

**IMPACT OF CENTRAL BANK DIGITAL CURRENCY ON THE FINANCIAL SYSTEM IN INDIA SUSTAINABLE DEVELOPMENT AND INNOVATIVE MANAGEMENT PRACTICES”**

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**ABSTRACT**

The digital currencies underlying the various technologies have gained attention in modern economies. These changes have significantly affected the financial sector. Recently, government authorities and central banks across the globe have been paying attention to develop the digital currencies. Central bank digital currency (CBDCs) is a new type of electronic currency controlled and issued by central banks, derived from block chain technology, and about 90.0 percent of the world's countries are actively researching and implementing CBDCs. Central bank digital currency (CBDC) is the money that has been electronically stored (digitally or as an electronic token), constitutes a central bank liability, and may be used to make payments. As one of the critical components of the world's financial system, India is currently at the forefront of research and implementation of CBDC. These technological advancements have sparked ideas that a central bank may consider offering the general public digital money via centralized accounts on its records. The public would technically have access to reserves presently available to certain financial organizations. CBDC plays an essential role in developing digital finance as the concept of digital finance continues to spread and the level of technology continues to improve. However, CBDC will play an essential role in developing Indian finance. The main aim of this paper is to review the progress of Central bank digital currency system in India and to discuss the impact and implications of Central bank digital currency on financial system in India.

**INTRODUCTION**

Central Bank Digital Currency (CBDC) is a form of digital currency notes issued by a central bank. Presently, most of central bank across the globe are exploring the issuance of CBDC. CBDC considered as the electronic counterpart of paper money issued by central banks. digital currency is also fiat money issued by a central bank in a digital form. CBDC acts as an electronic equivalent of a paper currency and is an obligation of the issuing authority of the nation. CBDC as an electronically stored money value representing the central bank's obligation and may be used as a mode of payment. The Reserve Bank of India (RBI) launched the country's first pilot project for digital currency known as digital rupee or E-rupee (e₹). The main objective behind is to have a “more efficient and cheaper currency management system” by using block chain and other technologies. The digital currency, e₹, will provide an additional opportunity to the currently available forms of money. It is not different from bank notes but being digital; it is easier and faster accessible. It has all the transactional benefits of other forms of digital money.

The CBDCs have a private block chain network where only the Central Bank and some of its commercial banks would have access to the network. Digital wallets and other digital payment alternatives, a CBDC would be digital tokens mined by the Central Banks and would not need to be backed by cash reserves. Central bank digital currencies (CBDCs) are also derived from block chain technology, and about 90.0 percent of the world's countries are implementing CBDCs. Block chain technology plays an essential role in developing digital finance as the concept of digital finance continues to spread, and the level of technology continues to improve. Along with this wave of digital finance, governments are beginning to invest in research into crypto currencies with block chain technology. It is a form of digital finance where, digital finance investigates financial innovations which allow access to financial goods through electronic means, hence states that CBDC can also be described as one of the many developments in digital finance. As early as 2021, the Central Bank of India's (RBI) Banking Trends Development Report made the point that CBDC will play an essential role in the future of trade. CBDC will play an essential role in developing Indian finance.

## **OBJECTIVES**

1. To review the progress of Central Bank Digital Currency system in India
2. To discuss the impact and implications of Central Bank Digital Currency on Financial System in India.

## **METHODOLOGY**

The paper is descriptive, in the sense that the study attempts review literature to understand the various concepts, and analytical by the way that it attempts to discuss the progress and to analyze impact of CBDC on financial system in India.

