

# Implications of Central Bank Digital Currency in India: A Critical Analysis

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## Abstract

Central Bank Digital Currency (CBDC) is creating a lot of waves these days in the Indian economy due to its digital character. It is a sovereign currency issued by the central bank and a fungible legal tender for which users need not have a bank account. It is a much faster real-time tool to not only do a simple exchange of funds but for development of India's monetary policy. In other words, CBDC is the physical bank note which is now put on a blockchain. Many questions arise about the legal and policy implications of CBDC. Even people are muddled as to what is the need of introducing a digital currency when cryptocurrency and other e-payment platforms are existent. This paper shall try and highlight the effect on the economy by introduction of digital currency and what are the major privacy, security, technological and monetary policy concerns surrounding it. It shall also draw comparisons from other jurisdictions where a digital currency has already been brought into force.

## INTRODUCTION

With the advent of the digital economy, the use of electronic payment mechanisms such as Electronic Clearing System (ECS), Real Time Gross Settlement (RTGS), National Electronic Fund Transfer (NEFT), Immediate Payment System (IMPS), Unified Payment Interface (UPI)<sup>1</sup> and a virtual digital asset (VDA)<sup>2</sup> known as a cryptocurrency came to be used quite commonly. Due to the rampant use of cryptocurrency for unlawful activities and the RBI not regulating it the need for a token money backed by the central bank arose. Likewise, Central Bank Digital currency is a digital form of central bank money that could be used as an alternative to physical cash for making payments, transfers and storing value.<sup>3</sup> In other words, it is a safe, secure and low-cost medium of legal tender put on a blockchain or distributed ledger technology.

1 Reserve Bank of India, Discussion Paper on Charges in Payment Systems, 17<sup>th</sup> August, 2022, available at: <https://www.rbi.org.in/Scripts/PublicationsView.aspx?id=21082>

2 According to section 2(47A) of the Income Tax Act, 1961, VDA means a code or token generated through cryptographic means or otherwise, a non-fungible token or any other digital asset notified by the Central Government.

3 Concept Note on Central Bank Digital Currency, Reserve Bank of India, available at: <https://rbidocs.rbi.org.in/rdocs/PublicationReport/Pdfs/CONCEPTNOTEACB531172E0B4DF-C9A6E506C2C24FFB6.PDF>

The objective of introducing digital currency is to offer consumers an alternative mode of paying cash.<sup>4</sup> Accordingly, the digital money takes away the inherent features of money i.e., being anonymous and interchangeable and makes traceability of money much easier and convenient. This will take away the right to privacy of users and put them under the scanner. Likewise, designing and defining the digital currency will be disruptive and its success would depend upon its user adoption as not all countries who are exploring digital currency have been successful in obtaining its large penetration. The factors relating to financial inclusion and monetary policy would play a crucial role in its accomplishment.

## Features of Central Bank Digital Currency

In contrast to the hard form of cash which is a bearer instrument, whose primary feature is to secure anonymity and be interchangeable, the CBDC would be put on a digital wallet maintained with an intermediary bank from where transactions can take place directly. It is delineated into two broad categories i.e., Wholesale CBDC and Retail CBDC. As the term suggests, the Wholesale CBDC is used for intra-country trade between the central bank and public/private banks and can facilitate and settle interbank transfers. CBDC-W was launched in November, 2022 for settlement of secondary market transactions in government securities. CBDC-R is primarily designed for retail consumption. It will be an instrument to settle transactions between financial institutions or by individuals to pay for goods or services at stores or other establishments or businesses.

## Secure Payments and decreased risk of settlement

CBDC permits the growth of blockchain based payment products or instruments such as issuance of securities on a private blockchain linked with the e-rupee. Accordingly, it has the potential to reduce costs of an issuance of currency by minimizing the role of intermediaries and increasing certainty in settlement of transactions. Due to usage of different

4 Ibid

use cases from digital payment transactions that are backed by digital currency, CBDC would lead to lower settlement costs and lesser risk given the complete movement away from cash, elimination of costs relating to printing, management and transportation of paper money and thus enhancing the goal of financial inclusion. Correspondingly, this environment friendly nature of CBDC would also enable the RBI to achieve the Economic and Sustainable Goals by helping to reduce the carbon footprint.<sup>5</sup>

## Ease of Cross-border Transactions

While cross border money transfers are expensive and take time which increases the degree of exchange and settlement risk. A CBDC would potentially solve for each of these risks allowing for real-time, cost-effective payments with zero settlement risk. By way of an integration with CBDC systems across multiple jurisdictions and will need some amount of coordination among central banks across the world. Through this feature, it is assumed that a robust framework for controlling money laundering and combating financing of terrorism can be sustained.

