

Original Research Article

The Development of Private Digital Currency in China and Its Enlightenment to the Promotion of Legal Digital Currency

ABSTRACT

Aims: With the rapid development of global financial technology, legal digital currency will become an important form of currency in the future. At present, the central bank is committed to the development of legal digital currency in China, and has carried out experiments on relevant platforms. Legal digital currency is a new thing and lacks successful experience that can be used for reference. Therefore, the analysis and Research on the potential risks of private digital currency and a clear understanding of the shortcomings of China's current response to the risks of private digital currency are important prerequisites for the steady development of China's legal digital currency.

Study design: Firstly, it expounds the concept and classification of digital currency, then analyzes the development and supervision status of private digital currency in China and other countries around the world, points out the shortcomings of China's response to the risk of private digital currency, and finally puts forward the enlightenment and suggestions for the issuance of legal digital currency in China.

Conclusion: There are some problems in private digital currency, such as unclear legal attributes and tax policies, non-standard trading platforms, lack of consumer protection, and weak international cooperation. China should pay attention to the above problems when promoting the development of legal digital currency. Specifically, we should clarify the legal attribute of digital currency; Build a complete digital currency supervision system; Improve the digital currency tax policy; Standardize the digital currency trading platform; Building an anti-money laundering mechanism; Strengthen the protection of consumers' rights and interests; Strengthen international digital currency cooperation.

Keywords: Digital Currency, Development Status, Financial Risk, Legal Digital Currency

1. INTRODUCTION

Digital currency is a new thing arising from the collision between modern information technology and financial industry, which has the significance of financial innovation. In the more than ten years since the birth of bitcoin in 2018, digital currency has continuously derived a variety of currencies with their own advantages. Large trading platforms supporting the growth of digital currency are also emerging one after another. In the process of its development, the contradiction between advantages and disadvantages has gradually become prominent. Due to the huge financial risks in the process of digital currency trading, digital currency cannot fully play the benefits given by its attributes. In the face of the financial risk of digital currency, there are deficiencies in our country. Through the analysis of the financial risk of private digital currency and the shortcomings of our current response, this paper will put forward suggestions conducive to the development of legal digital currency in our country, help our country reasonably respond to the opportunities of the development of digital currency, and provide reference for the construction of legal digital currency in the future.

2. OVERVIEW OF DIGITAL CURRENCY

Money is the product of the development of commodity economy in human society to a certain stage. With people's different transaction methods, different money forms have been produced. In primitive society, barter was the most

important way for people to trade. Until the emergence of general equivalents and metal money, people had a fixed medium of exchange. Later, the invention of cash became the most important form of money in people's daily life for a long time. With the rapid development of modern network technology, "electronic money" has emerged, and money has entered the "electronic age". In November 2008, Satoshi Nakamoto published the Research Report "bitcoin: a point-to-point e-cash system", in which he first proposed the concept of "bitcoin" and described its algorithm. The next year, Nakamoto publicly released the world's first bitcoin software, officially opening the prelude to the development of digital currency. Since then, a special electronic currency - digital currency, began to enter people's vision.

2.1 Definition of Digital Currency

At present, there is no clear and unified definition of the concept of digital currency in the world. If only from the literal meaning, digital currency can be understood as the digital expression of value and its function can be realized by means of data exchange. Digital currency is a kind of more abstract currency[1]. In a broad sense, digital currency refers to the data-based currency, such as bitcoin and Wright currency which are in great upsurge on the network. In a narrow sense, digital currency means encrypting digital currency by block chain technology. The emergence of this narrow sense of digital currency can solve the problem of credit payment in the network virtual economy to a certain extent. However, digital currency is not identical with electronic currency and virtual currency. Digital currency is an unregulated and digital currency, which is usually issued and managed by developers. In a specific virtual community, it is used by community members and not issued by central banks or authorities. In addition, although digital currency is not linked to legal currency, it can be used as a means of payment and transferred, stored and traded in electronic form due to its public acceptance. Digital currency is based on computer calculation, similar to the general equivalents such as gold and silver, which requires cost and has intrinsic value. And digital currency also has the functions of value scale, circulation means, payment means, storage means and world currency, as well as the French currency in the market. Therefore, we think that digital currency has the function of becoming a kind of currency.

2.2 Type of Digital Currency

According to the different issuing subjects, digital currency can be divided into legal digital currency and private digital currency.

2.2.1 Legal digital currency

Legal digital currency is also called the central bank digital currency (CBDC). According to the definition given by the Bank of England, the legal digital currency is the electronic form of the currency of a country's central bank, which can be used by enterprises or individuals to pay and save. Legal digital currency can be issued through block chain, or based on other data structures[2]. The issuing body is the central bank, which has the national sovereign trust endorsement, has intrinsic value and can be used as cash substitute or supplement. In recent two years, many countries have carried out research on legal digital currency in the world, including France, Sweden, Turkey and other countries. The research process of many countries shows that the research and development of legal digital currency has made progress, and the legal digital currency issued by the state will be published soon.

2.2.2 Private digital currency

The issuing body of private digital currency is generally non state sovereign individual or enterprise. According to the different assignment methods, private digital currency can be divided into crypto digital currency and stable currency[3].