## **DIGITAL CURRENCY AND ITS EVOLUTION**

In the recent years, digital currencies are evolving fast across the globe. Financial markets around the world, provide an alternative medium of exchange and the governments are forced to take a pragmatic look at this set of currencies to keep themselves relevant in money markets, or accept the obsolescence of their power. The advancement of technology and increased usage of the electronic money, Central Bank introduced CBDC to strengthen the monetary authority. Many countries have started exploring the CBDC area and have launched pilot programs like Sweden's central Bank has launched a digital currency named e-Krona, when it saw a decline in the use of the cash. Among the nine countries that have launched digital currencies are - Bahamas, the seven Caribbean nations and Nigeria; those piloting include South Africa, Saudi Arabia, UAE, China, Russia, Sweden, Malaysia, Singapore and Thailand. China introduced the e-CNY, the digital form of the Chinese yuan, at the Winter Olympics in Beijing. It was reportedly being used to make payments of over 2 million Yuan per day. Further, nine countries have launched their digital currencies, where 15 are in the pilot phase. Additionally, 16, including India, are in the development stage. The concept of money has experienced evolution from Commodity to Metallic Currency to Paper Currency to Digital Currency. Recognizing the global development in the field of CBDC, the RBI has set up an Internal Working Group in October 2020 to undertake a study on appropriate design and implementation architecture of for introducing CBDCs in India. The working group highlighted the need for a robust legal framework to back the issuance of Digital Currency (e₹) as another form of currency. After careful consideration, GOI has announced in the Union Budget, the launch of the Digital Rupee – Central Bank Digital Currency (CBDC-e₹) during 2022-2023. The changing features of money defines the new financial landscape of the economy. Advancement of technology has made it possible for the development of new form of money that is Central Bank Digital Currencies (CBDCs) in India.

## **CENTRAL BANK DIGITAL CURRENCY IN INDIA (DIGITAL RUPEE-e ₹)**

Central banks are an important pillar of the financial system due to its various forms, rapid innovation and private. Central banks around the world, including those of system for issuance and distribution to the public in a China, Russia, Bahamas or the USA, are developing Money as a concept has evolved over time, beginning convenient way. Depending on the model adopted, the or researching the use of CBDC. During 2020-2021, the emergence of digital Currency and Finance explores the efficient, quick, seamless, stable solutions for the money was accompanied for issuing and operationalizing a CBDC. Recent advancements in security and decentralized nature, which gave rise to by the central bank of a country and is in lieu of technology and the global economy have pushed very volatile environment for crypto currency or stable the paper currency issued which is the direct these apex bodies to revisit their basic functions and coins.

The Reserve Bank of India (RBI) has defined Central safe, government-backed, and ultimate medium of growing preference for electronic payment methods. Reserve Bank of India broadly defines CBDC (Digital Rupee (e₹)) as the legal tender issued by a central bank in a digital form. It is akin to sovereign paper currency but takes a different form, exchangeable at par with the existing currency and shall be accepted as a medium of payment, legal tender and a safe store of value. CBDC is a digital currency where, it is not comparable to the private virtual currencies that have changed over the last decade.

CBDC is a preferred mode of holding central bank money rather than cash in an uncertain situation like the one of pandemic COVID-19. Further, the preference for cash transactions for regular expenses and small payments, redirected to acceptance of CBDC. This shall further the digitization process in the country. The Reserve Bank Digital Payment index (RBIDPI) during 2018-2022 is given in table -1.

**Table -1: Reserve Bank Digital Payment Index (2018-2022)**

Period	RBI- DPI Index
March 2018 (Base)	100
March 2019	153.47
September 2019	173.49
March 2020	207.84
September 2020	217.74
March 2021	270.59
September 2021	304.06
March 2022	349.30

**Source: Reserve Bank of India**

It is observed from table-1 that RBI-DPI Index shows significant increase from the period march 2019 (153.47) to march 2022 (349.30). Thus, the Reserve Bank Digital Payment index (RBI-DPI) demonstrates significant growth in adoption and deepening of digital payments across the country.

This increase indicates that the digital payments are further deepening and expanding in the country and is an indication that, Indian citizens have an appetite for digital payments. Therefore, the digital currency issued by the central bank shall provide yet another option for furthering the cause of digital payment, apart from the range of other digital payment instruments available, given its ease of usage coupled with sovereign guarantee.

The key motivations for exploring the issuance of CBDC in India, among others, include reduction in operational costs involved in physical cash management, fostering financial inclusion, bringing resilience, efficiency, and innovation in the payments system, adding efficiency to the settlement system, boosting innovation in cross-border payments space and providing public with uses that any private virtual currencies can provide, without the associated risks.