## Legal and Policy Implications of Central Bank Digital Currency

### Legal Implications

Issuance of currency is the sovereign function of the State which has been delegated to the Reserve Bank of India under the Reserve Bank of India Act, 1934.<sup>6</sup> Currently, transactions take place either by a bank note issued by the RBI which is equivalent to a legal tender having the character of a bearer instrument<sup>7</sup> or a cheque or bill of exchange which is an order instrument. In order to include digital currency within its ambit, through the Finance Act, 2022 the definition of a bank note has been amended to include a note issued by the RBI whether in the

5 Dr. Abhishek Kumar Singh and Nisha Kapoor, CSR and ESG- Journey towards Sustainable Development Goals, The Journal of Indian Institute of Banking and Finance, April-June, 2022, Pg. 5-11.

6 Section 22 of the Reserve Bank of India Act, 1934

7 Section 26 of the Reserve Bank of India Act, 1934

physical or digital form under section 22.<sup>8</sup> This Amendment read with section 22 of the RBI Act empowers RBI to issue digital bank notes. Further, a new section 22A has been inserted into the RBI Act, 1934 with effect from 30.3.2022<sup>9</sup> to make certain provisions of the RBI Act, 1934 relevant for physical bank notes inapplicable to digital banknotes in order to facilitate smooth integration. By this Amendment, the provision that RBI is not under an obligation to supply the different forms of currency or coins to the public shall not be applicable to the digital currency.

This would enable the Central Bank to issue token-based CBDCs and also allow Central Banks to open accounts for the public, which it is currently restricted to do. This will have ramifications in laws relating to issuance rights, legal tender status and counterfeiting protection. Further, since token based CBDCs would create a parallel payment system, necessitating a review of payment system laws would be needed if central banks are restricted to inter-payments.

In addition to this, the method of dealing in Negotiable Instruments is prescribed under the Negotiable Instruments Act, 1881. The Act classifies Negotiable Instruments into a promissory note, bill of exchange and a cheque which is defined to be a bill of exchange. The definition of these terms in the Act needs to be amended accordingly to include their digital iterations for the purpose of CBDC. Interestingly, the definition of cheque within the Act, includes the simple image of truncated cheque and a cheque in the electronic form. An expansive definition like this would suit the implementation of CBDC. This process might also open the gate to other technological inclusions like that of digitally signed cheques, or other negotiable instruments and their subsequent storage and record-keeping.

The Payment and Settlement Systems Act, 2007 needs to be amended on three factors such as definition of payment system, Authorization and Control and absence of bank account. The definition of Payment Systems though does not explicitly involve CBDC payment mechanisms, but

the same can be included for maintaining clarity. RBI is the designated authority for this legislation. The fact that the payment system for CBDC will have heavy RBI influence, goes in conflict with its power to give authorization. CBDC in its application does not completely require a bank account for operation. This might create problems in recording of the transactions as well as in maintaining transparency.

### **Policy implications**

In addition to the above, CBDCs raise the following law and governance concerns:

#### **Know your customer (KYC)**

Tiered KYC may be considered, allowing different wallet features, fund caps, and limits based on KYC levels and intermediaries must adhere to Prevention of Money Laundering Act, 2002 provisions.

#### **Privacy and data sharing**

Examination is needed to determine data collection, processing, storage, purposes of use, and sharing permissions, including with RBI and law enforcement.

#### **Public Private collaboration**

Defining “service providers” is crucial to determine if it encompasses regulated RBI entities (like payment system operators) or new entrants who will partner with the RBI.

Thus, CBDC might not be preferred over interest-bearing deposits when things are normal, but during economic instability or a crisis, it can be seen as a safer option due to central bank backing and easy storage. More people using CBDC instead of bank deposits will lead to money leaking from banks, and the impact on public behavior isn't clear yet since central banks are still figuring out CBDCs.<sup>10</sup> Thus, whether people will want CBDC is unclear, influenced by how it's made; concerns include quicker bank runs during crises and banks relying on costlier funds, but these can be managed with limits on CBDC use.<sup>11</sup>

## **Central Bank Digital Currency visa-vis cryptocurrency and other modes of electronic payment**

### **CBDC and Cryptocurrency**

<sup>8</sup> Section 2 (aiv) of the Reserve Bank of India Act, 1934

<sup>9</sup> Non-applicability of certain provisions to digital form of bank notes- Nothing contained in sections 24, 25, 27,28 and 39 shall apply to the bank notes issued in digital form by the bank.

