



INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

CENTRAL BANK DIGITAL CURRENCY (CBDCs)

Ms. Charu Yadav
Research Scholar
University of Lucknow

ABSTRACT

Central bank digital currencies (CBDCs) refer to a type of digital currency that is authorized and issued by the central bank of a country. They share similarities with cryptocurrencies, except that their worth is determined by the central bank and is equal to the national fiat currency. Central bank digital currencies are a cause of concern. Additional research is needed to explore the limited comprehension of CBDCs. This research should not only examine the economic reasoning behind CBDCs but also analyze their effects on various aspects such as monetary policy transmission, financial stability, price stability, inflation, unconventional monetary instruments, central banks acting as lenders of last resort, and the provision of forward guidance. There are still unresolved inquiries related to ethical concerns, privacy issues, and limitations posed by the environment and technology. It is crucial to investigate these matters with the upcoming introduction of CBDCs.

Keywords : Central bank digital currencies, Cryptocurrencies, Monetary policy, Financial stability, Financial Ethics

INTRODUCTION

This article examines the reasons behind the implementation of Central Bank Digital Currencies (CBDCs) from an economic perspective. It evaluates the effects of Central Bank Digital Currencies (CBDCs) on the transmission of monetary policy, as well as their influence on financial and price stability. The impacts of Central Bank Digital Currencies (CBDCs) on inflation, non-traditional monetary tools, and the role of central banks as providers of emergency funding. In conclusion, we provide further explanation regarding unresolved matters such as ethical concerns, privacy issues, environmental impacts, and limitations posed by technology.

Several nations (including India) are in the process of creating Central Bank Digital Currencies (CBDCs), and a few have already integrated them into their financial systems. It is crucial to comprehend the concept and significance of digital currencies since numerous nations are currently studying ways to transition to them. The rapid advancement in financial innovation has led us to the era of blockchain technology and digital currencies. Although it has been slightly more than ten years since the introduction of the initial digital currency, Bitcoin, involvement with cryptocurrencies has spread to all sectors of society, including corporations, investors, customers, and both public and private organizations.

Central banks, though initially hesitant about digital currencies, are now showing interest in developing their own digital currency called Central Bank Digital Currencie (CBDC). Central Bank Digital Currencies (CBDCs) are not being introduced in the same way as third-party stable coins like Tether. Instead, CBDCs are blockchain-based versions of reserve currencies that already exist. Instead, CBDCs are imagined to eventually replace national reserve money systems.

Nevertheless, even though digital currencies are gaining more popularity, there are still numerous uncertainties regarding the practicality and execution of Central Bank Digital Currencies (CBDCs). The Bank of England states that CBDCs would enable individuals and companies to conduct electronic transactions directly using currency issued by the central bank.

Different opinions exist about cryptocurrencies as investments and their potential as worldwide mediums of exchange. Some economists view them as the future of money, while others see them as a temporary investment bubble incapable of meeting the global demand for currency. (Roubini, 2018a, Roubini, 2018b, Prasad, 2021) Further scholarly analysis is required to fully understand the benefits and drawbacks of CBDCs in light of the difficulties involved in substituting conventional currencies.

The implementation of CBDCs faces various challenges related to technology, economy, society, politics, environment, and ethics. Infrastructure, social and political approval, environmental sustainability, and handling privacy concerns will be needed. Nevertheless, there is a lack of comprehension regarding how CBDCs will tackle these difficulties and what consequences they may bring. Many central banks such as the Bank of England, Bank of Japan, European Central Bank, US Federal Reserve, and the People's Bank of China are proceeding cautiously in their consideration of CBDCs despite being interested in the potential benefits.

Central banks should consider the implementation of central bank digital currencies (CBDCs) by taking into account not only their responsibility for maintaining price stability but also their duty to prioritize various aspects of the wellbeing of the general public. Before moving forward with CBDCs, it is important to consider several factors such as the transmission of monetary policy, the functioning of the banking and financial sectors, maintaining price stability, and the state of the labor and goods and services markets. Although the adoption of digital currency by central banks is extremely significant, our knowledge of the fundamental obstacles is restricted, thus limiting the development of the best approaches.

