

# Research on Legal Governance of “Decentralized” Digital Currency

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**Abstract**—The continuous development of block-chain technology and "decentralized" digital currencies has brought many conveniences to daily life and economic trade. At the same time, however, the economic and legal risks, as well as a series of issues that it exposes, including legislation, law enforcement, and justice, have also attracted social attention. Based on the perspective of law, this article analyzes the practical experience of "decentralized" digital currencies and the current status of regulation at home and abroad. Combined with the current status of the development of digital currencies in China, this article makes suggestions about Legal governance of the legal status of digital currencies, the subject, Content and legal liability of supervision of trading platforms, and investor privacy protection.

**Keywords:** *decentralized, digital currency, legal governance*

## I. INTRODUCTION

Since the emergence of the Internet, in the past two or three decades, all aspects of human society are undergoing various changes. Especially after the 21st century, the rapid development of e-commerce has given birth to people's demand for more convenient payment and settlement methods. In addition, the breakthrough of blockchain technology and the gradual change of people's thinking make the emergence of digital currency inevitable.

Currently, there is no agreement on the definition of digital currency. According to the definition of European Central Bank, digital currency is a kind of digital expression of value, which is not issued by the legal currency distributor, but can be used as a substitute for currency in some specific cases. Generally speaking, according to the differences in the generation and use of digital currency, there are two types: traditional digital currency and new-generation digital currency. The former is mainly represented by the digital currency issued and used by enterprises, such as the game currency closed in the game network

community. The new digital currency is the object that is not controlled by the government and central service providers, relying on the block chain technology and mathematical algorithm, and can flow in two directions and trade on the digital currency trading platform. Based on the characteristics of "decentralization" which is different from the former, this new type of digital currency is called "decentralization", which is explored in this paper.

From a formal point of view, "decentralized" digital currency is a kind of nonentity currency which has its own value and does not rely on physical media as the carrier; in essence, it is based on the principle of cryptography, through the mathematical algorithm to establish the trust relationship between the two sides of the transaction, rather than an authority with the function of credit protection, so as to ensure its security; in terms of the scope of effectiveness, "decentralized" digital currency is controlled by its issuer and circulates among members of a specific virtual community, which can theoretically avoid the approval and supervision of government agencies.

## II. EXTRA-TERRITORIAL REFERENCE TO THE LEGAL GOVERNANCE OF "DECENTRALIZED" DIGITAL CURRENCY

As a product of the rapid development of the Internet in recent years, the volume of "decentralized" digital currency is expanding. According to the relevant data of CoinMarket Cap, as of May 11, 2019, the total market value of global digital currency exceeded 200 billion US dollars, a new high in nearly half a year; as of May 31, 2019, the total volume of global digital currency transactions in the past 24 hours reached 104.227 billion US dollars, a new record. [Data released by the CoinMarketCap platform on December 6, 2017]. With the development of digital currency, every country has taken corresponding measures. Generally speaking, attitudes towards digital currency can be divided into three categories:

The first is to actively supervise and guide the development of digital currency. Through the introduction of

laws and regulations to restrict and supervise the various subjects of digital currency, actively explore the new direction of digital currency development, and improve the corresponding digital currency management system. Among them, Japan and Germany are the most typical countries with positive support for the bitcoin. Japan's capital settlement law has been revised and implemented since its promulgation in 2017, and the relevant system construction has also been improved, creating a good political environment for the development of the bitcoin. As the first country in the world to recognize the legal currency status of bitcoin, Germany introduced the cryptocurrency tax document in 2018. The document pointed out that when taxing, as long as bitcoins play the role of a payment method, Germany will regard bitcoins as the same concept as French currency. In addition to Japan and Germany, Australia, Canada, India and other countries also have positive and supportive attitudes towards digital currency.

The second attitude is to hold still, take France as the representative, reminding investors of the possible risks of digital currency through moral guidance and warning, neither support the development of digital currency nor prohibit its circulation, and adopt a "liberal" wait-and-see attitude. The Central Bank of France issued a report on financial stability in the digital age, which repeatedly referred to virtual currency and blockchain technology and publicly expressed its intention to establish a new innovation laboratory, hoping to cooperate with more blockchain start-ups. But at the same time, the French central bank has constantly warned investors of the risks of virtual currency, to prevent digital currency investment from disturbing the domestic financial market.