Though the digital rupee would be an interoperable payment mechanism but it is in sharp contrast to the cryptocurrency which is a private asset and not backed by any commodity or rupee. The Reserve Bank of India does not have any control over transactions taking place in cryptocurrency. As a matter of fact, it can be contemplated that increasing use of cryptocurrencies could affect the demand for digital currency negatively and thus result in bleak impact on the economy. In addition, there are concerns about the volatility of the prices of cryptocurrencies and the lack of regulatory oversight in the market by the RBI. Accordingly, in April, 2018, RBI warned people that cryptocurrencies are not accepted as legal currency in India on the ground that they raise concerns of consumer protection, market integrity, and money laundering.<sup>12</sup> In 2019, a Bill introduced by the Central Government prohibited the dealings in cryptocurrency and even punished a person with upto 10 years of imprisonment and fine.<sup>13</sup> Later, the Supreme Court of India, removed the restrictions in March, 2020 after taking into account the position of virtual currencies in various jurisdictions and considering the reports submitted by the Central Government holding different positions and concluded that on the ground of proportionality the RBI Circular prohibiting virtual currencies is set aside.<sup>14</sup> Then, the finance ministry declared that cryptocurrencies would be subject to a 30% direct tax and also launched the digital rupee, in the Union Budget of 2022–2023.<sup>15</sup> The decision to impose tax on cryptocurrency came as one of the measures to discourage transactions in bitcoin or any other cryptocurrency.

<sup>12</sup> RBI press release, Prohibition on dealing in Virtual Currencies, 6<sup>th</sup> April, 2018, available at: <https://rbidocs.rbi.org.in/rdocs/notification/PDFs/NOTI15465B741A10B0E45E-896C62A9C83AB938F.PDF>

<sup>13</sup> Draft banning of Cryptocurrency and regulation of official digital currency Bill, 2019, available at: <https://prsindia.org/billtrack/draft-banning-of-cryptocurrency-regulation-of-official-digital-currency-bill-2019#:~:text=Draft%20Banning%20of%20Cryptocurrency%20%26%20Regulation%20of%20Official%20Digital%20Currency%20Bill%2C%202019,-Ministry%3A&text=The%20draft%20Bill%20seeks%20to,of%20cryptocurrency%20in%20the%20country.>

<sup>14</sup> Internet and Mobile Association of India v. Reserve Bank of India, Writ Petition No. 373 of 2018.

<sup>15</sup> Union budget 2022-23

## **CBDC and UPI**

Digital currency is often understood as an electronic mode of making payments such as the UPI. Whereas, CBDC is a legal tender backed by the RBI while UPI is a platform which links all bank accounts to a single i.d in order to make payments. Even on the one hand, while CBDC can be used as a means of payment and store of value. On the other hand, UPI facilitates electronic transactions. CBDC is backed by the central bank and UPI is monitored by the National Payment Corporation of India (NPCI).<sup>16</sup> To answer the question of reconciliation in this regard, CBDC uses a QR code scanning system, similar to UPI, although the QR codes for CBDC and UPI are currently distinct. Efforts are currently going on to make these QR codes compatible, so that one QR code can be used for digital rupee and UPI payments, simplifying the process for merchants and customers. This compatibility applies to the front-end of the payment system but may extend to the processing of the payment as well. The same would also include making of internal transfers from their UPI account to the CBDC account and vice-versa.

## **CBDC and BNPL**

CBDC is a digital form of a country's official currency, regulated by the central bank, and used primarily for digital payments. Buy Now, Pay Later (BNPL), on the other hand, is a consumer financing method offered by private companies, enabling shoppers to split payments for retail purchases over time. While CBDC focuses on monetary stability and is subject to government oversight, BNPL provides consumer convenience without influencing a nation's monetary system or policies. The arising legal issue in this regard is with respect to the enforcement of payment obligations. Often in applications providing UPI, there are certain strict actions which may be taken upon non-payment of due amount including closure of account. The applicability of the same in CBDC would be questionable provided the fact that it is coming from the government, more precisely the RBI and not a

<sup>16</sup> Reserve Bank of India, Discussion Paper on Charges in Payment System, 17<sup>th</sup> August, 2022, available at: <https://www.rbi.org.in/Scripts/PublicationsView.aspx?id=21082>



private body. Although, concerns related to BNPL do not pose a threat at this stage of CBDC.

