

LEGAL CHALLENGES IN ADOPTING CENTRAL BANK DIGITAL CURRENCY: A CASE STUDY OF AN EMERGING NATION INDIA

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Abstract

By incorporating digital technologies into monetary systems, Central Bank Digital Currencies (CBDCs) are upending conventional banking paradigms and revolutionising global finance. This present study offers a thorough examination of CBDCs, examining their legal intricacies, historical background, and potential effects on financial ecosystems in the future. As central banks work to update the financial system and tackle new issues, CBDCs are becoming more popular. Potential advantages include increased financial inclusion, quicker international transactions, and better regulatory oversight of financial operations. CBDCs use blockchain technology to guarantee transaction security, transparency, and efficiency. This research synthesises different perspectives on CBDCs, highlighting opportunities and legal problems, through an extensive examination of the literature. It highlights how important it is to set up strong legal frameworks that control the issuing and functioning of CBDCs and handle issues with data security, privacy, and anti-money laundering (AML). The study explores the policy ramifications of the implementation of CBDCs, looking at how it affects financial stability, liquidity management, and monetary policy. It emphasises the significance of implementing the CBDC cautiously and supports incremental development, thorough testing, and review. Documentary study from developing nations such as India shed light on the particular difficulties and opportunities associated with the adoption of CBDCs. The study provides a roadmap for the implementation of the CBDC, highlighting the need for continued research and cooperation with global stakeholders to guarantee a seamless transition.

Keywords: CBDC, Legal, Central Bank Digital Currency, AML, Cryptocurrency

JEL classification: E42, E51, E58, F31, G21, G28, L50, O32

INTRODUCTION

The advent of Central Bank Digital Currencies (CBDCs) is a transformational force in the ever-changing world of global finance, redefining the fundamentals of banking and money. As digital technologies persist in transforming conventional economic frameworks, central banks across the globe are considering the implementation of CBDCs as a progressive measure in the modernization of financial institutions.

This review paper explores the complex world of CBDCs, examining their history, their legal ramifications, and the complex dynamics they bring to the future of banking and monetary policy. The concept of a centrally issued digital currency, or CBDC for short, has become increasingly popular in the last several years. In addition to upending preconceived ideas about money, the emergence of cryptocurrencies like Bitcoin has forced central banks to reconsider how they see and handle money in the digital era. In light of this, central banks are investigating the viability, advantages, and dangers of launching their own virtual currencies. This investigation is driven by a variety of factors. In an increasingly digital environment, CBDCs are envisioned as a tool to improve financial inclusion, expedite cross-border transactions, and offer a safe and effective medium of exchange. Moreover, central banks are evaluating CBDCs as a tool for enhancing regulatory control because to their potential to reduce problems

including tax evasion, money laundering, and counterfeiting. It is essential to untangle the complex webs that run through the conceptualization of CBDCs as we begin this investigation. This involves being aware of the underlying technologies that could support CBDCs, such as distributed ledger technology or blockchain. Examining the possible effects of CBDCs on monetary policy instruments, the conventional banking industry, and the larger financial ecosystem is also vital for understanding how these virtual currencies can change the world.

BACKGROUND OF THE STUDY

The advent of Central Bank Digital Currencies (CBDCs) is bringing about a revolutionary change in the financial and monetary systems. Central banks have historically been tasked with maintaining the stability, issue, and circulation of national currencies. But the emergence of cryptocurrencies, spearheaded by Bitcoin, and the development of blockchain technology have forced central banks all over the world to consider the possibility of creating their own virtual money.

The idea of CBDCs is a combination of cutting-edge technologies and conventional monetary systems. CBDCs offer a digital equivalent of real cash because they are issued and controlled by central authority, in contrast to cryptocurrencies. Numerous causes, such as the growing need for effective, safe, and easily accessible payment systems and the necessity of addressing the issues presented by the evolving financial landscape, are driving this trend towards digitalization.

