

# **Economic Risks Associated with Non-Statutory Digital Currencies and Regulatory Measures**

**Yanan Hao\***

*Guangxi University for Nationalities, Nanning, China*

*\* Corresponding Author.*

**Abstract:** The development of blockchain technology provides a technical possibility for the emergence of non-statutory digital currencies. Non-statutory digital currencies are digital currencies issued by organizations of entities other than states, and mainly contain unstable coins such as bitcoin and ethereum issued by online communities, as well as stable coins such as libracoin and tadcoin issued by internet companies. Non-statutory digital currencies have essential attributes such as demonetization, price bubbles, de-regulation, and decentralization and re-centralization. And the total amount of non-statutory digital currencies is constant, which is essentially an artificially created scarcity at the technical level. When non-statutory digital currencies transmit their own risks to the financial industry and the real economy, they can create multi-dimensional risks, particularly affecting the price of computer hardware and energy consumption. In this regard, China should continue to strengthen the supervision and regulation of non-statutory digital currencies, impose a complete ban on non-statutory digital currency production activities and transactions, shut down electronic mining farms, prohibit virtual currency mining activities, and increase the regulation of the sale of graphic cards; shut down domestic digital currency exchanges, and enhance the effectiveness of the management of the foreign exchange bureau, so as to avoid the further spread of economic risks.

**Keywords:** Non-Statutory; Digital Currency; Economic Risk; Regulation

## **1. Introduction**

On May 18, 2021, the China Internet Finance Association, along with three other

associations, released a statement forbidding the speculation in virtual currency trading. This announcement strictly prohibited institutions from engaging in virtual currency related businesses. Following this, on May 21, the State Council Financial Stability Development Committee held its fifty-first meeting, resolving to clamp down on Bitcoin mining and trading. In response, local governments such as those in Sichuan and Inner Mongolia initiated local virtual currency mining cleanups. In the face of heightened domestic regulation, understanding the essence of virtual currencies as non-statutory digital currencies becomes crucial. Analyzing the economic risks associated with the existence and circulation of these currencies and understanding China's regulation on them is vital to ensuring national economic and social stability.

## **2. Defining Non-Statutory Digital Currencies**

The term "non-statutory digital currency" contrasts with legalized digital currencies issued by central banks, with key differences lying in the issuer's credibility and the currency's applicability [1]. Non-statutory digital currencies are predominantly non-stable coins issued by online communities and stable coins provided by internet companies. Both variants share essential characteristics: demonetization, deregulation, price bubbles, and a cycle of decentralization and recentralization. The former, including Bitcoin (Bitcoin) and Ether (ethereum), are peer-to-peer transactions established between users through blockchain technology, forming an online community among users through a consensus mechanism. The latter, including Libra and Tether, are digital currencies issued by enterprises that apply blockchain cryptographic storage technology, and are characterized by being tied to legal tender or

other financial assets, forming a relatively fixed exchange ratio to maintain the relative stability of the value of the currency. Although there are certain differences between the two, as shown in table 1, non-statutory digital currencies both have the following essential attributes:

**Table 1. Classification of Non-statutory Digital Currencies**

issuing body	credit endorsement of the currency	Relative stability of the currency	Specific Currency
network community	Consensus mechanisms	unstable currency	Bitcoin, Ether, etc.
Internet company	Legal tender or other financial assets	Stable coin	Libra Coin, Teda Coin, etc.

## 2.1 Demonetization

As we all know, legal tender has the four functions of a measure of value, a means of circulation, a means of payment and a means of storage, of which the measure of value and the means of circulation are the most basic functions. However, non-statutory digital currencies such as Bitcoin lack these essential monetary attributes, since they are not issued by the monetary authority and therefore do not qualify as currency in the true sense. Non-statutory digital currency should have at least these two functions if it is a currency. However, as early as 2013, the People's Bank of China and five other ministries had already issued the Notice on Preventing the Risks of Bitcoin, which clearly articulated the nature of non-statutory digital currencies such as Bitcoin. Although this type of digital currency is called "currency", it is not issued by the monetary authority and does not have monetary attributes such as legal tender and mandatory, so it is not currency in the true sense of the word, and cannot and should not be used as currency for circulation in the market. Bitcoin is essentially a specific virtual commodity. The Notice essentially points out the nature of non-statutory digital currency, i.e., that it is not money in the true sense of the word, but a virtual commodity that does not have a measure of value, a means of circulation, or a means of payment.