2.2.2.1 Encrypt the digital currency

Crypto digital currency is a kind of primary token based on block chain technology, which is a digital currency which is dependent on and produced and used in the block chain technology system. Because of the characteristics of decentralization and anonymity, crypto digital currency does not guarantee any country's credit, so it does not have the endorsement of sovereign credit of the state, its intrinsic value is zero, and the price fluctuates greatly. The value of crypto digital currency only comes from the user can exchange other goods and services or a certain amount of legal currency through the encryption of digital currency across time areas, that is, the value consensus. The value consensus of digital currency mainly comes from two aspects: first, the speed and cost of mining with crypto digital currency. The supplier of digital currency will release rewards through block chain technology. This process requires a lot of energy and time consumption. Reasonable block reward mechanism can ensure the smooth operation of the supply of encrypted digital currency. Secondly, because the transaction of the dark network and the encrypted digital currency have the same properties of encryption and concealment, the natural fit of the two makes the crypto digital currency provide the value for the use of the dark network transaction. In the dark network transaction, a large number of encrypted digital currencies is often used as the payment means, which has a great demand for the encrypted digital currency. Once people lose the value consensus on crypto digital currency, the crypto digital currency trading system will collapse. The representative crypto digital currency items are as follows: BTC, LTC, BCH, etc.

2.2.2.2 Stable currency

Stable currency is a kind of digital currency with stable value, which refers to the digital currency issued and operated on the block chain, but supported by assets outside the block chain[4]. Because the price of encrypted digital currency fluctuates greatly, stable currency connects encrypted digital currency and legal currency in a way of exchange medium. Because the stable currency takes the assets with the value of legal tender as reserve assets, it can give play to the

characteristics of real-time transaction, openness and anonymity of the distributed ledger. Therefore, the value of the stable currency is more stable than the encrypted digital currency. However, since the issuer of the stable currency is not an official government agency, and its issuance and operation are not subject to regional restrictions and do not have a globally unified regulatory framework, the stable currency has no national credibility to ensure the safety of reserve assets, the transparency of its reserve asset management cannot be guaranteed, and the rights and responsibilities of issuers and traders are unclear. These shortcomings will lead to the value of the stable currency cannot be stable for a long time. The representative items of application currency are as follows: USDT, BTS, etc.

2.3 Advantages of Digital Currency

Compared with the traditional legal currency, digital currency has the following advantages:

2.3.1 The transaction cost is low

In the Internet era, transaction transfer needs to pay a certain handling fee to the third party platform. If it is cross-border transfer, the cost will be more, and it cannot achieve real-time account arrival, which requires a waiting process. The point-to-point transaction of digital currency has realized a very low cost and can save time. In addition, in many exchanges, trading is equivalent to mining, that is, trading can generate additional benefits.

2.3.2 The transaction speed is fast

Compared with traditional currency, block chain technology used in digital currency has the advantage of decentralization. The transaction process of digital currency does not need any centralized organization similar to clearing center to process data, and can provide users with faster transaction speed.

2.3.3 Highly anonymous

In addition to the fact that legal currency can realize the point-to-point transaction of users without any intermediary participation in the form of physical objects, the advantage of digital currency compared with the existing electronic payment form is that it can realize remote point-to-point transaction, that is, no third party is required as intermediary in the transaction process. Both parties can complete the transaction without trust endorsement without knowing the other party at all. Therefore, the transaction of digital currency has a high degree of anonymity, which can well protect the privacy of traders on both sides, but it also creates convenience for cybercrime and is easy to be used by criminal activities.

2.3.4 Not affected by the exchange rate

The issuance of digital currency is realized through strict computer algorithm. The issuance quantity is limited and will not cause inflation. In addition, the use of digital currency crosses national and regional restrictions, avoiding the risks caused by exchange rate fluctuations.

3. DEVELOPMENT AND SUPERVISION STATUS OF PRIVATE DIGITAL CURRENCY

After the concept of digital currency was put forward, different types of digital currency began to develop internationally. At present, digital currency is mainly private encrypted digital currency, which is traded all over the world.

3.1 Development Status of Private Digital Currency

3.1.1 Global development status

At present, globally, the growth trend of digital currency shows a low growth trend. It can be seen from the data from 2013 to 2020 that the total market value and daily trading volume of global digital currencies fluctuate greatly. According to the data of CoinMarketCap.com, as of February 2, 2021, there were 3988 types of encrypted digital currency in the world. The market value of the global encrypted digital currency market was US \$1050 billion, an increase of 2.37% over the previous day. The total transaction volume of the encrypted digital currency market was US \$161.87 billion; an increase of 1.73%. At present, the trading volume of all stable currencies is US \$1251.1 billion, accounting for 77.29% of the trading volume of encrypted digital money market. As shown in Table 1, the top five digital currencies with the largest market value in the world are Bitcoin, Ethereum, Tether, XRP and Polkadot. At present, the market value is US \$657.8 billion, US \$164.4 billion, US \$26.7 billion, US \$16.7 billion and US \$15.2 billion respectively. From these data, we can see that there are many types of digital currencies, but there are great differences in market values between different types. Only in terms of bitcoin, it accounts for 62.53% of the market value of the whole digital currency, while the proportion of other types of digital currencies is small, and the market differentiation is significant. At present, bitcoin is the best performing digital currency in the global digital currency trading market, and its value has been on the rise. With the progress of the Internet and high technology, the investment needs of investors are diversified, so the types of digital currencies are also growing.