The third approach is to prohibit the transaction of digital currency and stabilize the existing financial market environment. Many countries, including Thailand and Ukraine, hold a negative attitude towards digital currency. On the one hand, they refuse to recognize the legal status of digital currency, on the other hand, they formulate regulations and policies to regulate the transactions of digital currency. However, no matter which attitude is adopted, digital currency has officially stepped into the light of the historical stage. Most countries have started to establish a special research group on digital currency to study the development prospect, operation mode, regulations and other aspects of digital currency.

In the world, some countries have begun to carry out the experiment of digital currency, using digital currency in a small range, and actively explore the positive effect of digital currency by introducing relevant laws and regulations. At present, there are relatively complete and systematic practices on digital currency in the world, such as "Jasper-Ubin" project of monetary authority of Singapore and the Bank of Canada, "Libra" implemented by Facebook and "Petro" of Venezuela. This series of digital currency practice confirmed the development prospect of the "decentralization" of digital currency, but also exposed a series of problems such as strong dependence, low efficiency and weak security.

With the continuous development of Internet and blockchain technology, mobile payment is becoming more and more popular, and the paperless digital currency gradually shows its advantages. Under the premise of strong privacy, free payment, transparency and neutrality, how to effectively supervise digital currency and prevent criminals from using digital currency for money laundering and other criminal activities has become an important factor restricting the legalization of digital currency. Under the continuous test of many countries, although the results are quite fruitful, there is still no complete and rigorous legal system and a complete set of regulatory measures for digital currency, and we still have a long way to go in the supervision of digital currency.

### III. RISK ANALYSIS AND EXISTING PROBLEMS OF "DECENTRALIZED" DIGITAL CURRENCY

#### A. The risk of "decentralized" digital currency

##### 1) Economic risk

a) *Risk of price fluctuation*: Since the emergence of digital currency, its price is completely controlled by the market and investors, so almost no country can control and control its price. For example, the price of the bitcoin has been soaring at an alarming rate since 2017, from about \$1000 at the beginning of 2017 to nearly \$20000 at the end of the year. After a period of volatility, it has been climbing at an amazing rate since May 2019, reaching US \$10000 so far.

Due to the lack of restraint and instability of the bitcoin's price, it is easy to be affected by various external factors such as investors, public opinion and national policies, resulting in violent fluctuations. Words like "plummeting", "bloody", "crazy bull market" is often used in bitcoin reports. The sharp fluctuation of bitcoin's price leads to the increasing risk for investors. If the investors can't bear the huge loss in the end, the risk will be transmitted to the whole financial market, and the market will pay for the speculative risk of digital currency. At that time, not only investors and the whole financial system, but also ordinary people may be affected and suffer huge losses.

b) *Economic regulation risk*: The means of macro-control by the government include economic means, administrative means and legal means, among which economic means are divided into fiscal policy and monetary policy. The proliferation of digital currencies, such as bitcoin, will disturb the country's judgment of economic situation, thus directly affect the country's control and regulation of currency. Digital currency has the characteristics of "decentralization", and its transaction mode is hidden. Without the intermediate medium of financial institutions, the transaction of digital currency has no record for reference, and the state cannot control the digital currency, which will naturally interfere with the formulation of monetary policy.

As monetary policy and fiscal policy often need to be used together, once the monetary policy is disturbed, the use of fiscal policy will also be affected, which may lead to the failure of economic means of national macro-control, further increasing the risk of financial market.

## 2) Legal risk

*a) Risks of theft and fraud:* According to the security report disclosed by Bianews, theft accounts for about 50% of the digital currency risk events, while hacker intrusion accounts for about 44%. According to the report released by the international anti phishing working group, since the beginning of 2017, some \$1.2 billion worth of digital currency has been stolen. Of the \$1.2 billion, only about 20% or less has been recovered. It can be seen that the theft of digital currency is more difficult to detect than ordinary theft cases. Because some criminals use special means to steal through concealment technology and special software, most of the cases of theft of digital currency have no trace. In addition, in addition to the loss of digital currency caused by human operation, the security vulnerability of the website itself also needs to be paid attention to. Bitfinex, the world's largest US dollar bitcoin trading platform, has also announced that as many as 119756 bitcoins have been stolen due to security vulnerabilities on its website, with a total value of about US \$75 million. It can be said that even if digital currency relies on blockchain, which is known as the safest link, no matter which platform it is on, the security of funds in digital currency accounts is really worrying.