First, the existence of money must be based on material wealth as a guarantee of credit. All

national legal tender currencies, including the United States dollar, use the industrial chain and material production capacity they possess as a credit guarantee for the currency. In contrast, non-statutory digital currencies are mostly non-stable coins and do not have credit guarantees, or their credit guarantees and source of value is the so-called consensus mechanism. In other words, it can also be understood as human expectations, so once faced with public opinion marketing or speculative behavior, the value of the currency will fluctuate extremely sharply. Stable coins are mostly associated with legal tender or other assets as a credit guarantee, for example, TEDA Coin and USD Coin use the US dollar as a credit guarantee, and Libra Coin uses a combination of multiple financial assets as a credit guarantee, whose source of value is the value of the US dollar and the value of the assets, which is essentially a kind of financial management product, and thus cannot be used as a scale of value for other assets. Non-statutory digital currencies therefore do not function as a measure of value.

Secondly, in terms of the means of circulation. The circulating power of money is usually conferred by the State on its legal and compulsory nature, i.e. the payment of all public or private debts in its legal tender within the national territory, which cannot be refused by any individual, group or organisation. This ability of money to circulate is usually granted by the State to make it legal and compulsory, that is, to pay all public or private debts in its legal tender within the national territory, and no individual, group or organization can refuse to do so. But the non-statutory digital currency itself does not have this attribute, its liquidity and circulation range are based on the social consensus mechanism, or its means of circulation is derived from the dollar as an anchor, through the conversion to the dollar it obtains a certain restrictive liquidity. Even this part of the circulation capacity is extremely unstable, once the entity country on the non-statutory digital currency regulatory policies and laws and regulations change, its circulation capacity will disappear. For example, China and Russia introduced regulations in 2013 and 2014 respectively to ban the circulation of virtual currencies. Therefore, non-statutory digital currencies do not have the function of a means

of circulation.

## **2.2 Deregulation**

Non-statutory digital currencies' transactions are often anonymous due to the encryption technology used in blockchain, the technological foundation for all digital currencies. This anonymity and the international nature of digital currency trading platforms make regulation difficult for national governments, exacerbating the deregulation issue[2]. From the regulatory level, the secrecy of transaction data means that the transaction process of non-statutory digital currencies is anonymous, and it also means that their transaction process is also in the vacuum of regulation in various countries. The United States' lax regulatory strategy towards non-statutory digital currencies further exacerbates their de-regulation. In particular, non-statutory digital currencies are denominated in U.S. dollars, while in the U.S., as long as you obtain an MSB license (Money Services Business), digital currency trading is legal. Coupled with the fact that the network platform for digital currency trading itself has the internationalized attributes of the Internet, the trading platform can, to a certain extent, circumvent the legal regulation of various countries by setting up servers in different places and countries. In other words, the non-statutory digital currency system has become a part of the U.S. financial system, so that non-statutory digital currencies can be arbitrarily exchanged for fiat currencies of various countries through the U.S. dollar as an exchange intermediary, which also means that its transaction process can bypass the currency regulation and exchange rate control of national governments, increasing the difficulty of central banks to regulate non-statutory digital currencies in various countries.

And from the regulatory level, digital currency exchanges and shadow banking have certain similarities. The International Monetary Fund (IMF) defines shadow banking as "a variety of financial institutions that are engaged in banking-like operations but are not regulated like banks"[3]. The existence of digital currency exchanges allows non-statutory digital currencies to engage in currency circulation and credit business, and can bypass the regulatory system of central banks, so the non-statutory digital currency system is

essentially a new type of Internet shadow banking system. In particular, the non-statutory digital currency system coexists with the commercial banking system, and the circulation path of anonymized digital currencies is difficult to track, which essentially blocks the continuity of data on the flow of funds among users, leading to the dispersed storage of funds data in various financial institutions, forming data silos, and the data cannot be shared. However, non-statutory digital currencies can be exchanged for legal tender in the absence of regulation, and based on the circulation of legal tender between the non-statutory digital currency system and the commercial banking system, which creates a link between the two. The existence of the non-statutory digital currency system has therefore not only weakened the Government's ability to regulate the traditional financial sector, but has also led to an increase in systemic risk in the financial system, exacerbating the transfer of risk between the two and the aggregation of risk in commercial banks[4].

## **2.3 Decentralization and Recentralization**

Despite the inherent decentralized nature of blockchain technology, non-statutory digital currencies become recentralized at the social level due to the influence of real-world entities and information. That is, among the existing user group, everyone is a data storage node, and the blockchain backs up all the data in all the network nodes, so there is no central node in the user group formed by the blockchain, and the status of each user is the same and equal[5]. So for non-statutory digital currencies, the transactions conducted through blockchain technology are peer-to-peer, i.e., the transaction process is platform-less and unregulated, and it is a person-to-person transaction activity, so digital currencies are also decentralized.