According to the prediction of SaTIs Group, by 2028, the total market value of global digital currency will reach US \$3.6 trillion[5], and there is huge development space for digital currency.

Table 1. Top ten cryptocurrencies in global market (February 2, 2021)

name	Market value (USD 100 million)	Price (USD)	Volume (USD 100 million)	Price change (%)
Bitcoin	6578.84	35104.94	643.25	2.18
Ethereum	1644.92	1429.76	368.29	7.76
Tether	267.82	1	1195.28	0.07
XRP	167.12	0.3794	291.21	-41.65
Polkadot	152.28	16.96	23.54	4.15
Cardano	130.87	0.4218	56.08	19.32
Chainlink	94.21	23.21	26.47	3.48
Litecoin	94.04	141.06	65.92	5.56
Binance Coin	79.43	52.11	14.42	10.70
Bitcoin Cash	79.36	421.48	55.81	1.72

Source: CoinMarketCap.com

3.1.2 Development status in China

Although digital currency is called "currency", it does not have the same attributes as traditional currency, and the state cannot control it. The emergence and subsequent development of digital currency do not depend on real things, which is very different from the traditional currency we use every day. In terms of the nature of digital currency, it should be classified into virtual goods, not as a traditional currency input and market transaction, let alone compared with a country's legal currency. Although China's central bank is currently committed to developing China's legal digital currency and has carried out experiments on relevant platforms, it takes a certain time for a country's legal digital currency to take shape after all. Therefore, although cryptocurrencies such as bitcoin and Ethereum have a huge trading volume in the global market, because cryptocurrencies are decentralized network virtual currencies separated from the national credit system, China has been taking actions to crack down on all non-statutory cryptocurrencies to prevent systemic financial risks. As one of the measures to curb the outflow of currency and capital in China, it plays a positive role in curbing the outflow of currency and capital.

3.2 Supervision Status of Private Digital Currency

3.2.1 Supervision status in other countries

With the continuous development of digital currency, countries around the world have carried out control over the digital currency trading market based on their specific national conditions [6]. Countries such as the UK, the United States, Germany, Japan and Russia have actively established digital currency regulatory standards and regulatory systems, including the introduction of digital currency related laws and regulations and the study of new regulatory models for financial innovation. In 2014, the Bank of England issued a report indicating that bitcoin is a "commodity". In 2016, the UK proposed a prototype legal digital currency system "RSCoin" that can be regulated by the central bank. In the same year, the UK launched the sandbox supervision mode, allowing the operation of the digital currency trading system in the sandbox environment, providing legal trial and error space for digital currency, balancing financial innovation and financial risks to a certain extent, and protecting the legitimate rights and interests of financial consumers. The United States warned about the risk of bitcoin at the early stage of the development of digital currency. In 2013, the financial crime enforcement network (FinCEN), an institution affiliated to the U.S. Department of finance, issued relevant guidance, proposing that bitcoin should be included in the scope of anti-money laundering supervision and regulated by the Bank Secrecy Act. Since then, the United States has been exploring and trying to establish a functional regulatory model with a high degree of institutionalization and standardization for digital currency [7]. Germany has incorporated bitcoin and other digital currencies into the national regulatory system in 2013, and requires that the operation of the digital currency trading

platform must pass the certification of the central bank. In 2016, Japan's parliament approved the new bill related to digital currency, and brought the trading system of digital currency into the supervision scope of the capital settlement law. In 2017, Japan incorporated the digital currency trading platform into the supervision of the financial services agency of Japan (FSA) and required certified public accountants to audit the digital currency trading platform. In 2014, Russia issued a statement clearly pointing out the high risks of digital currency and warning people to treat it rationally. In 2015, it issued a draft law to list digital currency transactions as illegal activities, impose criminal penalties for digital currency transactions, and private issuance of digital currency will face four years' imprisonment. Looking at the current situation of digital currency supervision all over the world, we can see that all countries take a stricter attitude towards the supervision of digital currency, carefully prevent the high risk of digital currency, and gradually introduce relevant laws and regulations to carry out targeted supervision on digital currency [8].

3.2.2 Current situation of supervision in China

Different from the vigorous development of digital currency all over the world, the development of China's digital currency market is relatively slow. Generally speaking, China's supervision of digital currency is becoming more and more strict. China adopts a centralized multi head financial supervision system. At present, there are no laws and regulations for digital currency. At present, the supervision of digital currency in China mainly focuses on the supervision of private encrypted digital currency such as bitcoin. Different from actively promoting the development of legal digital currency, China correctly recognized the risks that the development of private encrypted digital currency will bring, and was the first to supervise private encrypted digital currency. China's central bank and other relevant departments have issued a series of policies to supervise digital currency: in 2013, they issued the notice on preventing the risk of bitcoin, which is the most legally effective normative document for digital currency. The document clearly defines the legal attributes of bitcoin and guides the people to treat digital currency correctly. It puts forward that bitcoin has the following characteristics: there is no centralized issuer, the total quantity is limited and is not subject to geographical restrictions and anonymity. Therefore, the bitcoin transaction carries out risk warning to remind the public to invest carefully. In 2017, the announcement on preventing the financing risk of token issuance was announced, which characterized ICO as illegal financing and prohibited all unauthorized ICO issuance and trading [9]. In 2018, two policy documents on virtual currency were issued: tips on preventing the risk of illegal fund-raising in the name of "virtual currency" and "block chain" and "constant efforts to continuously prevent the risk of ICO and virtual currency transactions".