*b) Risk of money laundering:* Because bitcoin has the characteristics of anonymity, decentralization and tamper-resistant, its capital flow cannot be effectively monitored, so it provides a perfect channel for criminals to carry out money laundering and other criminal activities. In the case of Beijing Lekuda Network Technology Co., Ltd. and Suihua Huachen commerce and Trade Co., Ltd. and Peng Quanquan's tort liability dispute<sup>1</sup>, Liu used the Internet bitcoin trading platform to transfer, purchase, transfer and sell the proceeds of fraud. Although China has issued the notice of the people's Bank of China and other five ministries and commissions on the prevention of bitcoin risk and the guidance on promoting the healthy development of Internet finance, all of which have made provisions on the obligation of anti-money laundering, because the provisions are too general, there is no set of punishment measures, bitcoin is easy to become a hotbed for criminals to launder money. In practice, this kind of Crime is still emerging in an endless stream, so we need to pay more attention to the money laundering risk of "decentralization" digital currency.

## B. Existing legal problems of "decentralized" digital currency

*1) Lack of legislation and unclear positioning:* There is only one law about financial supervision in China, and the rest are scattered in commercial bank law, bill law,

guarantee law, insurance law, securities law and other financial laws. There are no laws and regulations on "decentralized" digital currency in China, and only the notice on prevention of the bitcoin risk issued by the people's Bank of China jointly with four ministries and commissions in 2013, and the announcement on prevention of risk of token issuance and financing issued by seven ministries and commissions, including the people's Bank of China. However, these two notices only make a relatively macro regulation compared with the special currency, which does not involve specific legal liability and does not have a higher legal rank. As a new financial form, the relevant laws and regulations of digital currency are still blank, which directly leads to the absence of digital currency supervision.

It has been several years since the rise of digital currency. Why hasn't there been any law or regulations on the supervision of digital currency? The core reason is that the legal status of digital currency is not clear. Since Germany officially recognized the legal status of digital currency in 2013, Italy, Japan, the United Kingdom, the United States, South Korea and other countries have successively recognized or to some extent recognized the legal status of digital currency, and started to draft a series of laws and regulations to prevent digital currency risks and supervise digital currency transactions. On the other hand, some countries in the Asia Pacific region represented by China, as well as the Netherlands, Ireland and other countries have taken a cautious wait-and-see attitude towards digital currency, which has not clearly assigned the legal status of digital currency represented by bitcoin.

*2) Money laundering financing, promoting crime:* For bitcoin and other digital currencies, the point-to-point mode and anonymity of the transaction process are easily used by criminals and become the tools of money laundering, financial fraud and terrorist financing. Among them, criminals use bitcoin and other "decentralized" digital currency to launder money in various ways: using its anonymity, setting up multiple account addresses, confusing the public and hindering the tracking of investigators; using its different degree of supervision in different countries, reselling and trading a variety of digital currencies between countries; using the characteristics of point-to-point, and not knowing Third parties carry out transfer transactions, making third parties launder money for them without knowing. In addition, even in a country like China, which has strict restrictions on the transaction and circulation of digital currencies such as special currency, there are nearly 150 cases of fraud, nearly 200 cases of theft and nearly 50 cases of pyramid schemes.

*3) Scattered concealment, judicial difficulties:* First of all, in bitcoin criminal cases, it is difficult to investigate and collect evidence on the transfer track and transfer mode of funds. Due to its strong concealment and the characteristics of point-to-point transactions, the transfer route of stolen money is very scattered and disorderly. Unlike real money,

<sup>1</sup> [2016] Heilongjiang Civil Final Trial Case No. 274

it is transferred through the unified control of the bank, so that the police can accurately find out the flow direction of the stolen money, who handles it, how many pieces of information and so on. Through bitcoin trading platforms and point-to-point trading mode, the third party who does not know is easy to be used by criminals as a tool of money laundering, which adds a lot of interference factors to the police investigation. Due to the encryption and decentralization of bitcoin, it is impossible for the police to investigate all the public keys related to the stolen money one by one, which is a waste of time, a waste of human and material resources, and a lack of technical support. In addition, because the transaction is generated on the Internet, the evidence formed even if it is transferred out, but it belongs to electronic evidence, which is very easy to be tampered with, requiring the investigation department to restore and verify its authenticity, which must be very difficult technically.