Blockchain technology is decentralized, but on a social level, digital currencies are again re-centralized. On the one hand, in the context of the nationalization of currencies and the financialization of the global economy, non-statutory digital currencies such as Bitcoin and Ether are denominated in US dollars. As mentioned earlier, this means that non-statutory digital currencies are to some extent anchored to the US dollar, dependent on

the US dollar as a measure of value and a means of circulation, and have some of the characteristics of a world currency, i.e., circulating across borders by being converted into US dollars. But in essence, non-statutory digital currencies are merely virtual commodities centralized around the dollar, and once the United States or other countries tighten regulation and prohibit their circulation and conversion into their own fiat currencies, non-statutory digital currencies will be nothing more than a pile of data. On the other hand, the re-centralization of non-statutory digital currencies is also manifested in the fact that the value of the currency is directly affected by information about the rights of real entities in the real world, as well as news and public opinion. Taking Elon Musk as an example, he has 45 million followers on Twitter based on his huge personal material wealth, making his personal social media a powerful "communication center" and holding strong "communication power", which essentially creates a discourse. This essentially creates the centrality of discourse dissemination [6]. This is the process of convergence of discourse in the age of big data towards emerging centers of capital, knowledge and power [7].

In particular, the constant total amount of non-statutory digital currencies such as bitcoin and ethereum means that once the majority of their currency is held by a small number of people or institutions it means that they are monopolized, especially by financial monopoly capitalists, meaning that the non-statutory digital currencies are centralized. Musk and his owned SpaceX and Tesla Inc. all hold large amounts of digital currencies, essentially centralizing non-statutory digital currencies. The value of Tesla's bitcoin holdings alone reached \$2.84 billion at the end of March. Musk is also the largest holder of Dogecoin, holding about 36.7 billion dogecoins, which equates to about 28% of the total global supply of dogecoins. This suggests that the trend in non-statutory digital currencies is not moving towards Hayek's denationalization of money and Friedman's monetarism, but is turning into what Yuval Harari envisioned, with the concentration of wealth and power in the hands of a tiny elite, creating unprecedented social and political inequality[8].

## 2.4 Price Bubbles

Non-statutory digital currencies exhibit clear price bubbles, initially driven by blockchain technology's speculative value. Their anonymity and lack of regulation make these currencies perfect objects of financial speculation, exacerbating price volatility. The price bubble of non-statutory digital currencies initially originated from blockchain technology, and the speculative value given to its technological complexity through speculation on its technical features, in particular distributed data storage, cryptographic algorithms, consensus mechanisms and other technological features, has pushed the price bubbles of non-statutory digital currencies, such as bitcoin, to continue to inflate[9]. However, as early as 2014, bitcoin trading was considered to have entered a period of speculative demand-driven market bubble prominence, and its market price had seriously deviated from its intrinsic value[10], at which time bitcoin's highest price was \$951.39.2021 Bitcoin's coin value had peaked at more than \$40,000, which is 42 times higher than its highest price in 2014, and ethereum's value was also as high as 1,800 U.S. dollars, non-statutory digital currencies have essentially become a speculative product altogether(source: Yingwei Caixin, <https://cn.investing.com/cr-ypto/>). The anonymous nature of non-statutory digital currencies leaves the transaction process outside the supervision of central banks, creating a substantial lack of regulation, which has become the policy basis for their price bubbles.

The speculative nature of non-statutory digital currencies is another important reason why their price bubbles have been created and continue to expand. Bitcoin, ethereum and other non-stable coins do not have physical assets as credit guarantee, and their value is essentially derived from the subjective judgment of the holders on the value of the currency, which will be directly affected by the news and current events and national policies and other external information, resulting in the value of the currency in the long term in the violent fluctuations, which also means that the virtual currency is a kind of high profit and high risk properties of the investment products. At the same time, since the total amount of currency of non-stable coins is mostly fixed,



this makes it possible to monopolize digital currencies for market manipulation. Taking Musk as an example, he is the largest holder of dogcoins, holding about 28% of the total global supply of dogcoins, and the status quo of highly concentrated holdings of dogcoins provides the basis for price manipulation by Musk. In other words, non-statutory digital currencies such as Bitcoin are a perfect object of financial speculation.

The enduring presence of a price bubble for non-stable coins signifies a consistent influx of funds into the market, sustaining the creation and inflation of the price bubble. As such, non-statutory digital currencies essentially exhibit characteristics reminiscent of a Ponzi scheme, wherein the investments of later participants are used as returns for the earlier ones[11]. This cyclical nature draws more individuals and funds into the scheme. As early as 2017, the People's Bank of China and seven other departments issued the Announcement on Preventing the Risks of Token Issuance and Financing, indicating that the issuance and financing of non-statutory digital currencies might involve illegal fundraising, financial fraud, pyramid schemes, and other illicit activities. These digital currencies essentially function like "drum roll" type, pyramid scheme speculative products. If investor sentiment turns bearish, subsequent investments may cease, precipitating a rapid collapse of the entire system. This eventuality aligns with the characteristic volatility of non-statutory digital currencies.