Although the significance of this subject is considerable, there is a scarcity of literature on CBDCs and numerous research inquiries remain unanswered. These unanswered queries include the effects of CBDCs on monetary policy transmission, conventional and unconventional monetary tools, financial and price stability, inflation targeting, central banks' role as lenders of last resort, and the provision of forward guidance. This paper seeks to emphasize the consequences of CBDCs on the overall economy and financial systems, as well as identify developing trends and research areas to establish a framework for future research.

ECONOMIC THEORY AND CBDCs

The reasoning behind cryptocurrencies has been a topic of discussion since they were first created. There are some arguments suggesting that cryptocurrencies are more of a speculative asset rather than serving as money in terms of being a medium of exchange, a store of value, and a unit of account (Yermack, 2015). Money can be categorized as public funds that are authorized and distributed by the government, accompanied by a commitment to repay the owner. On the other hand, private money issued by commercial banks through bank lending can also be considered as money.

Private money creation, on the other hand, relies on a foundation of physical currency such as banknotes and coins that represent the value of a country's official currency. On the other hand, considering cryptocurrencies as currency suggests a separation of privately issued money from government-issued money. This goes against the traditional belief held by Chartalists that the value of money is derived from governments issuing it. (Knapp, 1905). Chartalism views money as originating from the state (Wray, 2011). The credit theory of money, as proposed by Mitchell Innes in 1913 and 1914, considers money to be represented by credits or debits. However, the fundamental principle of its denomination and foundation remains unchanged, where public money serves as the support for private money.

The idea of regarding cryptocurrencies as the equivalent of gold is debated by proponents of metallism, as digital currencies lack inherent value since they are not recognized elements in the periodic table. Nonetheless, it is possible to harmonize CBDCs with Chartalism in theory. This is due to the fact that CBDCs, such as those planned by the Bank of England, will be issued in pound sterling and will work alongside traditional cash and bank deposits instead of replacing them. In the same way, the role of complementary digital currencies in China is still uncertain and the impacts they will have are yet to be determined. Ultimately, the answers to these questions will come from the results of their implementation.

The purpose of expanding the use of cryptocurrencies as a form of currency is starting to encroach on the realm of governmental control over public financial resources. As a result, central bank digital currencies (CBDCs) could be viewed as an attempt to regain authority in this area. In addition, it is also encroaching on the realm of privately-owned currency.

Central Bank Digital Currencies (CBDCs) enable universal access to electronic money provided by central banks for households and businesses, thereby enabling all individuals to conduct electronic transactions using central bank funds. The consequences of this increase in central bank currency being mixed with private currency encourages more investigation.

INTERNATIONAL MONETARY SYSTEM

According to Goodell and Shen (2021), the large scale of the Chinese economy and its growing international development interests will make the introduction of the Chinese sovereign digital currency (DCEP) highly influential. Given the rivalry and financial exchanges between the US and China, it is probable that if China introduces a digital form of its currency, it will strengthen the position of the RMB as a stable currency. This move could also inspire other nations to develop their own digital sovereign currencies.

What will be the effect on the dominance of the US dollar (Le et al., 2021)? In the current geopolitical scenario where SWIFT and CHIPS are engaged in a growing competition for global payment systems, China's development of its own cross-border payment system, known as DCEP, will play a crucial role. Is it likely that the US and other developed nations will be forced to create their own independent digital currency in the future? This appears highly likely in the long run.

According to Goodell and Shen (2021), Central Bank Digital Currencies (CBDCs) that are based on national currencies will serve as additional options rather than replacing physical cash and bank deposits. This suggests the possibility of safeguarding national currencies from the competition posed by cryptocurrencies, which could have consequences for the worldwide monetary system.

FINANCIAL STABILITY

There is a debate among some individuals who believe that cryptocurrencies do not pose a significant threat to monetary or financial stability, despite the potential for investors to experience some losses (Ali et al., 2014). On the contrary, CBDCs are obligated to assist in the operations of central banks. The Bank for International Settlements has recently stated that issuing a Central Bank Digital Currency (CBDC) should not harm monetary or financial stability.

However, there remains significant ambiguity regarding the Central Bank Digital Currencies (CBDCs) and their potential effects on the stability of the financial system. Possible uncertainties arise in relation to the future organization of financial systems, the development of CBDCs and their underlying systems, and the level of acceptance they will eventually gain. Although central banks, as relatively stable entities with exclusive control over deposit-taking through CBDCs, seem inherently stable, significant changes inherently bring about disruption.

