Frontiers in Health Informatics
ISSN-Online: 2676-7104
www.healthinformaticsjournal.com
2024; Vol 13: Issue 7
Open Access

A PARADIGM SHIFT IN INDIAN BANKING WITH REFERENCE TO CBDC & E-RUPEE

Dr. Rajashri Deshpande
Assistant Professor, Mulund College of Commerce (Autonomous), Mumbai
drrajashri2014@gmail.com

Cite this paper as: Dr. Rajashri Deshpande (2024) A Paradigm Shift In Indian Banking With Reference To Cbdc & E-Rupee. *Frontiers in Health Informatics, 13* (7), 790-796

ABSTRACT

The issue of CBDC by different central banks in the world to regulate crypto market is becoming sincere deliberations now a days. Crypto currency market is an encrypted algorithm that upholds secrecy of transaction between sender & receiver & needs to be delimited with certain norms. To safeguard economic transactions, central banks & its stockholders designed a digital currency with the help of technical supports.

These Digital currency or fiat currency is going to bring a paradigm shift in the life of common people very soon. The Reserve Bank of India is currently steering samples of operational mechanism of CBDC or E-rupee.

Indian economy since adoption of digitalisation has pushed economy where classy amounts of payments are carried with online modes, wallets as well as interface. It also has raised a question on cyber security & frauds. Central banks are making efforts to aware people on frauds they might encounter more in coming future.

This paper is an attempt to know the deliberations going around regarding Central Bank Digital Currency. It is based on available literature. Introduction of CBDC in country like India will help enhancement of Financial Inclusion, Employment through outsourcing to Digitech companies & reaching to unbanked population as early as possible.

CBDC with strong asset backed support will form a new path to economy if it is accepted at international level as a currency to trade with.

Keywords: *Crypto, Fiat currency, Digitalisation, Encryption*

INTRODUCTION

Banks & Financial institution plays a pivotal role in developing the wholesome financial system of an economy. India has adopted digitalisation to improve financial services management in effective way. Financial inclusion is initiated to reach to unbanked people & provide financial facilities that could bring upliftment in the life of these people through direct beneficiary transfer.

India's core digital economy increased from 5.4 per cent of GVA in 2014 to 8.5 per cent in 2019, with digitally dependent economy hovering around 22 per cent in 2019 (Dhirendra Gajbhiye & others) Financial services include insurance products, subsidies, medical support as well as pension schemes. It has supported by FinTech companies which had created different products catering to needs of varied class of beneficiaries.

Technology adoption will ease transfer of funds for common people but it will generate heavy cost for common people. These latest technologies will work appropriately on android mobiles that cost minimum

Rs.15000/- per person, that could be beyond reach of large population. These population are mostly beneficiaries where Government wants to transfer unemployment benefits & include them for the benefits of financial inclusion.

There are some security threats while using these technologies for different purposes. Financial inclusion aims at reaching to unbanked people & bringing them in the stream with different financial products. CBDC will be helpful in convertibility of foreign exchange into domestic currency. It will save time & energy.

India being a pioneer in developing such currency & make it adoptable for general people for their day-to-day transactions. Recently Indian foreign affairs ministry has paid through its currency for exchange with UAE, the third largest trading partner of India. It will be facilitated with the help of Vostro accounts.

FinTech companies are designing innovative technical products supporting financial inclusion & distribution of benefits to the lowest section of Indian economy. Financial engineering & innovation are posing security questions at a large.

Indraratna (2013) showed that financial innovation has led to new and sophisticated financial products and has led to the creation of new types of institutions as well as expanding the role of existing institutions.

Schindler (2017) argued that the technologies that support recent financial innovation (e.g. Fintech innovations) are not new, but financial institutions are only now applying the technologies to financial products and services

Dabrowski (2017) showed that the recent wave of financial innovation poses a serious challenge to the business model of financial institutions and can create new risks to financial stability. But recent financial innovation will not significantly affect monetary policy, and is unlikely to undermine the ability of central banks to perform their price stability mission.

Plosser (2009) argued that financial innovation in financial markets has played a positive role in promoting economic growth even though the same financial innovation has contributed to turmoil in financial markets particularly during the 2008 global financial crisis.

Similarly, Avgouleas (2015) argued that financial innovation has a welfare enhancing effect and is also a cause of major financial crisis such as the 2008 global financial crisis.

Avgouleas (2015) further argued that the financial sector creates financial innovation that is based on perverse incentives because the industry has the capacity to use financial engineering to ‘pervert’ finance theory and create some infinitely self-referential products whose only purpose is for gambling, profit-making and transmitting high risk to the financial system.

Mollaahmetoğlu and Akçalı (2019) investigated the relationship between financial development, financial innovation and economic growth using fifteen countries from 2003 to 2016. Financial development was measured using five variables: financial access, financial depth, financial efficiency, financial stability and number of financial innovations. They find a significant and positive relationship between financial innovation and economic growth.