4. DEFICIENCIES IN PREVENTING FINANCIAL RISKS OF PRIVATE DIGITAL CURRENCY

4.1 The legal attribute of digital currency is unknown

The notice on prevention of bitcoin risk issued by five ministries and commissions in 2013 made it clear that China's recognition of the attribute of bitcoin: Although bitcoin has certain monetary attribute, unlike traditional currencies, bitcoin does not have the characteristics of traditional currencies such as "issued by national monetary authorities", "mandatory and legal compensation". Therefore, bitcoin should be recognized as a specific virtual commodity generated on the Internet, not a kind of currency. It is not allowed to circulate or trade as currency in the market. Even if investors' investment in bitcoin belongs to personal freedom, it is not protected by China's laws. The notice is the earliest regulatory document on digital currency in China, but it only defines the legal attribute of bitcoin, a digital currency, and does not identify the legal attribute of digital currency issued by ICO. Until 2017, the announcement on preventing the risk of token issuance and financing issued by seven ministries and commissions including the central bank only proposed that tokens in token issuance and financing do not have the same attributes as traditional currencies, so they cannot be used as currencies, and did not make a clear identification of the attributes of digital currencies issued by ICO. The types of digital currency are diverse, and the identification of the legal attributes of different types of digital currency should also be different, so as to be conducive to the effective supervision of digital currency by China's regulatory authorities.

4.2 Lack of a complete digital currency supervision system

A sound monetary supervision mechanism of a country requires to be established on a complete and formed monetary supervision and regulation system. The supervision of digital currency is mainly based on the policy documents issued by relevant departments, and there is a lack of formed supervision norms and perfect system. In 2013, China's central bank and other five ministries and commissions issued the notice on preventing bitcoin risk, which is considered to be a sign that China began to regulate digital currency. Taking bitcoin as the representative of digital currency, the notice clearly puts forward four main characteristics of digital currency: non centralized issuance, ceiling on the total amount, high anonymity and no geographical restrictions on transactions. The regulatory authorities of our country have shown that although digital currency has certain monetary attribute, it does not have the legitimacy of traditional currency. In addition to the notice, seven ministries and commissions, such as the Central Bank of China, issued the notice on preventing the risk of issuing and financing of tokens in 2017, which suggested that tokens and "virtual currency" do not have the same legal status as legal currency and cannot be used in the market as traditional currency. These two policy documents have become the main basis of digital currency supervision in China. Besides, at present, there is no complete set of regulatory norms in China that can be applied to the supervision of digital currency. This kind of supervision method relying on policy documents can lead to extreme development of digital currency in China: in the early stage of digital currency

development. Because of the lack of supervision of digital currency, the market of digital currency in China is disordered and allowed to grow arbitrarily [10]. Later, after the issuance of the above two policy documents as the basis for the supervision of digital currency, due to the strict prevention of risks, the advantages of digital currency are denied to a certain extent, which makes its living space be strongly hit. The main reason for this extreme situation is that China has not perfect the regulation of digital currency at present.

4.3 Unclear tax policy of digital currency

With the continuous development of digital currency, some countries have recognized the monetary attribute of digital currency in the world. For example, the United States recognizes bitcoin as digital currency, but it is regarded as common assets for tax purposes. If bitcoin is regarded as legal currency, it is faced with the problem whether bitcoin needs to be deposited in the Treasury and whether it can be taxed in bitcoin. In China's digital currency transaction, the transaction platform charges huge transaction fees, but these fees are not included in the scope of taxation. Because the legitimacy of the digital currency income is not determined, there are also a lot of difficulties in the tax form of digital currency [11]. The unclear tax policy reduces the revenue of national tax and is not conducive to the supervision of the digital currency market by relevant institutions.

4.4 Digital currency trading platform is not standardized

Digital currency has many risks and complexity. It is difficult for the current digital currency supervision system to find a balance between the risk and advantage of digital currency, which brings great challenges to the relevant regulatory departments. First, the anonymity of digital currency poses regulatory challenges. An important indicator of the supervision of illegal financial activities by relevant regulators is transparency. Although digital currency has traceability and can reduce illegal criminal activities such as money laundering to a certain extent, its anonymity makes it difficult to obtain corresponding data to supervise its behavior, which weakens the role of digital currency supervision. And then bring challenges to the regulatory system. Secondly, the regulatory challenges brought by the decentralization of digital currency: in the economic operation, the centralized account guarantee transaction of the central settlement institution is conducive to avoiding the payment risk in the transaction. However, the decentralized characteristics of digital currency and the technology of distributed ledger make the centralized supervision of central clearing institutions ineffective and its intermediary role does not exist. Even if the central bank's statutory digital currency will retain centralized supervision to a certain extent in the future, the regulatory authorities will face greater regulatory challenges. Finally, the international coordination of digital currency supervision is crucial. At present, the development of digital currency is global, and its many special attributes mean that detailed regulatory standards are needed. However, with the development of digital currency on a global scale, the group needs a set of regulatory standards for digital currency that can be applied to the world, Where should the formulation power of the standard belong and whether the international digital currency supervision can be coordinated have become another difficult problem faced by China's digital currency supervision department.