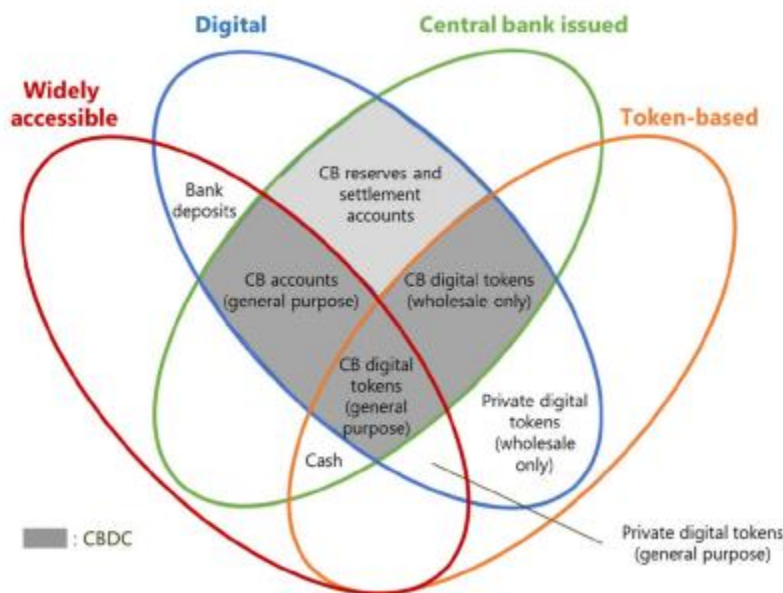


Fig: Taxonomy of Money

Central banks are investigating how CBDCs might improve the effectiveness and inclusivity of financial systems as digital payments and internet transactions grow in popularity. Faster and less expensive cross-border transactions, a decreased need on middlemen, and improved financial inclusion through giving the unbanked and underbanked populations access to digital financial services are some of the possible advantages. Blockchain or distributed ledger technology, which guarantees transaction security, traceability, and transparency, frequently forms the foundation of the technical infrastructure supporting CBDCs.

This is a paradigm change from traditional banking systems and raises concerns about the influence on the banking industry as a whole, the role of intermediaries, and the privacy implications of transactions involving digital money. Adoption of CBDCs is not without difficulties and worries, though. Careful thought must be given to concerns about security, privacy, legal frameworks, and possible upheavals to current financial institutions. The presence of decentralised and centralised digital currencies with CBDCs further complicates the rapidly changing environment.

The goal of this study is to provide important insights into the revolutionary journey of central bank digital currencies and their effects on the financial ecosystem by looking at the experiences of nations that have started CBDC programmes and analysing the global discourse on the topic. It is imperative that regulators, financial institutions, and the general public comprehend the significance and potential of CBDCs as the financial sector navigates this digital frontier.

LITERATURE REVIEW

Muñoz & Soons (2024), depicted using Diamond and Dybvig model that holding cash increases at the time of high economic uncertainty time with evidence from bank stability. The study reveals that a rise in relative maturity transformation balances out the partial bank disintermediation caused by the establishment of a central bank digital currency (CBDC) as a store of value,

which also reduces the cost of storing public funds. The study also found that population as a whole will experience varying welfare effects from this. Although cash holders always gain from moving to CBDC, the benefit to each and every other customer may vary based on the likelihood of a bank run, everyone else's perception of that likelihood, and the level of technological superiority of CBDC.

Priyadarshini & Kar (2021) made an attempt to understand the opportunities and challenges arising from the adoption of CBDCs specifically in Indian context. The study gained attention towards three categories to categorise the conceptual concerns: issues pertaining to monetary sovereignty, issues regarding national sovereignty, and issues pertaining to development. With keeping in mind quick digitalisation, the above three categories are examined in Indian context.

Nabilou (2019) had investigated the CBDC from a legal perspective and legal challenges of introducing CBDC in the euro area. The present study studied the future impact of issuing CBDC by the European Central Bank (ECB) specifically on the banking, financial stability, efficient allocation of resources (i.e., credit) and on the conduct of monetary policy. The study results that CBDC issue by the European Central Bank would results in facing legal challenges are shed a light that it must be resolved before introduction at euro area level which may prove to be arduous task.

Babu & Abraham (2021) examined a background of CBDCs and depicted the number of policy and operational aspects that should be consider by an Indian CBDC launch. The study revels that the last decade saw significant cryptocurrency innovations, prompting global interest in Central Bank Digital Currencies (CBDCs) and India, while leaning towards CBDCs, has not disclosed rollout plans. It's difficult for India to establish a robust process tailored to its unique characteristics. A well-designed CBDC could drive innovations toward the vision of Digital India.

Kasana&Singh (2024) had discussed considered design for execution of CBDC by the central bank of India. The study shed a light that CBDC will results a revolutionary change in financial ecosystem and discussed the potential advantages of introduction of CBDC such as: lower transaction cost, financial inclusion, enhanced monetary policy, MSM (Money Supply Management) and lower counterfeiting. The study suggests that against the advantages of GOI should also need to assess the issues like; security, technology advancement needs, legal and regulatory framework, risk management at operational level, and acceptance of public for effective execution of CBDC in India.