Cryptocurrency is commonly defined as a digital currency in which encryption techniques are used to regulate the generation of units of currency and to verify the transfer of funds without needing a financial intermediary or central bank (Lexico,2020).

The origin of crypto currency is difficult to identify as it is based on blockchain technology. Cryptocurrency has raised risk in financial market due to its trading mechanism, further transactions could generate a threat to people & sovereignty of a country. Central banks across the world had conceptualised CBDC as an alternative, legally supported & easy to regulate within the economic structure.

CBDC is commonly defined as money available in digital or electronic form (Tronnier, 2020).

The issuance of a CBDC by a central bank will promote financial stability or, at least, the CBDC will not pose any material risks to financial stability (BIS, 2021). This is because most retail CBDCs are presently being designed to co-exist with private forms of money (Maniff, 2020), they are designed to work well with existing payments system (Bofinger and Haas, 2020), and there is the belief that central banks will give financial institutions and people enough time to adopt CBDC and will allow flexibility in the use of CBDC or other existing payments method (BIS, 2021).

The sole aim of introducing digital currency is to reduce the volume of physical currency in circulation which in turn destabilizes socioeconomic development of a country (Barontini & Holden, 2019)

Central banks working across the countries always aims at Growth with Stability. With the help of digital currency, RBI in particular can identify & control ambiguous monetary transfer. As a regulator, RBI will strengthen its working mechanism & secure economy from getting security against fraudulent transactions & can preserve sustainability.

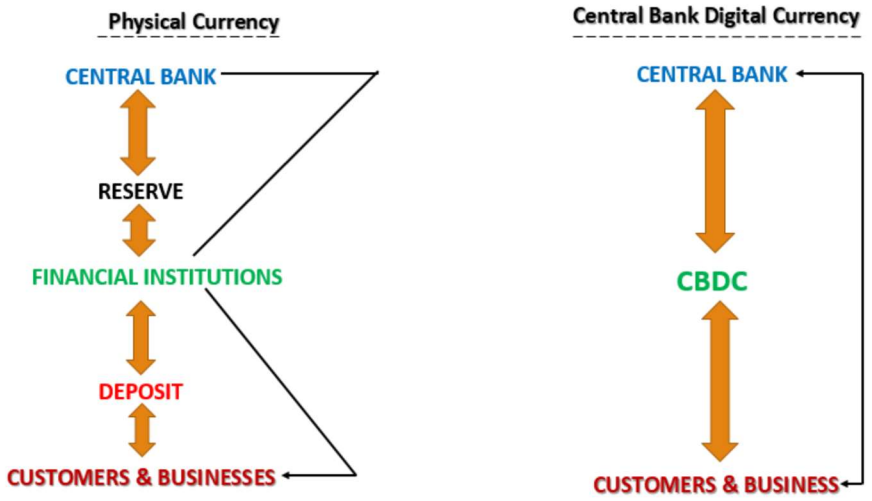
It is well known scenarios that people buy and sell goods and render services and made payments using their phones or computer related devices (e-commerce or e-business). Apart from credit and debit cards there are some payment system applications such as Google Pay, Apple Pay, PayPal, or one of the growing numbers of other payment system apps on the market. Nowadays, mobile phones provide users with numerous opportunities to make payment via e-wallets and e-money solutions (Isah & Babalola, 2019).

Moreover, younger people seem to prefer to pay for goods and services using mobile payment solutions rather than credit or debit cards (Bilotta, 2021).

The CBDCs offer an opportunity for dramatic cost reductions, which may translate into faster and less expensive transactions, for instance in remittances. CBDC motivates and promotes safety, robustness and efficiency of payments reduce issuing cost and increase transaction convenience (Zhang & Huang, 2021)

CBDC will be able to replace traditional currency in due course. It will work as official currency or legal tender to be used for daily transactions, payment mechanism & settling financial transactions

Aminu Ahmed, Alhaji Saidu & Jibril Kawure (May 2022) in the article, 'The Role of Central Bank Digital Currency over Physical Currency' has explained the operational pattern of CBDC which is presented in the diagram.



The CBDC is also a hybrid instrument that is used for both payment and considers as financial asset but

in digital form. CBDC is a digital instrument that is easily scalable and has no storage costs, unlike a physical instrument like cash (Ferrari et al., 2020). While physical cash is a free, nearly anonymous payment tool provided by central banks, which now hope to update it to provide a public payment instrument with similar attributes that can also be used for digital payments (Chorzempa, 2021). It revealed that CBDC will be the primary tool in the future digital economy, and countries that are conversant with the technology will have a competitive advantage (Kuo et al., 2021)

Convertibility is another important aspect of CBDC, Base on the features of CBDC is as similar as possible to cash but in digital form and therefore it is convertible to cash and or reserves on demand (Fernández & Olga, 2019; Zhang & Huang, 2021).