### **3. Economic Risks Arising from Non-statutory Digital Currencies**

#### **3.1 Continued Rise in the Value of the Currency, Triggering Speculative Frenzy and Speculative Risk**

The total amount of non-statutory digital currencies is constant, which is essentially an artificial creation of scarcity from the technical level, and the scarcity of the currency is promoted through speculation to increase the value of the currency. But in fact, due to the technical carrier of non-statutory digital currencies is data and algorithms, with the attribute of replicability, it can launch many types of non-statutory digital currencies such as bitcoin, ethereum, tadcoin, dogcoin, and so on, and there is no such thing as the so-called

scarcity. And along with the outbreak of the epidemic the Federal Reserve opened the floodgates, overissuance of U.S. dollars, Federal Reserve data show that in 2020 the money supply M1 of the U.S. dollar at the beginning of March for 402.69 billion U.S. dollars, at the end of March, it grew to 451.27 billion U.S. dollars, by the end of 2020 it grew to 652.35 billion U.S. dollars(source: Federal Reserve,

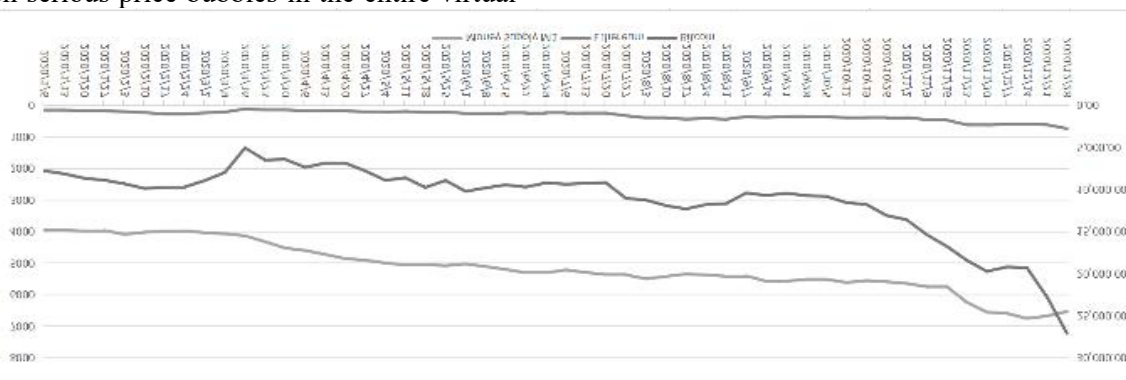
<https://www.federalreserve.gov/releases/h6/>), in the ten months of the U.S. dollar money supply M1 increased by 249.66 billion U.S. dollars, a growth of about 62%,. The corresponding money supply M2 is a direct increase of 3.5 trillion dollars, this increment is equivalent to the dollar in the four-year period from 2016 to 2019 combined.

In the context of the financialization of the U.S. economy, the Federal Reserve's measures, although mainly aimed at the financial markets, maintain the stability of the financial markets by releasing the liquidity of the currency. However, with the trend of financialization of digital currencies, there has also been a massive influx of funds into the digital currency market, leading to a sustained rise or even a crazy rise in non-statutory digital currencies such as bitcoin and ethereum. Blockchain and ethereum have the highest market capitalization among non-statutory digital currencies, occupying 76.88% of the entire market capitalization of the digital currency market, and the share of transactions has remained at the forefront for a long period of time, and the trend of the two is shown in Figure 1.2020 The price of bitcoin rose from \$6,391 on March 30, broke through \$1 W on June 1, broke through \$2 W on December 16, and has continued to rise to approach \$3 W, with a The price of ethereum has increased by about 323.37% in 2020. Ether in 2020 grew from \$132 on March 30 to \$730 by the end of the year, an increase of about 453.03% (Source: <https://cn.investing.com/crypto/>). The growth of Bitcoin and Ether far outpaces the growth of the U.S. dollar money supply, M1.