Tripathi et al. (2022) discussed the emergence of Central Bank Digital Currency (CBDC) and also understands the adoption measures results in developing Economy like India considering the historical references. Based on various documentary evidence and research technologies had found magnitude of virtual currency. The study Talks about investing prospects in the cryptocurrency market are common on social media sites, which has sparked discussions about possible regulation for financial gain. A committee that is working on building digital currencies is debating a number of possibilities, including whether to use Asynchronous Byzantine Fault Tolerance (ABFT), which is a blockchain or hash graph, and which Proof of Work (POW) or Proof of Stake (POS) framework to use.

OBJECTIVES OF THE STUDY

- ❖ To evaluate the legal and regulatory frameworks that are in place and developing that control the creation, transfer, and usage of digital currencies issued by central banks.
- ❖ To investigate Policy Ramifications of introduction of CBDC and Privacy and Data Protection Factors related to CBDC.
- ❖ To understand the Anti-Money Laundering/ Combating the Financing of Terrorism (AML/CFT) Standpoint considering Central Bank Digital Currency (CBDC).
- ❖ To assess the technology infrastructure needed to put CBDCs into practice while putting a focus on security concerns and precautions against online attacks.

POLICY RAMIFICATIONS OF CBDC INTRODUCTION

1. CBDC effects on monetary policy frameworks and operations:

- The mechanism of monetary policy is not fundamentally altered by Central Bank Digital Currency (CBDC); rather, it can help ensure that monetary policy is transmitted in a timely manner.
- The design and application of CBDC, including choices on payment, accessibility, and anonymity, will determine its implications for monetary policy.
- In times of economic instability, non-remunerated CBDC may be viewed as a safer alternative to bank deposits, which could hasten bank runs and reduce the effectiveness of monetary policy. However, in normal times, non-remunerated CBDC may not have a substantial impact on monetary policy.
- By immediately communicating policy actions to economic agents, interest-bearing CBDCs could improve the effectiveness of monetary policy. However, they may also cause bank deposit outflows, which would require proactive liquidity injections. Because of its slow uptake thus far, the effect of CBDC on monetary policy is still mostly unpredictable and speculative.

2. CBDC effects for Liquidity Management:

- Similar to physical money, CBDC affects the central bank's ability to plan and carry out discretionary liquidity actions by acting as an independent source of liquidity for the entire system.
- Similar to actual cash, rising demand for CBDC indicates a deposit leak from the banking sector, which may change how the public holds both digital and physical deposits and money.
- Since most central banks are still investigating CBDC issuance, it is impossible to predict the exact magnitude of this shift.
- By replacing commercial bank deposits, compensated CBDC might have a substantial impact on the money supply, reserve money, and net demand and time liabilities (NDTL) of banks. As a result of financial disintermediation, this could result in a greater reliance on central bank liquidity provisions and an enlarged central bank balance sheet.
- Financial intermediation and monetary policy disruptions might be lessened by an unpaired CBDC.
- To address the issue of financial disintermediation, interest-bearing CBDC would necessitate a comprehensive examination of monetary policy operating frameworks, including choices for CBDC interest rates.

Table: Effects of CBDC on Monetary Variables:

Impact on	Non-remunerated CBDCs	Remunerated CBDCs
Reserve Money	Yes/No	Yes
Money Supply	No	Yes
Velocity	No	Yes
Money Multiplier	Yes/No	Yes
Liquidity Conditions/LAF	Yes/No	Yes
Monetary Policy (Repo Rate)	No	Yes

3. CBDC effects for Financial Stability:

- "Do no harm" is the first of three guiding principles that BIS has set for evaluating the issuing of Central Bank Digital Currency (CBDC). This principle highlights that CBDC should serve public policy goals and strengthen a central bank's capacity to uphold monetary and financial stability, even though it shouldn't have any effect at all.
- While CBDC can improve the resilience and functioning of the financial system, it may also have an impact on current financial market structures and business models, which could pose dangers to financial stability, especially through the disintermediation of banks. This is acknowledged by the "do no harm" concept.
- The design and implementation framework of CBDC will determine its potential demand, which is not yet known. Limits on CBDC holdings and transactions are necessary because of worries that it could hasten bank runs during financial crises and cause financial disintermediation.
- Central banks are investigating measures, such as user access restrictions, transactions and holdings caps, and compensation options, to mitigate the risks to financial stability posed by CBDC.
- Research indicates that CBDC may have an effect on bank lending and profitability. Banks may experience upward pressure on maturity transformation and liquidity risk from less reliable funding sources if they rely more on the market for funding in response to CBDC, or downward pressure if market discipline increases. Moreover, heightened market-based funding volatility may intensify the pro-cyclical nature of bank lending.