Kumhof and Noone (2021) revealed that CBDC and reserves are distinct and not guaranteed to be directly convertible into each other at the CB, likewise the no guaranteed convertibility of banks' deposits into CBDC at commercial banks.

Inadequate public awareness about the different functions of CBDC over physical currency counterpart leads to its slow implementation in most of the developing countries. (Williamson, 2021) still claimed that CBDC is good payment system, despite the fact that even when central bank replaces physical currency with CBDC will automatically reduce the functions and roles of other financial institutions in the eyes of the customers.

CBDC enjoy certain benefits such as systematic allocation of funds, better accessibility, trenching down of fund to people below poverty line, easy convertibility of foreign exchange into domestic currency. These benefits strengthen economic infrastructure & generate a platform for financial engineering & innovative products.

While there are a variety of views regarding cryptocurrencies as investments and as potential global mediums of exchange, with some economists considering them to be the future of money while others consider them to be a short-term investment bubble or inherently unable to eventually meet the world's money supply needs (Roubini, 2018a, 2018b, Prasad, 2021)

CBDC will be helpful to create Green Economy model with a threat of escaping models from state regulations. In many instances, central banks have evolved into advocates of environmental sustainability through green monetary policy (Bailey, 2021).

As CBDCs will be amenable to smart contracts, they will be competitive with mainstream platform cryptocurrencies in financing evolving decentralised finance ecosystems (Corbet, Goodell, and Günay, 2022). Particularly from the point of Ethics and Privacy. For CBDCs, there are also issues around regulations, enforcement of contractual obligations and property rights that need clarification (Goodell, 2021)

REVIEW OF LITERATURE

Peterson K Ozili, in his article mentioned the role of CBDC & Fintech in meeting financial inclusion goals & financial sustainability. The paper has identified some risks associated with the use of CBDC for financial inclusion goals & reaching to unbanked with the support of fintech. The paper reviews the development of financial innovation with particular focus on CBDC, Fintech and cryptocurrency, and it identifies implications for financial inclusion and financial stability. The article has also shown a chart explaining the working of CBDC in fulfilling financial inclusion.

Aminu Ahmed, Alhaji Saidu & Jibril Kawure (May 2022), has described the comparative analysis of CBDC with physical currency. The article has stressed the risk & challenges different societies will face by the adoption of CBDC. It has also shown the mechanism of CBDC. The article has elaborated benefits & challenges faced by an economy after adoption of CBDC.

John Kiff, Aquiles Farias, Jihad Alwazir & Ashraf Khan has elaborated different considerations while issuing CBDC & its acceptance by community. The article had studied working mechanism & risk

associated with its use in retail. The article has focused on the reasons behind the issue of CBDC by central banks across the world.

IMF Working paper, 'A Survey of Research on Retail Central Bank Digital Currency' has chalked out some positive aspects of CBDC.

- CBDC could improve monetary policy effectiveness
- CBDC may be a means to support financial digitization, reduce costs associated with issuing and managing physical cash, and improve financial inclusion, especially in countries with underdeveloped financial systems and many unbanked citizens.
- CBDC would also help reduce or prevent the adoption of privately issued currencies, which may threaten monetary sovereignty and financial stability, and be difficult to supervise and regulate.
- CBDC could help improve traction of local currency as means of payments in jurisdictions attempting to reduce dollarization.
- CBDC could play a role in distributing fiscal stimulus to unbanked and other Recipients.

OBJECTIVES OF STUDY

- To know the concept of CBDC.
- To compare traditional currency with Central Bank Digital Currency.
- To understand the operational mechanism of CBDC.

RATIONAL OF STUDY

The study aims at knowing the central bank digital currency & its impact on overall banking sector. Digital currency of a country generates a standard currency to deal in international market & supports economy by saving foreign exchange.

The paper is an attempt to understand operational pattern & its impact on day-to-day transactions in the economy in coming future. CBDC can complement physical currency & can direct economy towards green Banking in complete sense.

CONCLUSION

The above discussion on the basis of knowledge gained from various articles that have created a detailed picture of future transaction in the economy like India. CBDC will be a powerful weapon in the hand of regulators through which large population will be benefitted through financial inclusion. It will definitely enhance India's position as emerging economy & market for various products & will generate a growth path for our export. The dream of becoming 5 trillion Economy will become reality.