4.5 Lack of Anti-money Laundering Mechanism

It can be seen from the development status of digital currency that the biggest legal risk faced by digital currency is the money laundering of criminals. Because the transaction of digital currency is anonymous and traceable, it is conducive to the wanton breeding of illegal criminal activities. Criminals launder money through anonymous hedging and hedging, avoiding the regulatory system and realizing cross-border transfer of remittances, leading to the laundering of "black money" in the gray area in this process [12]. Due to the characteristics of decentralization, the value of digital currency has soared all the way without the supervision of relevant institutions, and has become a hot product in the investment community. A high degree of freedom has both advantages and disadvantages for digital currency. Too much freedom will breed disadvantages. Therefore, digital currency should establish an effective anti-money laundering mechanism to prevent digital currency from becoming a whitewashing medium of dark network assets. In this way, digital currency can easily fall into the abyss of law and become a hotbed for the growth of illegal criminal activities.

4.6 Lack of consumer protection

Firstly, the trading mechanism of digital currency has anonymity and the concealment of trading on the third-party platform. When consumers invest or trade in digital currency, they cannot obtain complete and real counterparty information. Trading in the case of information asymmetry means that there is a great risk. At present, the security quality of China's digital currency trading platforms is mixed, and each platform has different safeguard measures for network information security. Only a few digital currency trading platforms protect the rights and interests of consumers through independently developed information protection channels, while most digital currency trading platforms do not have relevant protective measures. Therefore, once the trading platform is attacked by criminals, it will bring immeasurable losses to consumers who invest in the trading platform. Moreover, consumers who invest in digital currency deposit their funds on the trading platform. A large amount of funds rely on the self-discipline management of the platform, which is difficult to ensure the safety of investors' funds. Once the operation of the trading platform encounters difficulties and faces bankruptcy, the consumer's exit mechanism cannot be guaranteed in case of liquidation or platform exit from the market. If a large number

of investors lose money on the digital currency platform, it will cause systematic risks to the whole economic market and affect China's financial system [13].

Secondly, although the starting point of the two notices issued in 2013 and 2017 was to protect the interests of the public, guide the public to recognize the legal attributes of digital currency, treat digital currency correctly and invest cautiously, the two notices only defined the attributes of digital currency and said that investors' personal freedom in digital currency investment is not protected by law. Without mentioning the protection of consumers' rights and interests, it means that investors must bear the risks and losses in their investment. If consumers' rights and interests are infringed in digital currency investment, the subject matter of investment will be considered illegal in the process of event handling, and the law cannot protect consumers. In addition, the digital currency trading platform holds a large number of customers' personal information and account information. If hackers attack the digital trading platform, consumers' privacy will be violated and their personal information cannot be guaranteed. In case of such events, the digital trading platform is anonymous and cannot trace the source of hackers' information. Therefore, the loss cannot be recovered. In other words, once there are rights and interests disputes, transaction jurisdiction conflicts and other issues on the digital trading platform, the legal liabilities of relevant parties are difficult to determine, and it is difficult for financial consumers to ask for relief and compensation, which not only damages the economic interests of the public, but also hits the traditional financial system.

4.7 International digital currency cooperation is not close

The development of digital currency is a process of globalization. Due to its cross-border payment function, digital currency can break through the restrictions of time and space and circulate among countries all over the world. International capital flows will become more frequent. Facing the emergence and development of digital currency, a financial innovation, it can be said that risks and benefits coexist. There are great differences between digital currency and legal tender. Legal tender is issued and supervised by one country. Although digital currency has the benefit of convenient payment, it is also easy to be used by criminals for international illegal money laundering. Therefore, the supervision of digital currency only depends on individual countries is not enough to produce overall benefits, and international supervision cooperation is indispensable. For international cooperation in digital currency, in addition to the regulatory level, we should also exchange the experience of countries in promoting legal digital currency. Win-win cooperation is the main theme of development. Only by strengthening international cooperation can we promote the process of establishing a global regulatory system for digital currency in the future.

5. SUGGESTIONS ON THE DEVELOPMENT OF LEGAL DIGITAL CURRENCY IN CHINA

Digital currency was born in the era of rapid development of high and new technology. Its emergence and development have brought huge potential risks to the global economic system. Internationally, countries have gradually begun to formulate relevant laws to supervise the development of digital currency and regulate the development of digital currency. Since 2013, notices have been issued to supervise digital currency. However, due to the complex operation mechanism of digital currency, its development process is far beyond our imagination, which increases the difficulty of supervision of relevant departments. At present, the development of digital currency in China is in a disorderly state, but digital currency also has the value that its encryption technology can solve the problems of traditional accounting methods and data transmission. In recent years, China has actively carried out the research and development of legal digital currency, and launched the pilot of legal digital currency in August 2020. Therefore, for the legitimate and orderly development of legal digital currency in China, the following suggestions are put forward.