SPSS was used to test the correlation between the US dollar money supply M1 from March 30, 2020 to the end of the year and the currency values of Bitcoin and Ether. The results show that the correlation between dollar money supply M2 and bitcoin and ethereum are all significant ( $P=0.00<0.01$ ),

with correlation coefficients of 0.928 and 0.939, respectively, and all of them are highly positively correlated. The results of the correlation test are basically consistent with the trend chart, indicating that a considerable portion of the Fed's overissuance of U.S. dollars has flowed into the digital currency market, driving the value of the currency to continue to rise. However, even if the value of the currency as a whole shows a sustained upward trend, in the short term, there are also large price fluctuations, which to a certain extent exacerbates the speculative fervor in the virtual currency market. As mentioned earlier, non-statutory digital currencies are characterized by both technical decentralization and re-centralization of the transaction process. This results in non-statutory digital currencies being exposed to the risk of currency value manipulation, and even serious price bubbles in the entire virtual

currency space, which provides an extremely favorable financial environment for capital speculation. Musk, for example, continued to release favorable information about Dogcoin on his Twitter feed, driving Dogcoin up continuously in 2021, leading to its highest increase of 74 times, once topping the list of increases on various digital currency exchanges. By manipulating the rise and fall of bitcoin and dogcoin and engaging in the market speculation of buying low and selling high, Musk has not only made a handsome profit for himself and his companies. It also played a strong demonstration effect and induced a role in attracting more members of the public to join the speculative trend, which objectively exacerbated the strength of the speculative onslaught and led to significant volatility in the non-statutory digital currency market[12].



**Figure 1. Trend of US Dollar Money Supply M1 and Digital Currency Prices (Source: Yingwei Financial Intelligence, <https://cn.investing.com>, Federal Reserve, <https://www.federalreserve.gov/rel-eases/h6/>, the Trend Chart Uses the Date of the Fed's Data UPDATE as the Time Axis, and the Sub-axis of the Vertical Coordinate Is the Bitcoin Price)**

### 3.2 Transmission of Risk to the Financial Sector, Triggering Credit Risk

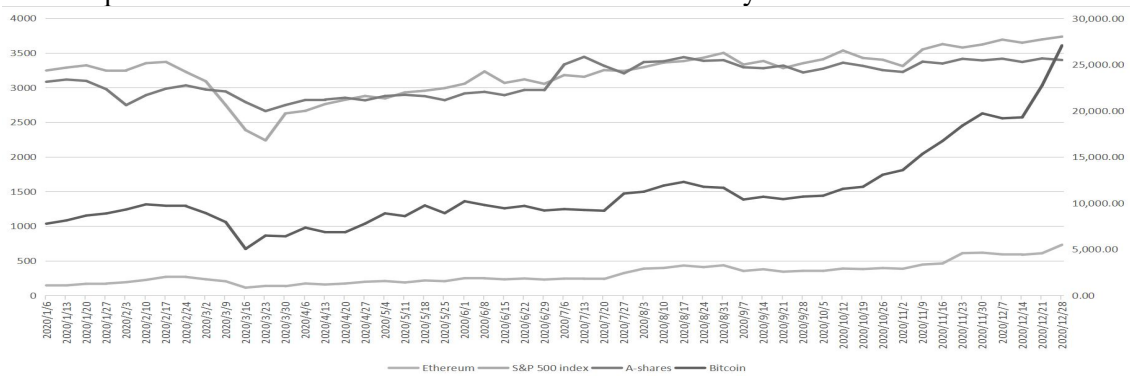
Non-statutory digital currencies transmit their own risks to the financial sector, triggering credit risk. Credit risk is the risk of default based on a credit relationship, which is a debt-credit relationship arising from the delayed payment of money. It is the existence of credit operations that enhances the liquidity of money, giving it the ability to circulate for payment again or even several times within a limited period of time. But at the same time, credit business is also accompanied by credit risk, credit risk mainly includes credit expansion risk, non-performing loan risk and credit transmission risk. Credit relationships, on the other hand, cause money to undergo

several "jumps" before it is paid out. If there is just one interruption or stagnation of trading activity, all the transactions in the chain will collapse, and so will the credit relationship.

While the traditional banking sector is also exposed to credit risk, the risk of default is largely within the reach of the financial system because the flow of funds is under regulation. Non-statutory digital currencies, on the other hand, bypass the regulation of the banking system through cryptographic algorithms that allow them to be exchanged with currencies and foreign currencies. In particular, the transmission channels that still exist between the traditional commercial banking system and the modern system of non-statutory digital currencies not only make a part of the banking system's regulatory failure, but also make the

failure of non-statutory digital currencies' investment behaviors as well as the market price collapse will be transmitted to the

traditional banking industry's credit business, which increases the exogenous risk of the financial system.