REFERENCE

1. Dhirendra Gajbhiye, Rasika Arora & others, "Measuring India's Digital Economy', RBI Bulletin, Dec 2022
2. Indraratna, Y. (2013). Strengthening Financial Stability Indicators in the Midst of Rapid Financial Innovation: Updates and Assessments Integrative Report. *The SEACEN Centre*, 1-76.
3. Schindler Schindler, J. W. (2017). FinTech and financial innovation: Drivers and depth. *FEDS Working Paper* No. 2017-81
4. Dabrowski Dabrowski, M. (2017). Potential impact of financial innovation on financial services and monetary policy. *CASE Research Paper*, No. 488.
5. Plosser, C. I. (2009). Financial econometrics, financial innovation, and financial stability. *Journal of Financial Econometrics*, *7*(1), 3-11.

6. Avgouleas, E. (2015). Regulating financial innovation: a multifaceted challenge to financial stability, consumer protection and growth. In *Oxford Handbook of Financial Regulation. Oxford University Press, Eds Ferran, E., Moloney, N., and Payne, J.* Oxford, England.
7. Mollaahmetoğlu, E., & Akçalı, B. Y. (2019). The missing-link between financial development and economic growth: Financial innovation. *Procedia Computer*
8. *Science*, *158*, 696-704.
9. Lexico,2020, Cryptocurrency: https://www.lexico.com/definition/cryptocurrency [02.04.2022]
10. Tronnier, F. (2020, September). Privacy in Payment in the Age of Central Bank Digital Currency. In *IFIP International Summer School on Privacy and Identity Management* (pp. 96-114). Springer, Cham.
11. BIS (2021). Central bank digital currencies: financial stability implications. BIS Report No. 4, September.
12. Maniff, J. L. (2020). How Did We Get Here? From Observing Private Currencies to Exploring Central Bank Digital Currency. *Federal Reserve Bank of Kansas City, Payments System Research Briefing*. Kansas.
13. Barontini, B. C., & Holden, H. (2019). Proceeding with caution – a survey on central bank digital currency. *Bank for International Settlements*, *101*.
14. Isah & Babalola, 2019 Isah, H. A., & Babalola, A. (2019). Impact of Cashless Economic Policy and Financial Inclusiveness in Nigeria : An Empirical Investigation. *Amity Journal of Economics*, *4*(2), 47–61.
15. Bilotta, 2021 Bilotta, N. (2021). *CBDCs for Dummies : Everything You Need to Know about Central Bank Digital Currency (And Why You Shouldn't Be Afraid of It) CBDCs for Dummies : Everything You Need to Know about Central Bank Digital Currency (And Why You Shouldn ' t Be Afraid of It)*.
16. Zhang, T., & Huang, Z. (2021). Blockchain and central bank digital currency. *ICT Express*, https://doi.org/10.1016/j.icte.2021.09.014
17. Chorzempa, M. (2021). China , the United States , and central bank digital currencies : how important is it to be first ? *China Economic Journal*, *14*(1), 102–115. https://doi.org/10.1080/17538963.2020.1870278
18. Kuo, D., Lee, C., Yan, L., & Wang, Y. (2021). A global perspective on central bank digital currency. *China Economic Journal*, *14*(1), 52–66. https://doi.org/10.1080/17538963.2020.1870279
19. Fernández-Villaverde, J., D. Sanches, L. Schilling, H. Uhlig. 2020. "Central Bank Digital Currency: Central Banking for All?" Federal Reserve Bank of Philadelphia Working Paper WP 20-19, June.
20. Kumhof, M., & Noone, C. (2018). Central bank digital currencies-design principles and balance sheet implications. Bank of England Working Paper No. 725
21. Williamson, S. D. (2021). Central bank digital currency and flight to safety. *Journal of Economic Dynamics and Control*, *xxxx*, 104146. https://doi.org/10.1016/j.jedc.2021.104146
22. Roubini, 2018a, 2018b, Prasad, 2021 Roubini, N. ,2018b, The Great Crypto Heist, 〈 https://www.project-syndicate.org/commentary/cryptocurrency-exchanges-are-financial-scams-by-nouriel-roubini- 2019–07〉.
23. Bailey, A. ,2021 Tackling climate for real: the role of central banks - 〈 https://www.bankofengland.co.uk/speech/2021/june/andrew-bailey-reuters-events-global-responsible-business-2021〉.
24. Corbet, Goodell, and Günay, 2022 Goodell, John W., Shen, Dehua, 2021. The Chinese sovereign digital currency as a catalyst for change: A new trilemma?

25. Goodell, John W., 2021. Considering the governance transparency of smart contracts: A critical reflection.
26. Central bank digital currency research around the World: a review of literature
27. Peterson K. Ozili 'The Roles of Central Bank Digital Currency over Physical Currency'
28. Aminu Ahmed, Alhaji Saidu & Jibril Kawure, published in the International Journal of Social Science, Education, Communication & Economics, May 2022.(SINOMICS Journal)
29. John Kiff, Aquiles Farias, Jihad Alwazir & Ashraf Khan A Survey of Research on Retail Central Bank Digital Currency, Article *in* IMF Working Papers · June 2020
30. IMF Working paper,