4. Legal Effects of CBDC:

- A thorough legal framework is necessary to establish the central bank's jurisdiction over Central Bank Digital Currency (CBDC) and to establish its legal standing. It's critical to evaluate if legislation reform is required to permit CBDC

issuance by the central bank, since the legal frameworks that already exist were founded before the advent of digital technology.

- **Operational and Technological Design:** The operational and technological design of a CBDC determines its legal implications upon issuance. Account-based CBDCs are perceived as digital representations of current balances rather than as a new form of money since they resemble current forms of money kept in accounts. On the other hand, token-based CBDCs constitute a novel kind of currency in which the liability of the central bank is incorporated into the token itself.
- **Central Bank Powers:** The majority of central banks are able to issue money because of rules that control the issuing of coins, banknotes, book money, and bills. Central banks may need more authority to issue money than just banknotes and coins if they decide to use token-based CBDCs. Similarly, legal changes would be required to allow central banks to open public accounts in the event that CBDCs be issued in the form of accounts. Implications for the payment system Token-based CBDC issuance would establish a separate payment mechanism. The effects of CBDC issuing on payment system rules would need to be taken into account if central banks' ability to operate as payment systems is limited to interbank networks.
- **Monetary Law Amendments:** To address issues including the right of CBDC issuance, legal tender status, and protection against counterfeiting, monetary law amendments are required in addition to central bank laws. These adjustments would be reproduced in accordance with the common overlap with regulations pertaining to central banks.
- **India's situation:** A new legislative framework was necessary when the Reserve Bank of India introduced CBDC. The Reserve Bank of India Act, 1934, gives the bank the authority to control the issuance of reserves and banknotes in order to sustain monetary stability and run the credit and currency systems. In order to ensure relevance to CBDC issuance, the RBI Act was amended to include digital currency in the definition of "bank note."

In conclusion, in order to provide a clear legal foundation for CBDC issuance and operation, issuing CBDCs requires a careful review of current legal frameworks, possible revisions, and the drafting of new legislation. This entails defining legal tender status, defining the authority of central banks, and discussing the effects on payment systems and monetary stability.

Table: Summary of Policy Ramifications of CBDC Introduction

Effects of CBDC on Monetary Policy	Effects of CBDC on Liquidity Management	Effects of CBDC on Financial Stability	Legal Effects of CBDC
CBDC doesn't fundamentally alter monetary policy; it ensures timely transmission	CBDC acts as an independent source of liquidity, impacting planning and execution of liquidity actions	"Do no harm" principle emphasizes CBDC should support public policy goals	Legal framework clarifies central bank's mandate to issue CBDC
CBDC's design determines its impact on policy	Rising CBDC demand indicates deposit leakage, affecting how the public holds money	CBDC may affect financial market structures and business models	Operational and technological design affects legal implications
Nonremunerated CBDC might be seen as a safer alternative during instability	Compensated CBDC could impact money supply and bank liquidity	CBDC may hasten bank runs and disintermediate banks	Central bank powers may need expansion for CBDC issuance
Interest bearing CBDCs could improve policy effectiveness	Uncompensated CBDCs may lessen financial intermediation disruptions	Limits on CBDC holdings and transactions mitigate risks	Monetary law amendments are necessary for CBDC implementation
CBDC's overall effect on monetary policy remains uncertain	CBDC issuance requires careful consideration of liquidity effects	Measures like access restrictions and caps mitigate financial stability risks	India's case required amendments to the RBI Act for CBDC introduction

CENTRAL BANK DIGITAL CURRENCY (CBDC): ANTIMONEY LAUNDERING/ COMBATING THE FINANCING OF TERRORISM (AML/CFT) STANDPOINT

Central banks are expected to make sure that CBDCs abide by the antimoney laundering and countering the funding of terrorism regulations in terms of AML/CFT. In order to comply with AML and CFT rules, a CBDC payment system must validate user

identities across the whole CBDC network.

Accountability for AML/CFT Compliance:

- Commercial banks may assume AML accountability in their capacity as Payment Interface Providers. They would do out inspections and guarantee adherence to AML/CFT regulations.
- By using the CBDC system, the central bank would still be able to meet AML regulations while avoiding the holding of specific user data and lowering privacy issues.

Important Element of CBDC AML/CFT Compliance:

- A clear distinction in the framework on who bears final responsibility for Customer Due Diligence (or CDD).
- Incorporating systems, such to cash transaction thresholds, into CBDC design for transaction identification and monitoring in order to preserve the integrity of the financial sector.

