

Development of digital currencies under regulatory attitude in different countries

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Abstract

This paper centers on the advancement of digital currencies in various nations. Since the inception of Bitcoin in 2009, private digital currencies have experienced exponential growth. Since then, countries have increasingly delved into the research and development of central bank digital currency (CBDC), with developing nations currently outpacing developed nations in CBDC progress. With respect to private digital currencies, particularly those symbolized by Bitcoin, countries have generally adopted more cautious regulatory stances and policies. Moving forward, CBDC may become the norm in digital currency. By establishing more equitable bilateral or multilateral payment cooperation systems, regional economies can facilitate the widespread use of CBDC and enhance payment efficiency.

Keywords-component, digital currency, supervision, National differences

I. Definition and development of digital currency

Digital currency is a non-physical currency based on digital encryption algorithms. Depending on its issuer, digital currency can be categorized as fiat digital currency issued by central banks (CBDC), also known as central bank digital currency, and digital currency issued by individuals or private companies. According to the BIS's definition, CBDC can be further divided into retail CBDC and wholesale CBDC. Retail CBDC refers to the digital currency issued to the general public without discrimination. Wholesale CBDC is used for inter-bank transactions of large payments between financial institutions. [1].

The world's earliest central bank digital currency (CBDC) dates back to the 1990s. In 1993, the Bank of Finland launched the Avant smart card in the form of electronic cash, which is considered to be the prototype of CBDC [2]. Since 2009, private digital currencies, represented by Bitcoin, have developed rapidly. These digital currencies are characterized by large fluctuations in value and active trading. This makes Bitcoin more of a speculative asset than a medium of exchange, posing a significant threat to fiat money in circulation [3]. In this context, the research and issuance of CBDC has gradually garnered attention. Ecuador became the first country in the world to publicly issue a CBDC in 2015, denominated in US dollars. However, the central bank digital currency was ultimately forced to stop operating at the end of March 2018 due to

low circulation [4]. Countries have since significantly accelerated the pace of digital currency research and development. Venezuela launched a digital currency based on crude oil called the petro in 2018 [5]. China began piloting its CBDC in key cities such as Shenzhen in 2019 [6]. The Bahamas issued a central bank digital currency, the Sand Dollar, in 2020 [7]. Since 2021, developed countries have also begun to accelerate the research and development of CBDC. In April 2021, the Bank of Japan announced that it would advance CBDC research and development in three phases [8]. In July 2021, the euro area officially launched the research and development project of CBDC, aiming to launch a digital euro by 2025[9]. According to CBDC tracker data, as of January 24, 2024, 16 countries or regions have begun trials of CBDC, and 108 countries or regions have launched research on CBDC.

II. Attitudes toward digital currencies

A. Attitudes towards central bank digital currencies

The attitude of countries around the world towards CBDC can be simply divided into three categories. The first is the countries that give up issuing CBDC, the second is the countries that actively promote the issuance of CBDC, and the third group consists of countries that are promoting the issuance of CBDC but have been slow to do so.