**Figure 2. Trend of Digital Currency Prices vs. S&P 500 and A-Share Indexes (Source: The Sub-axis of the Vertical Coordinate Is the Price of Bitcoin, the Data Refer to Yingwei Financial Intelligence, <https://cn.investing.com/>.)**

In addition, as shown in Figure 2, Bitcoin, Ether, S&P 500, and A-shares are all in a continuous upward trend in the context of dollar overshooting. SPSS is used to test the correlation between the coin values of Bitcoin and Ether and the S&P 500 and A-share indexes from March 30, 2020 to the end of the year. The results show that the correlation between bitcoin and the S&P 500 and A-share indexes are all significant ( $P=0.00<0.01$ ), with correlation coefficients of 0.769 and 0.674 respectively, all showing a high positive correlation; the correlation between ethereum and the S&P 500 and A-share indexes are all significant ( $P=0.00<0.01$ ), with correlation coefficients of 0.800 and 0.795 respectively, all showing a high positive correlation as well. correlation. In other words, bitcoin and ethereum digital currencies have a linkage effect with the US S&P 500 and China A-share index. If the price of non-statutory digital currencies dives or the market collapses, it will cause severe volatility in the securities market. Just as the outbreak of the subprime crisis is in a sense the result of the United States subprime loans can not be maintained, ultimately leading to the subprime market collapse, spontaneous mediation of price bubbles, so that the value of financial assets back to normal[11]. And from the perspective of price bubbles and Ponzi schemes, the trading activities of non-statutory digital currencies will inevitably lead to a collapse, which will have a huge impact on the traditional financial industry linked to it. More frighteningly, because of the dependence of non-statutory digital currencies on the United

States dollar system and the global reach of their markets, their risk-transmission capacity has been magnified, which could lead to a global financial crisis in the event of a collapse of the non-statutory digital currency market.

### 3.3 Transmission of Risks to the Real Economy, Creating Linked Risks

The impact of non-statutory digital currencies on the resulting real economy relates to both the price of computer hardware facilities and energy consumption.

On the one hand, fluctuations in the value of non-statutory digital currencies have a direct and visible impact on the real economy. The continuous rise in the value of non-statutory digital currencies such as bitcoin and ethereum has triggered a mining boom, which has directly led to a continuous rise in the prices of computer hardware such as graphics cards, which are used as mining tools. RTX3080 graphics card, for example, the official pricing of the country line for 11,999 yuan, and at the end of December 2020 Jingdong has risen to 16,999 yuan, in March 2021 is up to 29,999 yuan(source: Jingdong, <https://www.jd.com/>), the graphics card and even with the rise in the price of bitcoin has become a speculative product. According to data from the Wall Street Journal, nearly 80% of the world's bitcoin mining processing power exists within China(source: Wall Street Journal, <http://wsj.com/>), which means that as China cleans up local mining farms across the country, there will be a large number of graphics cards, far exceeding the number of market demand, flowing into the domestic

market, which will have an impact on the existing computer hardware market, disrupting the normal order of transactions. At the same time, the rising price of non-statutory digital currencies such as Bitcoin has massively increased market demand for graphics processors such as graphics cards, and has led to structural adjustments within the semiconductor industry. Chipmakers have concentrated their production capacity on 12-inch wafers, reducing the capacity of 8-inch wafers for the automotive industry, consumer electronics, and industrial markets, leading to a global chip crunch. Since December 2020, the automotive industry has been experiencing a very serious chip shortage, with automakers such as Audi, Volkswagen, Ford, Daimler, Toyota and others facing production cuts or shutdowns due to a lack of chips. And the chip shortage triggered by the mining wave is spreading further to the consumer electronics and industrial markets.

On the other hand, the production process of non-statutory digital currencies, i.e., the act of mining, results in a serious waste of energy and an indirect impact on the real economy. The mining frenzy leads to a large amount of energy consumption and carbon emissions may cause ecological problems. In response to the United Nations' call for energy saving and emission reduction, the Chinese government has introduced the "double carbon" policy of carbon peaking and carbon neutralization. Carbon emissions control policies lead to power limitations around the problem, the winter of 2020, Hunan, Jiangxi, Zhejiang and other places issued a notice of orderly use of electricity, power supply shortages in many places, Inner Mongolia, Shanxi, Gansu, the three energy-rich areas of varying degrees of peak power limitations. Data show that, according to the general medium-sized power bitcoin mining machine operation calculation, basically need 24 degrees of electricity a day, mining a bitcoin power consumption of about 185,000 degrees of electricity. According to the University of Cambridge Alternative Finance Research Center, as of May 17, 2021, bitcoin "mining" global annual power consumption of about 134.89 billion kWh, of which about 60% of the bitcoin computing power in China (Source: Center for Alternative Finance, University of Cambridge <https://www.jbs.cam.ac.uk/faculty>