### **Demonetization and CBDC**

Quite recently, deriving its power from the Reserve Bank of India Act, 1934 the Central Government announced the demonetization<sup>17</sup> of two bank notes in 2016 and one in 2023. Even, the policy of demonetization was declared to be constitutionally valid by the Supreme Court in the case of *Vivek Narayan Sharma v. Union of India*.<sup>18</sup> The five-judge bench of the Supreme Court by a decision of 4:1 examined the power of the Central Government to order demonetization of a bank note in view of the term “any” occurring u/s 26 (2) of the RBI Act, 1934. On the ground of purposive interpretation of section 26 (2), the Supreme Court upheld the constitutional validity of the policy of demonetization by the Central Government.

The act of stripping off of currency notes has been found to have a major impact on digitalization of payments. This is evident due to the fact that demonetization brought a decline in withdrawals at ATMs and encouraged the usage of digital modes of payment such as Point of Sale Terminals (POS) and mobile banking. Moreover, it has been argued that transferring the monetary system's risks and costs onto citizens is an unprecedented shift in the contract between citizens and the State. Making payments by cash enables people to spend less and save more but using a digital payment method or a digital currency can be a means to extract more money from the poor population.<sup>19</sup> Thus, though the digitalization or dematerialization of bank notes has been said to be a means of formalizing the economy and protecting the poor. but, whether it is going to meet the end still remains undetermined.

### **CBDC v. other Digital Currencies: A Comparative Analysis**

<sup>17</sup> As per section 26 (2) of the Reserve Bank of India Act, 1934, the Central Government may by notification in the gazette of India, declare that, with effect from such date as may be specified in the notification, any series of bank notes of any denomination shall cease to be a legal tender.

<sup>18</sup> Writ Petition (Civil) No. 906 of 2016.

<sup>19</sup> Cyril Fouillet, *Demonetization and Digitalisation: The Indian Government's Hidden Agenda*, Elsevier, 2020.

The Reserve Bank of India is exploring the possibility of launching the e rupee as it is believed to provide various benefits like increased financial inclusion, reduced transaction costs and improved transparency. Currently, more than 100 countries are exploring the option of engaging with digital currency. Particularly countries like China, Bahamas, Europe, Singapore, Hong Kong etc have launched their digital rupee or are in the process of launching it.

Accordingly, China has evolved a system called as the Digital Currency Electronic Payment. Even the Central Bank of Bahamas founded a digital currency by the name of Sand Dollar. Additionally, Sweden's Central bank has instituted its digital currency known as e-krona, which will be based on an account system and stored in a digital wallet. Though all digital currencies have common goals but they continue to evolve and differ from one another. Since every country has its distinct models of digital currencies, they cannot be compared with each other.

While most of the digital currencies would work on the same technology i.e., centralized blockchain system that follows a hybrid model, they differ from each other on various aspects of payment mechanism, interoperability, accessibility, offline capabilities, privacy and geographic coverage. Though all digital currencies are designed in their own unique way and are programmable currencies well suited to the needs of a nation, there are many features common to many of them. Such as interoperability with other digital currencies, being a prepaid digital currency and accessible to anyone with a smartphone.<sup>20</sup>

The Indian digital currency is also expected to have an offline feature as per which transactions can be made even without a network or active internet connection. This characteristic of the currency is believed to be the most pertinent for a developing economy like India particularly at times where access to the internet is difficult due to a natural calamity like flood, earthquake etc. Though it is to be seen whether this could be implemented without the private entity's partnership. The role of RBI in this

<sup>20</sup> Abhimanyu Sasi Pavor & N. Ajithkumar, *Digital rupee- A rival for Cryptos?*, Journal of Pharmaceutical negative results, Special Issue 1, Volume 13, 2022.



regard plays a crucial role.

Further, countries like Nigeria and China have been facing challenges in the implementation or usability of digital currencies. Such as e-naira that was launched by Nigeria with the objective to capitalise the cryptocurrency, was used by less than 1% of the total population even after one year of its launch. Similarly, China through the introduction of e-yuan is in the process of creating a programmable currency where it is giving subsidies to farmers to buy seeds through the programmable currency.