5.1 Clarify the legal attribute of digital currency

To effectively supervise digital currency and ensure the legal and orderly development of digital currency in China, we must first clarify the legal attribute of digital currency. China's central bank and other five ministries and commissions issued the notice on preventing bitcoin risk in 2013, which is considered to be the symbol of China's beginning of financial supervision of digital currency. In the notice, it clearly indicates the differences in attributes between digital currency and traditional legal tender, and holds that although digital currency has certain monetary nature; it cannot be circulated and used as legal tender. Although the notice explains the difference between digital currency and legal tender for the public, reminds the public of the risks of digital currency and guides investors to treat the investment behavior of digital currency carefully, the notice does not fundamentally determine the legal attribute of digital currency, and does not make a clear definition of whether digital currency belongs to the category of currency or virtual commodity. With a clear legal attribute, we can formulate specific digital currency supervision regulations and measures according to the legal attribute, so as to control the risks in the circulation of digital currency and stabilize the digital currency market. Digital currency has the attribute and function of some legal currency. In the current digital currency market, most of the speculators who trade on the trading platform can not only treat digital currency as a general virtual commodity. Digital currency has the function of being a medium of transaction, but its limited total amount determines that digital currency cannot replace the existing legal currency to become hard currency. Because the transaction of digital currency needs to adjust the intermediate price difference in price expectation to earn capital gains, and the operation mechanism of digital currency trading platform is

similar to the existing financial derivatives trading mechanism. Perhaps digital currency can be defined as one of financial derivatives. The existing financial derivatives also have a perfect regulatory system and applicable laws and regulations. It is a suitable way to divide digital currency into the scope of financial derivatives.

5.2 Constructing a complete digital currency supervision system

The report of the 19th National Congress clearly pointed out that the establishment of financial system should pay attention to innovation and supervision at the same time. As a new product of modern financial system, digital currency should pay attention to both risk management and financial innovation [14]. At present, there are no digital monetary and financial supervision measures and legal norms in the world. The existing regulatory norms for digital currency market in China are limited to policy documents, but there is no perfect digital currency supervision system.

To build a digital currency supervision system, we must first establish the correct supervision concept. In the era of paper currency dominated, the emergence of electronic currency has caused concerns to regulators whether the large-scale operation of electronic currency will cause devastating blow to paper money, which is the same as the current situation of digital currency in China. Because of the worry whether digital currency will cause destructive risk to the current financial system, China's supervision of digital currency still stays at the stage of avoiding systemic risk by relying on market ban. However, the large-scale application of electronic currency in China shows that it is not feasible to curb the development of emerging things because of fear of financial risk. The conservative supervision concept is obviously inconsistent with the international mainstream supervision concept, which will make the development of digital currency miss the best time in China. It is no mistake to treat emerging products carefully because of the protection of investors and the financial system in China, but the use of "one size fits all" supervision also limits the development space of good digital trading platform. In order to make our digital currency run in a legal and orderly manner, regulatory measures can be in line with international standards, broaden the development space of digital currency in China, lay a good foundation for the construction of legal figures in the future. The urgent task is to establish a correct supervision concept of digital currency risks and opportunities, and to deal with the changes brought by digital currency to China's financial system with inclusive regulatory attitude.

On the basis of establishing the correct supervision concept, we should establish a complete digital currency supervision system. At present, the legal digital currency in China is in the stage of research and trial operation. In order to provide forward-looking guidance for legal digital currency, we should pay attention to the research on the legal formulation of digital currency at this stage, and establish a regulatory framework of the digital currency trading market. The first step is to start with the trading platform to supervise the digital currency market by referring to the experience of other countries in the supervision of digital currency. Digital currency trading platform is the basic carrier of digital currency transaction, which records a large number of digital currency transaction information, registered user account data and stores a large number of digital currency transaction funds. Effective management of the trading platform can greatly promote the financial supervision of digital currency market. First, according to the national conditions of our country, we should establish the supervision organization of the digital currency trading platform, strictly approve the registration of the digital currency trading platform, and build a safe digital currency trading carrier. Secondly, the digital currency products listed on the trading platform are strictly tested and the value is accurately estimated. Only after the risk is determined can the trading circulation be allowed to be listed on the trading platform, and the systemic risk brought by digital currency can be fundamentally controlled.

Finally, to meet the financial innovation requirements put forward in the report of the 19th national congress, the supervision of digital currency market should keep pace with the times and innovate constantly. Digital currency is the product of modern high-tech. for the supervision of digital currency, we need to learn from the previous monetary supervision mechanism, but not copy the old system. Instead, we should innovate the supervision and establish a financial supervision system which is suitable for the actual situation and meets the characteristics of emerging things.

5.3 Improve the tax policy of digital currency

In recent years, the volume of transactions of China's digital currency trading platform has gradually increased, and the transaction volume has been continuously breakthrough. The Chinese market has become the largest digital currency trading market in the world. However, the huge handling fees and investors' income on the digital currency trading platform have not been included in the scope of Taxation in China, which not only reduces the tax revenue of our country. Because of the lack of tax monitoring system, it is also not conducive to the financial supervision of the regulatory authorities on the digital currency trading market. Referring to the international examples, most countries have listed the transaction of digital currency into the scope of tax payment. In order to keep pace with the advanced international experience, China should actively promote the digital currency transaction into the scope of tax revenue. Since most of the digital currency transactions are carried out on the trading platform, only a few of the digital currency transactions are carried out among individual traders, the tax payment of digital currency should be started from the trading platform. It is an effective measure to regulate the tax supervision of digital currency payment by building the monitoring system of transaction platform, mastering the transaction situation of digital currency in real time and taking the transaction records on the trading platform as the basis of tax payment. However, because of the high price fluctuation of digital currency, it is unreasonable to pay taxes according to market price. Therefore, the tax policy of digital currency transaction should be

customized. The idea can be that when trading on the trading platform, the tax amount can be calculated by special algorithm, and the tax payable will be deducted by the trading platform during the transaction process, and then the monitoring system of the trading platform will be used. Check with transaction records automatically, and collect tax on the trading platform. To improve the tax policy of digital currency transaction can prevent the tax evasion by using digital currency transaction to a large extent, and increase the difficulty of illegal transfer of property, which is conducive to promoting the supervision of digital currency finance and establishing a good foundation for the development of digital currency in China.