PRIVACY AND DATA PROTECTION FACTORS

- Designing CBDCs with privacy and data protection in mind is essential. This is due to the fact that CBDC systems need the gathering and processing of personal data, which needs to be done so carefully in order to preserve people's right to privacy.
- AntiMoney Laundering (AML) standards must be followed by CBDCs, but it's important to strike a balance between these obligations and preserving user privacy and data security.
- Because of AML regulations, CBDCs might not be able to grant consumers total anonymity during transactions, but they can still give them some privacy and control over their personal information. Systems for CBDCs, for instance, can be made to let users decide when and to whom their transaction data is accessible.
- As more central banks explore the possibility of issuing CBDCs, it is crucial to address privacy concerns. It is imperative for policymakers and regulatory bodies to guarantee that CBDC systems are formulated and executed in a manner that upholds users' privacy rights and complies with legal mandates.
- There is a trend towards stricter data protection laws throughout the world. These laws are designed to protect people's personal information and make sure that it is gathered, handled, and kept in a transparent and safe manner.
- Despite the lack of a formal data protection law in India, the Supreme Court's 2017 ruling that recognised privacy as a fundamental right has important ramifications. This acknowledgment highlights how crucial it is to safeguard people's right to privacy, especially when it comes to CBDCs.

FUTURE OUTLOOK

RBI has been researching the possible advantages and difficulties of putting CBDCs into practice in great detail. Owing to the many strong arguments for their introduction, RBI is implementing them with caution and methodicalness. To avoid as much interruption as possible, this calls for thorough analysis of various use scenarios.

The phased implementation plan consists of the following crucial steps:

1. **Prototype development:** The process of developing a prototype involves following the Working Group's recommendations and specifying the technical specifications needed from technology partners.
2. **Testing:** Testing is the process of evaluating a product's functionality, robustness, and performance in various circumstances in a controlled setting. To guarantee robustness, both positive and negative test cases are included.
3. **Evaluation:** Concluding the prototype's design and making any necessary modifications by analysing test data.
4. **Pilot Programmes:** Carrying out extensive trials including a heterogeneous user population, comprising people from various socioeconomic backgrounds, varying degrees of literacy, geographic locations, genders, and age ranges. This will offer insightful information on possible use cases and user behaviour in a multicultural nation like India.

The implementation of the CBDC has benefited greatly from the recommendations made by internal committees regarding design elements, technological platforms, and policy ramifications. RBI also keeps a close eye on developments related to CBDC around the world and actively participates in international debates and working groups.

In the future, RBI plans to carry out more research on CBDC by:

1. **Using Online Resources:** Making use of online channels to obtain and disseminate CBDC research that is accessible to the public.
2. **Collaborating Internationally:** Taking part in international gatherings, conversations, and alliances with institutions like the World Economic Forum, IMF, and BIS.
3. **Developing Bilateral Relationships:** Connecting with CBDC research teams throughout the globe in order to share insights and information.
4. **Including Stakeholders:** Including technology companies and academics in continuing talks and research projects.

By taking this course of action, RBI hopes to guarantee a seamless and informed shift towards the introduction of CBDCs in India.

CONCLUSION

To sum up, Central Bank Digital Currencies, or CBDCs, are at the vanguard of a revolution in the financial sector. The complexity of CBDCs has been explored throughout this research journey, from their background in history to their potential future effects. The advent of CBDCs signifies a noteworthy paradigm change, propelled by the amalgamation of digital technology and the dynamic requirements of the financial industry. As central banks across the globe investigate the potential of implementing CBDCs, it is clear that these virtual currencies have enormous potential to transform financial institutions, improve financial inclusion, and expedite crossborder transactions.

The road to CBDC acceptance is not without difficulties, though. The special characteristics of CBDCs require a thorough assessment and updating of the legal and regulatory frameworks. To guarantee a smooth transition, policy implications, liquidity management issues, and financial stability threats must all be carefully considered.

Furthermore, CBDCs bring up significant issues with data security and privacy. Building confidence and trust in CBDC systems requires striking a balance between the need to protect user privacy rights and the requirement to comply with antimoney laundering (AML) rules.

It is critical that central banks go forward cautiously, led by careful preparation and careful study. In order to successfully navigate the challenges of CBDC implementation, cooperative efforts with international organisations and stakeholders will be necessary. Being flexible and forward thinking is essential as the Reserve Bank of India (RBI) and other central banks set out on the path towards CBDCs. The global financial landscape can be significantly shaped by CBDCs in the future if central banks embrace technical improvements, address regulatory issues, and prioritise user privacy.

Essentially, the move towards CBDCs is a revolutionary step towards a financial environment that is more secure, effective, and inclusive. CBDCs have the power to completely change how we view and interact with money in the digital age with proper preparation and teamwork.

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