UNCONVENTIONAL MONETARY POLICIES

Central Banks are typically known to fulfill the role of lenders of last resort, as advised by Bagehot in 1873. It is important to think about how this important duty will be fulfilled in the era of CBDCs. After the global financial crisis of 2008-09, unconventional measures such as extensive buying of assets, quantitative easing, providing forward guidance, and implementing negative interest rates have been used to achieve economic stability and control price fluctuations (Nasir, 2021). It is uncertain how these newer policies will be implemented in a different manner with the use of CBDCs. For example, is there potential for implementing a policy of negative interest rates in the future? Is it possible to provide forward guidance with Central Bank Digital Currencies (CBDCs) and what would be the implications for central bank stability? These important aspects have not been thoroughly examined thus far.

PRICE STABILITY AND INFLATION

Central banks' responsibility involves maintaining price stability. To achieve this objective, several central banks, such as the Bank of England, the US Federal Reserve, and the Reserve Bank of India, have implemented a clear strategy of focusing on controlling inflation (Nasir et al., 2020a, Nasir et al., 2020b). Central banks have also been granted autonomy in creating their monetary policy with the goal of maintaining stable prices. However, the introduction of Central Bank Digital Currencies (CBDCs) presents additional difficulties in relation to this matter. What impacts do Central Bank Digital Currencies (CBDCs) have on the attainment of

price stability? According to Goodell and Shen (2021), CBDCs are expected to enhance the monitoring of money supplies with greater precision by utilizing blockchain ledgering throughout all money expansion operations.

ENVIRONMENT FRIENDLY MONETARY POLICY

Central banks have increasingly taken on the role of supporting environmental sustainability by implementing green monetary policies (Bailey, 2021). In certain countries, central banks now have a broader responsibility beyond maintaining price and financial stability. They are also expected to play a role in promoting environmental stability (Bank of England, 2021). In this particular situation, the impact on the environment by cryptocurrencies is quite substantial. According to a study conducted in November 2018, Bitcoin's yearly electricity usage had risen to approximately 45.8 TWh. This amount is equivalent to approximately 22-22.9 million metric tons of carbon dioxide emissions each year, as stated by Stoll et al. in 2019. Due to the nature of cryptocurrency mining, specifically the requirement of 'proof-of-work', it is highly probable that emissions associated with all cryptocurrencies will experience a substantial rise. For example, it is anticipated that the yearly energy usage of the Bitcoin blockchain in China will reach its highest point in 2024 at 296.59 terawatt-hours per year, resulting in approximately 130.50 million metric tons of carbon dioxide emissions (Jiang et al., 2021).

There are valid worries that cryptocurrencies could play a notable role in nations' inability to meet the goals set out in the Paris Agreement (Mora et al., 2018). However, Tom Mutton, who is in charge of the central bank digital currency unit at the Bank of England, suggests that Bitcoin may not establish a technological standard. Instead, he believes that depending on their design, central bank digital currencies (CBDCs) could offer a more efficient and environmentally friendly method of creating money (Mutton, 2021).

CBDC ECOSYSTEM

The development of technology has resulted in advancements in payment technology. To exemplify, Wrappers such as Google Wallet, Apple Pay, and PayTm are utilized, as well as Mobile Money services like M-Pesa, which is widely-used in India. These methods still operate with the national currency, as indicated by Ali et al. in 2014. Just like the Bank of England's platform modelling, CBDC platforms would function in conjunction with the existing real-time gross settlement services. Private sector payment interface providers would integrate with this platform in order to offer CBDC payment services to customers. According to Goodell and Shen (2021), the Chinese government-backed digital currency, DCEP, seamlessly interacts with WeChat Pay and Alipay services that are already in place.

Although cryptocurrencies utilize distributed ledger technology, cryptocurrency systems that prioritize anonymity and decentralization do not fulfill the criteria for central bank digital currencies (CBDC) according to Auer and Boehme (2021). At present, there is a lack of universal agreement on the fundamental technology of central bank digital currencies (CBDCs), particularly concerning privacy. Distributed ledgers like blockchains, which are the foundation of CBDCs (Central Bank Digital Currencies), raise worries about privacy and security according to the Bank of England in 2020. Blockchains of CBDCs, according to Goodell and Shen (2021), will provide a comprehensive record of all financial transactions. These records will be accessible to state monitors without the need for expensive fixes.

