business of Asian countries. However, there are still the following defects. First, the efficiency of cross-border payment transactions is very low, and many intermediaries are required to participate in the middle. There are many defects, such as too many accounts and links, too high costs, and too long processes; Second, the systems, systems, and regulations of various countries are different, and the compatibility of central banks' systems is a big problem. As well as the formulation of unified payment standards, there is a lack of restrictions and constraints on some illegal transactions and illegal money laundering, and the process of cross-border payment cannot be effectively monitored; Third, although there are alternative systems such as CIPS, the current cross-border payment system still relies on core systems such as swift, and there will still be some problems to be solved in the global financial system.

In the situation that the swift system monopolizes the market, digital RMB can effectively improve the current market structure. First, it is conducive to significantly reducing operating costs and improving transaction efficiency. Through blockchain distributed accounting technology, digital RMB can achieve point-to-point payment, improve cross-border payment efficiency, and even achieve second-to-second payment. Second, it is conducive to improving the security of cross-border payments. Digital RMB can identify customers through the platform, and the data can be permanently recorded and stored, which cannot be tampered with, reducing the risks of false trade, forged official seals, and contract fraud and improving the security of cross-border payment and settlement. Third, it is conducive to breaking the monopoly of private cryptocurrencies. Private cryptocurrencies lack credit support and their prices fluctuate violently, which may significantly impact the international monetary system. As the legal digital currency of the central bank, digital RMB is supported by national credit, which prevents private institutions from monopolizing the digital currency field and improves the market-oriented competition structure to a certain extent; Finally, the application of digital RMB cross-border payment may shake the monopoly position of the swift system, reconstruct a new cross-border payment ecosystem, and no longer rely on the traditional cross-border payment system represented by Swift.

5. US Electronic Digital Currency

In the future, the digital currency will become a focus of competition among countries. In Europe, Sweden and the United Kingdom are successively developing digital currencies, hoping to make digital currencies as simple as sending text messages. At present, central banks of dozens of countries around the world are considering plans to issue digital currencies. On September 9, 2020, MasterCard announced a "central bank digital currency test platform" plan. This platform allows the central bank to develop digital currency in a controlled environment and test how digital currency can integrate into existing networks and banks.

In the United States, Facebook is also studying new digital currencies. In June 2019, Facebook made its blockchain project Libra public. Libra is a project similar to a stable currency, and Facebook hopes it will play a role as an international common currency.

Unlike ordinary digital currencies, the Libra stable currency has the conditions for trust.

A basket of bank deposits and short-term government bonds provide value guarantees. First, the circulation of Libra is on the network, and there is no intermediary in the payment. Secondly, the payment process is a point-to-point direct transaction transfer between the transfer out of the account and the transfer into the account.

Because many users who have used Libra before feel that Libra is the digital currency in their mind and the best one, however, because the digital currency in the blockchain still needs to be improved, when the digital currency is issued, it is inevitable that there will be security problems and customer trust problems.

6. Difference Between DCEP and Libra

From the users' perspective, DCEP mainly aims at Chinese users, while Libra is a global user. Technically, Libra uses blockchain technology, but Libra will run on the alliance or licensed blockchain like bitcoin using the public blockchain. Libra Association specializes in accessing and managing blockchain. The Library Association comprises companies such as Facebook, thrive capital, Tagomi Shopify, and Temasek Holdings. Unlike Libra, blockchain and other types of encryption technologies build DCEP. If you want to decrypt DCEP, you can only decrypt it by the person who holds the key. It is the use of this technology that has established a link between DCEP and the blockchain and cryptocurrency industries. Therefore, we can also use its tracking technology and

data mining to keep watching on or prevent illegal activities. Libra is relatively private. Generally speaking, transactions on Libra will not be disclosed.

On the contrary, DCEP allows the people's Bank of China to track currency trends and monitor transactions. Because Libra is centralized, the library association can directly handle transactions, making the library more energy-saving. Libra's trading speed is also targeted at about 1000 transactions per second. The peak transaction speed of DCEP is about 220000 transactions per second. However, DCEP, like Libra, has not been started yet, so these data have not been confirmed. In terms of currency, DCEP uses RMB as an asset reserve, without exchange rate risk, but with inflation risk. Libra uses a basket of currencies as its asset reserve, which can be converted into any currency with exchange rate fluctuations.

In June 2019, Libra pointed out its development had experienced some ups and downs. Shortly after Libra's announcement, some Libra Association members, such as PayPal and Vodafone, left the Libra Association. However, Libra did not announce that it would stop there. In May 2020, the Library Association appointed a new CEO, and it was announced that several new members would join. At this time, the total number of members reached 27.

In terms of DCEP, closed pilot tests have been conducted in Shenzhen, Sichuan, Jiangsu, and some venues of the 2022 Winter Olympic Games. Subsequently, it will be implemented in 28 provinces and cities in some economically better places, including Beijing, Shanghai, Guangzhou, Hong Kong, and Macao. However, there is no timetable for officially launching DCEP.

7. Advantages of Digital Currency

Digital currency can effectively avoid the disadvantages of paper currencies and coins, such as high issuance cost, difficulty in carrying, and ease of being fabricated or used for money laundering and used by terrorists to gather large-scale funds. It can also satisfy people's payment needs, such as daily payments. At the same time, the chances of virus transmission in currency transactions are reduced under this epidemic situation.

Alipay and WeChat payments have become public goods or services in China. The market share of Alipay and WeChat payments accounts for more than 80% of mobile payments. In case of service interruption and other influential situations, it will have a big problem on social and economic people's daily life. As a public department, this requires the central bank to provide tools and products with similar functions as a backup of related public products.

8. Disadvantages of Digital Currency

The disadvantages of digital currency are that its operating cost is higher than that of paper, and it needs to consume much energy all the time. It cannot exist and use independently and is not easy to extract. It is unsuitable for some people, such as the elderly and children. Digital monetization will cause financial institutions and other departments to bear the high costs caused by new technologies. In addition, blockchain development is not stable enough, and there are still many security risks. You may need to pay more handling fees if there are too many transactions. Suppose the central bank vigorously issues digital currency. In that case, it will let the public check every transaction at any time, which will affect the transaction's privacy and unprotect the public's private information.

9. Conclusion

To sum up, payment innovation in various countries is developing steadily at a rapid speed and stable manner.

Digital currency is changing the way we trade. COVID-19 is only one factor that accelerates digital currency's development. However, because of the development of science and technology, people have to study new technologies to improve the value of currency transactions. Whoever studies digital currency first will be in charge of the world's trading chain. Digital currency does have indisputable advantages, such as low cost, high security, wide range, and fast circulation. Therefore, the digital currency will play a role in influencing the world in the future.

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