5.4 Standardizing the digital currency trading platform

At present, the digital currency market in China has begun to take shape. Digital currency is developing vigorously. At this stage, integrating the market is the necessary measure to ensure the smooth operation of the digital currency trading market. Because most of the transactions of digital currency investors are carried out on the trading platform, the regulation of the digital currency trading platform can effectively regulate the digital currency market on the basis of the carrier.

First, we should establish the principle of access to digital currency trading platform and improve the qualification of access to the trading platform. Strict qualification examination on the trading platform can eliminate unsafe trading system to a certain extent, improve the entry threshold of trading platform by adopting registration management method, help regulatory departments regulate the management of digital currency trading market, effectively avoid unqualified trading platform entering the market and build a good market order. Trace the management of the trading platform, review the professional ability and credit status of the management, evaluate whether the manager can manage the trading platform in an orderly manner, and ensure the stable operation of the trading platform.

Secondly, the qualification of the trading platform practitioners is strictly required and the trading platform is required to be equipped with professional technical personnel. No matter any profession, we need to have certain professional knowledge. As the main place of digital currency trading, the importance of digital currency trading platform can be imagined. The practitioners of the trading platform must have enough basic knowledge and technical management ability. In addition to the professional certificate required by the practitioners of the digital currency trading platform, a certain number of professional technicians are required to solve the technical security problems in the operation of the trading platform, to maintain and upgrade the digital currency trading system and repair the bug.

Third, establish the information disclosure mechanism of digital currency trading platform, and integrate the digital currency trading platform into the credit system. It is required that the digital currency trading platform disclose the information such as platform operation, senior management information, fund scale, project planning, etc. to a large extent, solve the problem of information asymmetry, avoid fraud and protect the rights and interests of investors.

Finally, the threshold of access for digital currency investors is raised to ensure that they have the ability to bear risks. The operation mechanism of digital currency is similar to that of financial derivatives. For the supervision of digital currency investors, the standard of financial derivatives can be referred. Because of the high risk faced by digital currency transaction, the real name certification of investors engaged in digital currency transaction is carried out, and the threshold of digital currency transaction is raised, and high net worth users are filtered out to ensure that investors have sufficient risk tolerance and professional analysis ability to the market, so as to avoid low net worth users entering the site, and cannot bear the losses. The excessive damage of property rights and interests can also promote the healthy development of digital currency trading market and ensure the smooth operation of China's financial system.

5.5 Building Anti Money Laundering Mechanism

The traditional anti-money laundering method in China is to track the trading users through banks and other financial institutions, systematically analyze suspicious accounts, and report the accounts of illegal criminal activities such as money laundering to the relevant departments to combat financial crimes after the analysis. However, the anonymity, fast transmission and cross-border payment of digital currency are conducive to illegal and criminal activities, which increase the difficulty of anti-money laundering by relevant departments. Therefore, it is urgent to establish an effective anti-money laundering mechanism. With reference to the advanced experience of the United States, it is helpful to establish the risk assessment model of money laundering. The risk of digital currency transaction is evaluated and arranged. The risk components are analyzed by multi factor model. The risk level of the evaluation object is obtained by combining the results, effectively controlling the risk of the digital currency trading market and improving the financial supervision of the relevant departments.

5.6 Strengthening the protection of the rights and interests of digital currency consumers

At present, in the policy documents issued in China, it is clear that digital currency, although it has certain monetary attribute, cannot be issued and circulated as a traditional currency. Therefore, the investors of digital currency are not traditional financial investors, and policy documents are only used as guidance documents to improve the risk awareness of investors, which means that the investment behavior of digital currency investors is not protected by law. However, with the continuous development of digital currency, its investor model is growing day by day, and the protection of the rights and interests of digital currency investors can no longer be ignored. The transaction risk of digital currency consumers

mainly comes from the anonymity of digital currency. Most of the failure of digital currency transaction is due to incomplete information mastery of both parties and third-party trading platform, and the decision-making errors caused by information asymmetry lead to the damage of consumer property and the protection of rights and interests. The establishment of information disclosure mechanism of digital currency trading platform can greatly improve the consumers' right to know the information needed in the process of transaction, and the digital currency transaction can avoid the decision-making errors caused by information asymmetry on the premise of understanding the transaction information. In addition, investors should be publicized and educated, investors' risk awareness should be raised, fraud in digital currency trading should be prevented, anti-money laundering publicity activities should be carried out, and investors should not be used by illegal elements for criminal activities without knowing. Finally, the fundamental measure to strengthen the protection of consumers' rights and interests lies in the establishment of the protection mechanism of the rights and interests of digital currency investors. In terms of the future development trend of digital currency, we should accelerate the construction of legal digital currency in China, and require the central bank as the issuing body of digital currency, guarantee with national credit, can stabilize the value of digital currency, improve the investment confidence of consumers and protect the legitimate rights and interests of consumers.