-research/centres/alternative-finance/), based on this calculation, China's bitcoin mining annual power consumption of about 80.934 billion kWh. In 2020, China's residential electricity consumption will be 10,949,000,000,000 kilowatt-hours, and the electricity consumption generated by mining will account for about 7.39% of that (Source: National Energy Administration, <http://www.nea.gov.cn/2021-01/20/c139683739.htm>). Although the power consumption of ethereum is only 25%-50% of that of bitcoin, it also generates a large amount of power consumption, not to mention that there are about 5,985 virtual currencies in the current virtual currency market, and the cumulative energy waste caused is huge. The current main distribution of mining machines in China is the power-rich Inner Mongolia and Sichuan, Yunnan, and other western provinces and regions, the western region is dominated by hydroelectric power generation, while Inner Mongolia is dominated by coal-consuming thermal power generation, and the wave of mining of non-statutory digital currencies has also resulted in serious coal resource consumption and environmental pollution problems. More importantly, against the backdrop of China's "dual-carbon" policy, the large amount of electricity consumed by non-statutory digital currency mining activities has even squeezed the electricity needed for production activities to a certain extent. As Academician Ding Zhongli said, the essence of carbon emission rights is the right to development. The wave of mining of non-statutory digital currencies has thus become, in a sense, an impediment to normal industrial production activities in China.

#### **4 Regulatory Strategies to Address Economic Risks Arising from Non-statutory Digital Currencies**

##### **4.1 Prohibition of the Production of Non-statutory Digital Currencies**

Electronic mining serves as a direct source of non-statutory digital currencies and the basis for their continued production. This essentially removes the production activities of non-statutory digital currencies from the supply side, and directly extinguishes the main body of such energy-consuming enterprises by shutting down mining farms. As early as



August 27, 2019, the National Development and Reform Commission (NDRC) adopted the Guidance Catalogue for Industrial Structure Adjustment (2019 edition), listing "virtual currency mining activities" as an industry that has been explicitly eliminated or immediately phased out by national industrial policy. However, for quite some time, the mining sites have not been completely shut down, and some of them are even disguised as big data centers or cloud computing centers, cheating the state's electricity subsidies for the big data industry, resulting in serious energy waste and environmental pollution. What's more, mining activities of non-statutory digital currencies not only do not generate tax revenues, but also make almost no contribution to the real economy, and on the contrary, impede the development of the real economy by seizing energy consumption. 2021, Inner Mongolia, Qinghai, Yunnan, Sichuan, Anhui and other provinces have responded to the policies of the People's Bank of China as well as the State Council, and have successively introduced new regulatory policies to pin a complete shutdown of virtual currency mining programs. Subsequently, other provinces in the country should also respond to the policy call to investigate the possible existence of virtual currency mining farms around the country, and completely prohibit the production activities of non-statutory digital currencies. The suspension of mining farms can fundamentally solve the problems of resource waste and environmental pollution caused by mining activities, while also leaving energy supply and production space for other production enterprises.

Simultaneously, the prohibition of virtual currency mining and the shutdown of mining farms will lead to an influx of mining cards into the graphics card market. These mining cards are graphic cards that have been operating under heavy load or even overload, 24/7 for extended periods, via pressurization and overclocking. Consequently, these cards have inherent quality and stability issues, devoid of after-sales guarantees—essentially rendering them as substandard products. The entry of a massive quantity of such low-quality graphics cards into the market may not only impact domestic graphics card prices but also trigger fraudulent trading activities, thus disrupting the order in the domestic graphics

card market. This situation is comparable to the impact of overcapacity enterprises on the market; hence, solutions can be learned from the exit mechanism of overcapacity enterprises to address the aftermath of a large number of graphics cards flooding the market due to mine closures[13]. Local governments can intensify regulation of the graphics card trading market and intervene to a certain degree. Local governments can strengthen the regulation of the graphics card trading market and intervene to a certain extent. Local governments should introduce relevant management regulations to prevent used mining cards from flowing into the graphics card trading market after refurbishment, especially through the network trading platform, while the Market Supervision Administration should carry out special rectification activities to strictly investigate and penalize the trading activities of graphics card sellers that are substandard. The local government can also through tax incentives to guide the graphics card manufacturers to recover the second-hand mining card, the second repair or replacement of parts in the way of official refurbishment, in order to maintain the trading order of the graphics card market, it will be put into the market for re-sale.