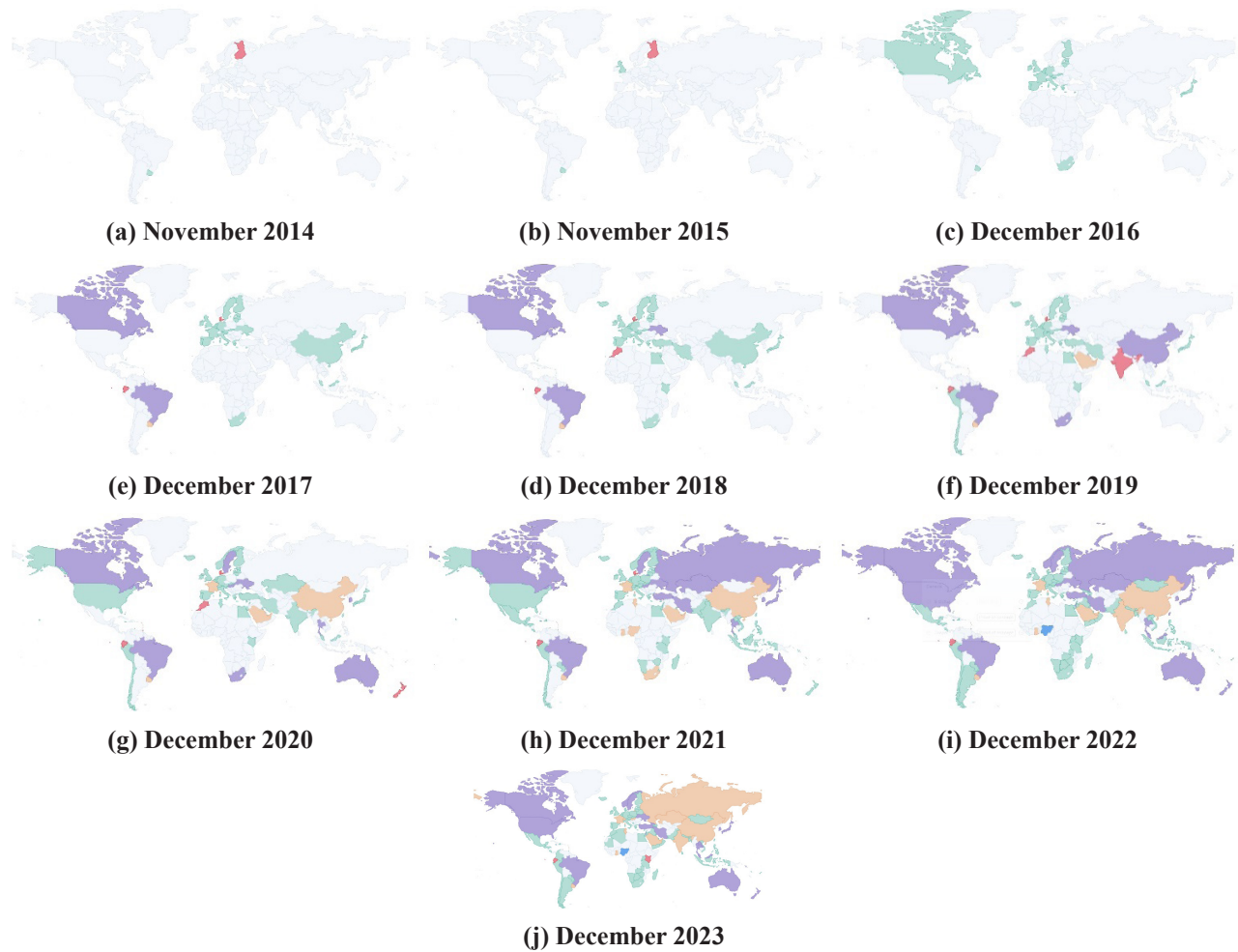


Figure 1. Changes in the progress of CBDC in various countries around the world: (a) to (j)
(Fig.1. Figures (a) to (j) reflect countries' progress in CBDC issuance from 2014 to 2023. Among them, red means that the country has abandoned the issuance of CBDC, green means that the country is studying CBDC, purple means that the country is conducting the proof of concept for CBDC, orange means that the country is piloting CBDC projects, and blue means that CBDC has been issued. Data is obtained from CBDC tracker 2023. [Online]. Available: <https://cbdctracker.org/>.)

Some countries have abandoned CBDC due to their limited use but high costs. As of the latest, seven countries or regions have cancelled the issuance of CBDC. They are the Philippines, Kenya, Denmark, Singapore, Ecuador, Finland, and Curacao. These countries do not support the issuance and use of CBDC, possibly due to the high cost of issuing digital currencies. For example, the Danish Central Bank suggested that the reason for abandoning the use of retail CBDC was that the benefits of it to Denmark in payment efficiency might be less than the costs [10]. Moreover, in 2016, the survey of Ecuador showed that CBDC accounted for less than 0.003% of the currency in circulation [11]. The above cases show that in some countries, the CBDC has little impact on the money sup-

ply of the whole society, while the financial infrastructure needed to match the issuance of digital currency may be complex, resulting in the problem of mismatch between benefits and costs.

Developing countries are making faster progress in promoting CBDC. China began trials of CBDC as early as 2019. In June 2022, Jamaica issued Jam-Dex. In the same year, South Africa began internal evaluations of CBDC, while India's central bank also launched digital ruble pilot. Brazil's central bank began the pilot of digital currency in May 2023 and plans to fully launch the CBDC by the end of 2024. These early adopters share a common feature: they are all developing countries. The benefits of CBDC in developing countries generally outweigh the costs. Do-

mestically, an increase in the use of CBDC could reduce the cost of currency circulation and help combat money laundering. To the outside, the use of digital currencies in international payment can provide more convenience for domestic and foreign enterprises, and also enhance the internationalization of their own currencies.

Developed countries have been slow to take up CBDC. The Federal Reserve, for example, is skeptical of CBDC. Federal Reserve Chairman Powell has said that the issuance of CBDC in the United States has a long way to go, and that it is more important to correctly understand CBDC than to be the first to issue it [12]. The Bank of Japan stated in 2023 that it has not yet decided whether to issue digital yen in Japan, and the digital currency is still in the experimental stage. The experiment is expected to last about two years, meaning the BOJ won't decide whether to issue a digital currency until 2026 [13]. The Bank of England and HM Treasury are exploring and justifying the issuance of CBDC. If everything runs smoothly, the UK could launch CBDC between 2025 and 2030 [14]. The hesitation of these developed countries to advance CBDC is due to their desire to maintain current leadership position in the international monetary system. On the one hand, internally, these developed countries have a large population, which makes it costly to fully promote the implementation of CBDC. In addition, the spread of CBDC may create a "financial disintermediation" crisis [15]. As CBDC is the liability of a country's central bank, the popularity of CBDC will have substitution and crowding out effect on deposits and loans of commercial banks. The development of CBDC may reduce the profitability of banks. However, the financial sector in these developed countries contributes a lot to the economy, and commercial banks occupy an important position in the economic system. These developed countries have been reluctant to promote CBDC due to high costs and fears of impact on traditional banking. On the other hand, externally, the currencies of these developed countries already occupy an important position in the international monetary system. With the popularization and internationalization of CBDC, the usage and international status of these traditional currencies will be weakened. In order to maintain the status of their own currencies in the international payment system, these developed countries are hesitant to implement CBDC.