5.7 Strengthening international cooperation in digital currency

Digital currency has the characteristics of anonymity and is not limited by time and space. It can realize cross-border transactions in a short time. Its issuance and circulation is a global phenomenon. In this kind of bad situation where digital currency develops actively in this country, it is far from enough to rely on the supervision power of one country. Strengthening international cooperation in digital currency is the trend of the development of digital currency [15]. As a big country of digital currency trading, China has the largest digital currency trading market in the world. The volume of transactions is increasing greatly every year. Relevant government departments should take advantage of the market advantages of our country at present, actively build international cooperation in digital currency, and take the lead in the global digital currency market. The future development direction of digital currency is legal digital currency. Building an international digital currency trading platform can prepare for the future, lay an international foundation in the market of legal digital currency transaction in the future, provide forward-looking guidance for China's legal digital currency, so that the legal digital currency issued in the future can be in the core position in the international market.

6. CONCLUSION

With the rapid development of global financial technology, legal digital currency will become an important form of currency in the future. At present, the central bank is committed to the development of legal digital currency in China, and has carried out experiments on relevant platforms. Legal digital currency is a new thing and lacks successful experience that can be used for reference. Therefore, this paper analyzes the earlier development of private digital currency, and explores the deficiencies in the development of private digital currency in China, in order to provide reference and reference for the development of legal digital currency in China. This paper first expounds the concept and classification of digital currency, then analyzes the current situation of the supervision of private digital currency in China and other countries around the world, points out the shortcomings of China's response to the risk of private digital currency, and finally puts forward the enlightenment and suggestions for the issuance of legal digital currency in China. There are some problems in private digital currency, such as unclear legal attributes and tax policies, non-standard trading platforms, lack of consumer protection, and weak international cooperation. China should pay attention to the above problems when promoting the development of legal digital currency. Specifically, we should clarify the legal attribute of digital currency; Build a complete digital currency supervision system; Improve the digital currency tax policy; Standardize the digital currency trading platform; Building an anti-money laundering mechanism; Strengthen the protection of consumers' rights and interests; Strengthen international digital currency cooperation.

The special attributes of digital currency make it different from traditional currency, but its effect also has advantages and disadvantages. In the face of emerging things, we can neither blindly pursue nor blindly reject them. Instead, we should consider how to promote the standardized and healthy development of digital currency and give full play to its role in China's economic development on the basis of avoiding risks, protecting investors' rights and interests and actively combating criminal acts.

COMPETING INTERESTS DISCLAIMER:

Authors have declared that no competing interests exist. The products used for this research are commonly and predominantly use products in our area of research and country. There is absolutely no conflict of interest between the

authors and producers of the products because we do not intend to use these products as an avenue for any litigation but for the advancement of knowledge. Also, the research was not funded by the producing company rather it was funded by personal efforts of the authors.

REFERENCES

1. Mullan P C . What is Digital Currency?[J]. Palgrave Macmillan US, 2014. DOI: 10.1057/9781137382559_2
2. Yao Qian, Tang Yingwei. Some Thoughts on Central Bank — issued Digital Currency[J] Financial research, 2017 (7): 78-79. Chinese.
3. Li Jianjun, Zhu yechen Research progress of digital currency theory and practice[J] Economic trends, 2017 (10): 115-124. Chinese.
4. Deng Jianpeng, Niu fengci Risk of stable currency usdt and protection of investors' rights and interests[J] Contemporary financier, 2019 (12): 90-93. Chinese.
5. Cryptoasset Market Coverage Initiation:Valuation. SaTIs Group
6. Yao Mingrui From the supervision of private digital currency to the experiment of legal digital currency[J] Contemporary financier, 2018 (4): 103-106. Chinese.
7. Zhao Binghao U.S.Experience on Cryptocurrency Regulation and an Examination of China's Approach[J]. Journal of Fujian Normal University: Philosophy and Social Sciences Edition, 2020 (3): 71-82. Chinese.
8. Zhao Binghao Extraterritorial Experiences and China's Solutions for the Regulation of Cryptocurrency's Ecosystem—Using Stablecoins as the Gateway[J]. Tribune of Political Science and Law, 2022, 40(2): 176-191. Chinese.
9. Sun Guofeng, Chen Shi Securities Properties and Regulation of ICO[J]. Management World, 2019, 35(12): 45-52. Chinese.
10. Li Wenhong, Jiang zeshen A Study of the Development and Supervision of Distributed Ledger Technology, Blockchain and Digital Currencies[J]. Research on financial regulation, 2018 (6): 1-12. Chinese.
11. Luo Mei. Accounting and Taxation for Cryptocurrency[J]. Accounting Research, 2019(12): 34-39. Chinese.
12. Feng Sixian, Ding Jia. Money Laundering Risk of Cryptocurrency Transaction Activities: Source, Evidence and Inspiration[J]. Studies of International Finance, 2019(7): 25-35. Chinese.
13. Zhang Xiangyu A Study of Consumer Protection in the Development of Digital Currency[J]. Zhejiang Finance, 2016(12): 23-28. Chinese.
14. FENG Si-xian, YANG Jing. International Practice and Enlightenment of Central Bank Digital Currency[J]. Reform, 2020(5): 68-79. Chinese.
15. Li Zhi, Huang Linfang International Cooperation in Digital Currency Regulation[J]. Journal of University of Electronic Science and Technology (SOCIAL SCIENCE EDITION), 2020 (1): 12-19. Chinese.