#### **SCOPE OF CENTRAL BANK DIGITAL CURRENCY IN INDIA**

Central Bank Digital Currency is a form of electronic money that will be legal tender of Government of India. The introduction of CBDC has potential to provide significant benefits such as reduction of cash dependence, lower transaction cost which will produce higher seignior age, lowers settlement risks and will be legal tender with one to one exchangeable between notes and CBDC which will be more robust, efficient, trusted and regulated. CBDC quickly produces transaction process having millions of transactions with minimum cost under the block chain technology with distributed ledger. The centralized block chain technology bears less risk with control mechanism at the hands of a government or agency. It will accelerate the process of development of Fintech and Bigtech houses in functioning the payment mechanism both domestically as well as internationally under the multi-design CBDC models of transactions.

The cross-border payment system will be fast, secured, trustworthy, authenticated with less cost in which conducting of exchange rate mechanism among cross countries will be more calculative, easily accessible, perfect and scientific and stable. Central bank can implement monetary policy effectively in retail CBDC even when interest rate is zero or negative. A central bank could reduce deflationary risk substantially by injecting outside money in weak economic activity or looming crisis when banks slow down since central bank can increase or decrease supply of outside money to escape from liquidity trap. Even government can create to insist central bank to substitute CBDC by creating budget deficit.

#### **IMPACT OF CBDC ON INDIAN FINANCIAL SYSTEM**

CBDC has been an effective tool in shaping the payment system and acts as an important pillar of financial system. CBDCs are aimed at the digitization, decentration, and disintermediation of sovereign currency. From a global monetary perspective, applying these (central bank-endorsed) digital currencies is a new step towards modern society's digital transformation. Following are impact of CBDC on Indian financial system.

#### **Renovate the Payment system**

There has been an increase in competition in the payments domain by players like Non-Banking Finance Corporation (NBFC) and Payment service Provider and new forms of e-money and digital currency. These have provided easy access to the people by lowering the barriers to entry.

**Improve digitization and financial inclusion**

CBDC could help in increasing access to digital payments near about zero cost. In emerging economies where the use of cash is declining in relative to GDP, this could ease the central bank in providing the money in digital form.

**As a tool to expand monetary and fiscal policy**

CBDC could provide the central bank with a tool to increase fiscal stimulus. This could be used to tap into more granular level of payments system and improve the data integrity at a macroeconomic level (Todd and Rogers, 2020).

**Reducing dependency on foreign currency**

Dollar is one of the most popular currencies globally and CBDC could help in making the local currency prominent. It could help in making the local currency more competitive and a prominent means of payment.

**Changes to financial market structure**

CBDC has the potential to restructure the Indian financial system, affecting the functions and responsibility of banks and the central bank. Uncertainty the potential impact of shift on consumer spending, investments, bank reserves, interest rates, the financial services sector, and the overall economy. A widely accessible CBDC would be a close or near-ideal substitute for commercial bank money (in the case of an interest-bearing CBDC).

**IMPLICATIONS OF CBDC ON INDIAN FINANCIAL SYSTEM**

A CBDC has the potential to radically restructure the Indian financial system, affecting the functions and responsibility of banks and the central bank. Following are the implications of CBDC on Indian financial system.

**Implications of CBDC for Monetary Policy**

The implication of CBDC for monetary policy essentially depends on the way it is designed and its degree of usage. CBDC transmits monetary policy actions directly to economic agents, increasing the efficiency of monetary policy. Under this modality, economic agents could also switch to CBDC from bank deposits, which could lead to a deposit outflow. This outflow of deposits (or banks' durable liquidity) to CBDC could motivate banks to compete for deposits, which in turn could increase deposit rates and thus also retail lending rates, despite no increase in the policy rate. To avert this risk, the central bank may have to proactively inject larger durable liquidity to the banking system more regularly. Thus, the potential implications on monetary policy from an introduction of CBDC is still unclear and is purely speculative given that only limited CBDCs are currently in existence as few nations have issued till date.