Definitely, this presents a chance to combat worldwide financial corruption (CITE). Nevertheless, it also brings up worries regarding personal privacy. Although Auer and Boehme (2021) suggest that CBDC design should ideally have minimal impact, uncertainties remain regarding the technology and design aspects. Many central bank digital currency (CBDC) projects are primarily found in economies that have higher levels of digitalization, which brings about concerns about technological inequalities between different countries (Auer et al., 2020).

ETHICS, PRIVACY, AND LAWS

Cryptocurrencies, as implied by their name, are intentionally created to avoid surveillance and regulation by authorities. Peer-to-peer systems operate without the supervision of a central bank. On the other hand, CBDCs differ completely from cryptocurrencies because they are created, managed, and tracked by central banks. This suggests that there are privacy concerns because every transaction involving CBDCs would, unless fixed, be documented for government surveillance.

On the contrary, due to the user-friendly nature of current digital payment systems and digital wallets, sovereign digital currencies offer chances for including individuals without bank accounts in the financial system. Since Central Bank Digital Currencies (CBDCs) can support smart contracts, they will pose a strong competition to popular platform cryptocurrencies in funding the development of decentralized finance ecosystems (Corbet, Goodell, and Günay, 2022), specifically, when considering Ethics and Privacy. Regarding CBDCs, there are also matters concerning the clarification of regulations, ensuring the fulfillment of contractual obligations, and safeguarding property rights (Goodell, 2021).

CONCLUSION

Many central banks worldwide are either contemplating or in the implementation stage of Central Bank Digital Currencies (CBDC). There are still many uncertainties about the significance and possible effects of these significant changes to a country's monetary system.

Numerous nations are in the process of creating central bank digital currencies (CBDCs), with eleven countries having already incorporated them. The primary objective of a Central Bank Digital Currency (CBDC) is to give companies and individuals the ability to maintain their privacy, facilitate easy and secure transfer of funds, ensure convenience and accessibility, and provide financial security. A large number of people worldwide lack access to traditional banking services, but a Central Bank Digital Currency (CBDC) can provide them with options to receive payments, store their money, and settle expenses. CBDCs may potentially lessen the upkeep needed for a complicated financial system, cut down expenses related to cross-border transactions, and provide individuals using alternative money transfer methods with more affordable alternatives.

Yet there are numerous questions that remain unanswered regarding the effects of CBDCs on the stability of the financial, economic, and environmental sectors. These include inquiries about how CBDCs will affect monetary policy transmission, both conventional and unconventional monetary tools, as well as financial and price stability. Additionally, there is curiosity surrounding the impact on inflation targeting, central banks' role as lenders of last resort, and the provision of forward guidance. Other aspects that could be explored include examining the effects of CBDCs on the generation of liquidity, understanding how monetary, fiscal, and prudential policies interact with CBDCs, analyzing the transmission of monetary policies and their cross-border effects in the era of digital currencies, and so on. Moreover, there are still concerns regarding the effects on society, ethical considerations, safeguarding privacy, as well as the limitations posed by technology and the environment. The desire to enhance our knowledge and comprehension of these vital matters inspires research on CBDCs, aimed at aiding financial institutions, policymakers, and citizens in understanding them more easily.

REFERENCES

- ↗ Ali et al., 2014 R. Ali, J. Barrdear, R. Clews, J. Southgate: The economics of digital currencies
- ↗ Ali et al., 2014b R. Ali, J. Barrdear, R. Clews, J. Southgate: Innovations in payment technologies and the emergence of digital currencies
- ↗ www.investopedia.com Shobhit Seth: What is a Central Bank Digital Currency?
- ↗ Auer and Boehme, 2021 Central bank digital currency: the quest for minimally invasive technology, BIS Working Papers No 948.
- ↗ Bailey, 2021: Bailey, A., 2021 Tackling climate for real: the role of central banks
- ↗ Bagehot, 1873 : Bagehot, W. ,1873. Lombard Street: A description of the money market. London: HS King. 10, 17.

- ↗ Auer et al., 2020: Auer, R. Cornelli, G. Frost, J. ,2020, Rise of the central bank digital currencies: drivers, approaches and technologies, BIS Working Papers No 880.
- ↗ Ahmed H. Elsayed a b, Muhammad Ali Nasir: Central bank digital currencies: An agenda for future research