#### **4.2 Prohibition of Non-statutory Digital Currency Transactions**

The People's Bank of China issued the Notice on Preventing the Risks of Bitcoin as early as 2013, and the Announcement on Preventing the Risks of Token Issuance and Financing in 2017, leading to the shutdown of domestic digital currency exchanges the same year. However, due to high profits from non-statutory digital currencies and regulatory lag, some commercial banks and payment institutions continued to engage in Bitcoin trading business. It was not until 2021, when the Chinese government once again strengthened its supervision of relevant industries, that non-statutory digital currency trading was completely banned in China. On May 18, 2021, three major associations, including the Internet Finance Association of China, issued the "Announcement on Preventing the Risks of Speculation in Virtual Currency Trading," which proposed that financial institutions, payment institutions, etc., should not use virtual currencies to price their

products and services, or provide, directly or indirectly, other services to customers that are related to virtual currencies. directly or indirectly provide other services related to virtual currencies for their customers. This is essentially a demand-side ban on trading activities and market circulation of non-statutory digital currencies. In particular, the market price of non-statutory digital currencies is derived from investors' expectations, and the ban on trading in China means that the trading process is cut off, which also means that non-statutory digital currencies are merely a string of virtual data in China, and no longer have a trading value or a market price, and therefore there will be no follow-on investors to join this Ponzi scheme. Furthermore, the relevant departments of the People's Bank of China interviewed some banks and payment institutions on the issue of banks and payment institutions providing services related to the speculation of virtual currency trading. These policies essentially severed the possibility of non-statutory digital currencies being exchanged with RMB by strengthening the supervision of banks and other financial enterprises. Although non-statutory digital currencies can be exchanged for foreign exchange such as USD, any foreign exchange entering Chinese territory must go through the foreign exchange bureau and come under Chinese government supervision. Rectification of the domestic financial system has completely divorced the non-statutory digital currency system from the domestic financial system, cutting off the path of risk transmission to the financial sector and the real economy.

Although the implementation of the above policies can cut off the direct currency risks arising from non-statutory digital currencies, it is still necessary for the SAFE to strengthen the supervision of funds flowing in from abroad, and to be vigilant against the inflow of non-statutory digital currencies into China in the form of foreign exchange, such as U.S. dollars. In particular, there is a need for the SAFE to establish a sound dynamic monitoring system to monitor cross-border capital flows in real time, and to closely track the fluctuations in the foreign exchange market, the virtual currency market, and large-value trading activities in the illegal digital currency market; to pay attention to strengthening the

necessary linkage mechanism with various domestic and foreign central banks and other regulators, commercial banks, and financial institutions in order to jointly combat foreign exchange illegal entry/exit and money laundering; and to strengthen the management of domestic and foreign exchange accounts, formulate new norms and standards for foreign exchange management in a timely manner in the light of new issues arising from foreign exchange management, and take the initiative to strengthen cooperation with international financial organizations and explore the establishment of an information-sharing mechanism[14].

## **5. Conclusion**

Under the current international order, the sovereign state remains the dominant political entity, and the legal tender issued by the sovereign state is the basis for commodity transactions and economic operations. No single currency system is suitable for the current multilateral trading system; hence, an international security currency system based on multiple sovereign currencies is needed. This is the foundation on which non-statutory digital currencies, technically decentralized, have become the preferred form of currency for future societies. It is also on this basis that non-statutory digital currencies, which are decentralized on a technical level, have become the desired form of currency for future societies. However, as mentioned earlier, in the dollar-dominated, centralized international financial society, decentralized non-statutory digital currencies use the U.S. dollar as the unit of settlement, and become an adjunct to the centralized U.S. dollar system, ultimately resulting in a U.S. dollar-centered, re-centralized non-statutory digital currency system. As Jackson Palmer, the developer of Dogcoin, tweeted, the nature of cryptocurrencies and other non-statutory digital currencies is a right-wing, hyper-capitalist technology that aims to avoid taxes by evading regulation and to gather wealth through artificial scarcity, and that although non-statutory digital currencies claim to be "decentralized", they are actually "controlled by monopoly capitalists. Although non-statutory digital currencies claim to be "decentralized", they are actually controlled by monopoly capitalists, which in turn

exacerbates economic crimes such as tax evasion, money laundering, embezzlement and misappropriation. Therefore, the existing non-statutory digital currencies have not played a role in reshaping the international financial order, but have instead brought greater risks and uncertainties to the existing international financial system. However, it is undeniable that blockchain technology, in terms of information storage and information management, has the technical characteristics of tracing the source and destination of currency circulation, and should be applied to international trade activities, presenting currency circulation as well as the value of commodities in the form of electronic data, which can provide data support and scientific decision-making for maintaining the balance of income and expenditure in international trade. And in the future human society, if you want to better maintain the stability of the value of the global currency, and establish a decentralized, diversified and fair world monetary system, blockchain technology will inevitably play a vital role. However, how to apply this technology to form a new form of currency still requires further research and exploration.

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