**Implications of CBDC for Liquidity Management**

CBDC is an autonomous source of system wide change in liquidity which needs to be projected by the central bank to plan and execute its liquidity measures. The change in form of the currency bring about a change in the behaviour of public holding of money (i.e., currency versus deposits, and within currency between physical and digital). There would be a much larger impact on reserve money, money supply and net demand and time liabilities (NDTL) of banks if CBDC is remunerated because of potential scope for substitution of deposits of commercial banks by CBDCs. Consequently, commercial banks will be constrained for funds on central bank liquidity provisions. As a result, the central bank balance sheet will get bloated increasing reserve money due to financial disintermediation. Non-remunerated CBDC can significantly minimise potential disruptions to monetary policy and the financial intermediation process.

**Implications of CBDC for Financial Stability**

The central bank's ability to carry out its mandate for monetary and financial stability. CBDC has the potential to provide benefits to the operation and resilience of the financial system, it also affects existing financial market structures and business models, which may pose risks to financial stability as the financial system evolves, particularly the potential disintermediation of banks.

**RECENT DEVELOPMENTS OF CBDC IN INDIA**

In India, CBDC (Digital Rupee)- Wholesale segment (e₹ -W) and Retail digital rupee (e₹ -R) plays important role for the settlement of secondary market transactions in government securities. During the year 2022, RBI has announced the launch of first pilot for retail digital rupee (e₹ -R). The e₹ -R is in the form of a digital token that represents legal tender. Users will be able to transact with e₹ -R through a digital wallet offered by the participating banks and stored on mobile phones/devices.

The use of e₹-W is used to make the interbank market more efficient. Other wholesale transactions and cross-broader payments will be the focus of the pilot in future. RBI has identified nine banks for participation in the digital rupee’s wholesale pilot project. These are –State Bank of India, Bank of Baroda, Union Bank of India, HDFC Bank, ICICI Bank, Kotak Mahindra Bank, Yes Bank, IDFC Bank, HSBC. The use of e₹ -W is expected to make the interbank market more efficient. Settlement in central bank money would reduce transaction costs by pre-empting the need for settlement guarantee infrastructure or for collateral to mitigate settlement risk. Going forward, other wholesale transactions and cross-border payments will be the focus of future pilots, based on the learnings from this pilot. As per RBI during 2023, there are 50000 users of the retail digital rupee and 7.7 lakh small- value transactions have taken place since the launch of the retail CBDC. The e ₹ in circulation of e₹ - Retail and e₹ - Wholesale is given in table-2.

**Table 2: e₹ in Circulation: e₹ - Retail and e₹ - Wholesale (₹ crore)**

Year 2022-23	
Bank Notes	e ₹
₹ 0.50 paise	0.01
₹ 1 Notes	0.04
₹ 2 Notes	0.06
₹ 5 Notes	0.12
₹ 10 Notes	0.15
₹ 20 Notes	0.23
₹ 50 Notes	0.39
₹ 100 Notes	0.83
₹ 200 Notes	1.16
₹ 500 Notes	2.71
₹ 2000 Notes	-
<b>Total e₹Retail</b>	<b>5.70</b>
<b>Total e₹Wholesale</b>	<b>10.69</b>
<b>Total e₹</b>	<b>16.39</b>

**Source:** Handbook Statistics of Indian Economy 2022-2023, Reserve Bank of India It is clear from the table 2 that during 2022-2023 total e ₹ in circulation is 16.39 crores where, total e ₹ retail is 5.70 crores and total e ₹ wholesale is 10.69. Thus, the RBI moves ahead with its plan to implement a digital twin that can complement physical currency, boosted by state-of-the art technology that offers a fast, efficient and seamless experience, where, the best use cases and assess the challenges and potential risks with implementation of CBDC.

**CONCLUSION**

India's exploration and discovery in the field of CBDC is of great importance to the Indian financial system. The introduction of CBDC in India is of strategic importance and its monetary policy is of value to other countries internationally. Digital currency payments will also reduce the settlement risk in the financial system. Thus, CBDC will act as booster for the fintech companies. It will create an environment of trust and provide financial assistance to those who were earlier dependent on banks. CBDC can improve our country’s digital economy and payment services and promote financial inclusion.

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