B. Attitudes towards private digital currencies

Countries around the world generally adopt a cautious regulatory attitude towards private digital currencies. Bitcoin, for example, is a cryptocurrency that does not have the credit of a sovereign state. Since the birth of bitcoin in 2009, the regulatory policies of the world's major economies have undergone three major changes.

The first stage was from 2012 to 2014. Due to the volatil-

ity of Bitcoin's price and the prevalence of various speculative activities, regulators have begun to advise financial institutions to be cautious about engaging in Bitcoin purchases. The second stage was from 2017 to 2018, when cryptocurrencies represented rose sharply in asset prices, and regulators of various countries significantly tightened the issuance licenses of different cryptocurrencies. For example, in 2017, China imposed a blanket ban on the initial issuance of all types of cryptocurrencies, as well as prohibiting financial institutions from providing services such as buying, selling and pricing cryptocurrencies. Although the United States, Japan, Australia and other countries have not adopted comprehensive bans, they have also limited the initial public offering of cryptocurrencies. The third phase is from 2020 to 2022. As the price of bitcoin has risen sharply, countries have further tightened their policies on cryptocurrencies. China has clearly defined crypto-related businesses as illegal financial activities and strictly banned them. South Korea and Japan have issued normative regulations to strengthen the control of crypto assets.

Looking back on the past 10 years, the regulation of private digital currencies in countries around the world has gradually become stricter. Since private digital currency has the characteristics of anonymity and non-traceability in the transaction system, parties participating in private digital currency do not need to bear the security responsibility. In addition, the government departments of various countries are also difficult in the supervision and investigation of private digital currency, which actually reduces the cost of criminal activities such as money laundering. Beyond that, the prevalence of private digital currencies will increase financial risk. On the one hand, private digital currencies do not depend on the national credit of any country, and their value comes from the consensus of traders. That is, the public believes that they can be exchanged for a certain amount of goods, services or other legal tender. Once that value consensus is lost, private digital currencies could become worthless. It also explains why the market price of private digital currencies often swings wildly. On the other hand, as private digital currencies are usually issued and traded on the Internet, they can bypass account regulatory restrictions and carry out cross-border capital transfer. However, it is difficult for countries in the world to reach regulatory consensus in a short period of time, which makes the risks of private digital currencies spread around the world and further increase the instability of the global financial system.

III. Summary, Future prospects and

suggestions

A. Summary

In summary, countries have different attitudes towards central bank digital currencies, but are mostly cautious about private digital currencies. In terms of CBDC, the attitudes of different countries can be further divided into three categories. The first category is countries with dispersed populations and high operating costs, which have given up issuing CBDC. Such as Denmark, Finland. The second category is countries that wish to break the hegemony of the US dollar in the international monetary system and enhance the influence of their national currencies. Such as China and Brazil. The third category is countries that have an important position in the national monetary system. These countries have a wide range of financial institutions, and a large volume of currency transactions. They are very hesitant to issue CBDC, for example, the United States and Japan.

B. Future prospects and suggestions

This paper argues that the popularity of central bank digital currencies will be a major trend, and countries will become increasingly strict in their regulation of private digital currencies.

Considering that the development of CBDC globally is still at a very early stage, there is no central bank digital currency with international influence. What's more, bilateral and multilateral cooperation between countries on central bank digital currencies is rare. This paper puts forward the following two suggestions to promote the development of CBDC and private digital currencies.

· First, countries should accelerate the issuance of CBDC. The central bank digital currency is the sovereign digital currency of a country, and there is no credit risk. Accelerating the operation of central bank digital currency in a country can better resist the erosion of private digital currency on sovereign currency, avoid the transfer of coinage rights from the government to the private sector, and thus maintain the status of national sovereign currency [16].

· Second, we should accelerate the establishment of a more bilateral or multilateral payment cooperation system. The current payment system is dominated by the United States. The New York Clearing Interbank Payment System (hereinafter referred to as Fedwire) and the Society for Worldwide Interbank Financial Telecommunications (hereinafter referred to as SWIFT), as the two core payment systems, are controlled by the United States. These two systems have the characteristics of slow transaction speed and high transaction cost. Moreover, many countries fear that the US is using its dominance of the payments system to impose sanctions on them. For example, in 2022, the United States and other countries issued a

joint statement announcing that Russian banks would be banned from using the "SWIFT" payment system [17]. For many developing countries, unilateral sanctions by Western powers represented by the United States have threatened payment security and financial stability. Therefore, countries that have more needs in terms of monetary settlement can achieve monetary union by jointly issuing CBDC, which not only saves the costs required for operation and reduces reliance on the United States dollar-based international settlement system, but also improves financial stability.

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