In all countries as a whole, the people's response and adaptation to the currency is not even 10% of what was expected to be. Subsidising rickshaw rides or getting cashbacks for making payments in digital currency similar to benefits given in UPI are not going to substantiate the issue of user adoption. The Indian scenario can be well compared with the other countries as the benefits of using digital currency such as a legal tender or low-cost payments are not sufficient to encourage its use and similar benefits of cashback need to be given in view of the susceptibility of breach of privacy of its users. Thus, designing the e rupee would be the task of the RBI to make it more effective and easily adoptable in the economy.

## Challenges in implementation of CBDC

### *Technological Infrastructure*

Developing a secure and scalable technological infrastructure to handle the volume of transactions while ensuring data privacy and protection is the need of the hour. CBDC uses blockchain technology and hence it is expected to increase security in digital transactions. Since the blockchain is not decentralized, the access to the blockchain will be limited to the approved participants of central bank. Thus, enforcing the digitized form of currency would be possible only through a potent and sustainable technical infrastructure to bolster the large volume of transactions. It can be said that for this an extraordinary investment in building the requisite hardware and software systems is the need of the hour.

### *Monetary Policy*

Though it is believed that digital currency will enhance financial inclusion as it will work as a fungible legal tender for which holders need not have a bank account and thus the impact of change of rates in the monetary policy would be checked very easily. But addressing potential shifts in the effectiveness of traditional monetary policy tools as such as alteration in the demand for money and credit would be difficult to be tracked while using digital currency.

### *User Adoption*

Since the very nature of currency is changing and every country is designing its own currency, engaging with currency will be in a different way. This will be disruptive for consumers, industries or businesses to operate as the physical bank note will be put on a blockchain and hence would sweep away the existing habits. Thus, encouraging citizens and businesses to adopt the CBDC, would not be very easy. Even digital illiteracy and lack of provision of internet services in rural areas still poses an obstacle for India especially in the rural areas. As identified in the previous topic, other payment options like UPI, BNPL and cryptocurrencies pose a threat to the quick penetration of digital currency in the markets.

### *Impact on Banking Behavior*

For a CBDC to operate, there can be a consortium blockchain where multiple organizations or entities come together to form a decentralized network. Here the licensed CBDC Bank would deal with the Third-party Apps, users and businesses to transact money. When banks would provide the digital currency there would be a decline in the regular banking activities of commercial banks such as providing interest bearing deposits and thus need for funds for banks would increase leading to competition for the same.

### *Privacy Concerns*

Right to Privacy is an individual's right against the public and related authorities and is a fundamental right under the Constitution of India, 1950.<sup>21</sup> In fact, it's the most crucial right to be preserved and protected in the digital transformation that India is

21 As held in the case of Justice K.S. Puttaswamy (ret'd.) & another v. Union of India & others, (2017) 10 SCC 1.

undergoing. It is believed that through the adoption of digital currency, social welfare would be enhanced by allowing optimal inferences about consumer preferences on the basis of observed consumer choices. On the other hand, tracking every payment pattern of an individual would be very swift which would disclose the behaviour of a citizen in maintaining minimum bank balances, finger print data, dealings in cheques etc. The Governments around the world in order to implement digital currency are currently incentivizing the citizens with long-term or short-term benefits to give away their privacy rights. Further, researches have also depicted that social norms have a huge impact on the consumer behaviour.<sup>22</sup> Even the greater part of the launch of digital currency also involves the extent to which the private players i.e., the internet companies would play in it. If a multinational company is providing an app for using the digital currency, the consumers are more likely to opt for privacy preserving cash in return. A survey results of a research showed that citizens in Germany and Europe are ok with the feedback for monthly

<sup>22</sup> Guido Mehlkop, Robert Neumann & Hagen von Hermanni, Privacy and the acceptance of Centralized Digital Currencies in the U.S, India and Germany, *Sci Rep* 13, 8772 (2023). <https://doi.org/10.1038/s41598-023-35905-y>

purchases being sent to their home address and don't consider it as a breach of their privacy.<sup>23</sup>

## CONCLUSION AND WAY FORWARD

Thus, the Central Bank digital currency is viewed as a big opportunity in expanding the digital landscape and furthering the goal of Digital India. Its potential benefits and interoperable character are something that makes it unique in every sense. The minimum dependence on cash and reduction in the cost of arranging, printing and transporting it can be said to be a benchmark in India's history. The implementation of digital currency has already started since December, 2022 in phases in both the Wholesale as well as the retail currency. It is yet to be seen how consumer adaptability leads to efficiency and safety in transactions.

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23 Ibid