Secondly, how to determine the place of delivery, transaction or performance in a special contract dispute involving bitcoin? In criminal cases, the place where the case happened should be subject to, the price standard of the day when the amount involved in the case should be determined, and the law of which country should be used for jurisdiction in case of transnational disputes, etc., all need to be further studied and determined.

Therefore, bitcoin and other "decentralized" digital currencies related crimes still pose great difficulties in the investigation, evidence collection and determination of jurisdiction.

#### IV. DESIGN OF LEGAL GOVERNANCE SYSTEM FOR "DECENTRALIZED" DIGITAL CURRENCY

##### *A. Improving digital currency legislation*

As mentioned earlier, the legislative process of "decentralized" digital currencies is still very slow. Unclear legal positioning, lack of laws and regulations, and various regulations that remain at the macro level are restrictive factors that restrict the further development of digital currencies. Improving digital currency legislation is not unilateral but requires a multi-pronged approach.

Firstly, on the legal positioning of "decentralized" digital currencies, the multiple attributes of digital currencies should be further clarified. For China, digital currency is a kind of "virtual commodity", but its future development direction and positioning are not a virtual commodity, but must have certain monetary attributes. Therefore, China's positioning of a "decentralized" digital currency denies its financial attributes, which is not conducive to coping with the future development trend of digital currencies. Its legal positioning should adopt in-depth and detailed qualitative methods.

Secondly, the issue of "decentralized" digital currency transactions should be clearly distinguished from ordinary civil norms. For example, special provisions should be made for civil disputes arising from the purchase and sale of digital

currencies such as bitcoin, and be incorporated into basic laws such as civil law or economic law. In this way, the judges can use a higher level of law in the judgment, which is more standardized and persuasive, instead of being unable to rely on any regulations in the current situation, and can only refer to notices whose ranking is not sufficient. For crimes such as theft and fraud using digital currency, further detailed regulations should be made, including the place where the crime was committed, the method of jurisdiction, the degree of sentencing, the amount of the case involved, and the rules of evidence, etc. An explanation should also be issued to comprehensively regulate digital currency crime.

Thirdly, for various types of websites that accept or provide Bitcoin payment, transaction, and purchase services, the corresponding ministries and commissions should issue specific departmental regulations. It should involve a series of rules such as access rules, regulatory rules, information disclosure rules, consumer protection rules, etc. to regulate and require Bitcoin business on major websites and platforms. It can learn from the US "admission permit" system to conduct qualification review and filing of websites engaged in digital currency trading transactions, regularly report information and accept inspection. For e-commerce platforms that permit the use of bitcoin, an admission permit system must also be implemented to prevent all unauthorized and authorized digital currency circulation and transactions.

Finally, the legislation for "decentralized" digital currencies also needs to include corresponding responsibilities from qualitative, normative to punishment after violation of norms. Only when a complete legal system is formed can digital currencies be fully incorporated into regulation. It can also provide legal protection for law enforcement and judicial personnel, so that they can carry out law enforcement and judicial activities with reasonable grounds and no hindrances.

##### *B. Improving digital currency supervision system*

As for supervision of "decentralized" digital currency, it should be carried out from three aspects: the supervision subject, the supervision content and the punishment measures, and then constitute a complete supervision system.

Firstly, from the perspective of supervision subject, there are slight differences in supervision subject of countries around the world. Some countries have established special digital currency regulators to specifically manage digital currencies, while others do not. In view of China's attitude of prohibiting circulation and strict restrictions on digital currencies, the digital currency business is not as active in China as other countries that have an open and supportive attitude towards bitcoin. Therefore, the practice of the United States can be used as a reference, and the supervision of digital currencies should be incorporated into the existing supervision system without adding any new government agency, and strive to effectively control and manage digital currency transactions. Thence, the regulatory responsibility for digital currencies should be mainly borne by the People's Bank of China, which is closely related to it, and the CBRC

should assist the People's Bank of China to supervise and issue corresponding regulations and rules.

Secondly, from the perspective of supervision content, the most important content is the qualification review and inspection of platforms and websites engaged in digital currency business, the supervision of compliance with relevant laws and regulations during the operation process, and the evaluation of its risk index and social responsibility. First of all, about the qualification of platforms and websites engaged in digital currency business, we should learn from the United States, make certain qualification requirements for websites and platforms that enter the digital currency business market, and obtain the license before proceeding. Platforms that do not have a license or that do not meet the conditions for survival after annual review should be cleaned up and ordered to shut down. Second, in the process of operating a digital currency trading website, the supervisory authority should conduct online and offline supervision, review the platform's indicators on time, complete the work required by anti-money laundering and laws and regulations, and know the resolution of various disputes during the operation of the website. What's more, they should increase the sensitivity of the trading platform to "mixed currency transactions", and beware of criminals using mixed currency transactions and anonymous currencies to confuse the transfer path and split the relationship between input and output. Supervisory departments shall urge platforms to perform their obligations and take responsibility. Third, the regulatory department should regularly conduct risk assessments and social responsibility assessments on major trading websites, analyze various data and indicators of trading websites to alert and guide investors to invest rationally, and also urge major trading websites to the existing problems are actively rectified.

Thirdly, from the perspective of punishment measures, supervision subject should introduce corresponding methods of liability, such as fines, revocation of licenses, and order closures, as well as increasing social publicity, reducing credit rating and blacklisting Penalties related to digital currency business. Those who cause consequences or have serious impacts need to bear criminal liability in addition to civil liability.

#### *C. Strengthening investor protection*

Firstly, the information known to investors and platforms engaged in digital currency trading is asymmetric, which is extremely unfair to investors. Therefore, the trading platform should disclose the platform information, financial information, risk index information and other information in a prominent position on the website or platform. The regulatory department should check and urge the platform to disclose and update the information in time so that investors can fully and truly understand the platform Operational status. In addition, the method for investors to make a complaint of the platform should be clearly stated to ensure the validity of the complaint method.

Secondly, after investors enter the trading platform for investment, the protection of investors' privacy and safety by the trading platform should be incorporated into the regulatory system. The current method of digital currency transactions is to publicize transaction details and hide traders. In other words, all transaction information on the platform is public, and the public can see each transaction record and even the transaction addresses of both parties to the transaction. You can see the content of the transaction, but you don't know the true identity of the two parties in the transaction, so as to achieve the effect of protecting privacy. Therefore, once a trader's account information is exposed, all his transaction details will be made public, and investor privacy will not be effectively protected. According to Article 29 of China's Consumer Rights Protection Law, exchanges should protect investor information to a high degree. Except for legal purposes, trading platforms must not provide any user information to any organization or individual. Relevant departments also Regulations on privacy protection that digital currency trading platforms should abide by should be issued.

Thirdly, the trading platform should also take corresponding protection measures for the safety of investors' properties and improve the security of the platform. And to avoid hacking by strengthening network technology research, improving property management methods, and strengthening firewalls.

#### *D. Exploring the international co-regulatory coordination model*

After the text Due to the cross-border nature and the peer-to-peer anonymous transaction model of "decentralized" digital currencies, most of the transactions involved are transnational, especially in the area of money laundering crimes. Criminals often choose to carry stolen money internationally Circulation to escape investigation by the public security department. However, at present, there is no unified opinion on the regulatory model of "decentralized" digital currencies, and attitudes towards them are quite different. Therefore, strengthening international cooperation, learning from other countries' effective supervision methods and means, and jointly exploring a new model of "decentralized" digital currency management are the best choices for China to cope with future digital currency development.

## V. CONCLUSION

"Decentralized" digital currency is an inevitable outcome of the development of the times. Its features include convenient and hidden, and it has attracted investors from all over the world. But there are still incompleteness about it. According to the development status of "decentralized" digital currencies in different countries in recent years, there are still many problems including economics and laws. Therefore, it is particularly important to establish a legal governance mechanism that covers areas such as perfecting legislation, completing the regulatory system, and increasing investor protection. When introducing new policies, it's

needed to strengthen international cooperation and draw on others' strengths, exploring a new development model that conforms to China's actual situation and the country's long-term security, promoting the healthy and stable development of "decentralized" digital currencies in China.

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