Aspects of Indian Retail Digital Currency

Rajat Deb

Abstract
The Reserve Bank of India (RBI), on 1st December 2022, through a pilot project, launched retail central bank digital currency (CBDC) (₹) with ₹1.71 crores with four participating banks in four cities. The RBI created around 1.5 million users in the project before its more comprehensive application. The CBDC may form in either token or account types, and the RBI for ₹ prefers the token. Tokenisation can be physical and digital, and its trading is possible in full and fractionally. For smooth implementation of retail digital currency (DC), the RBI Act was amended incorporating DC as a legal tender at par with currency notes and coins as a legal tender. Although the pilot project reports a successful launch and the RBI made it compatible with quick response (QR) codes, Indians’ cash preference remains. Against this backdrop, the present study assesses the relative merit of in the CBDC retail scenario. The study concludes that DC retail could substantially transition the Indian financial market if the RBI and government could counter the fundamental challenges associated with its success, such as the provision of working without internet connectivity.

Keywords
RBI, cryptocurrency, CBDC, ₹, cash

Introduction
Global economies have witnessed significant financial innovation because of the broader use of cryptocurrencies and blockchain technology. With the introduction

1 Department of Commerce, Tripura University, Suryamaninagar, Tripura, India

Corresponding Author:
Rajat Deb, Department of Commerce, Tripura University, Suryamaninagar, Tripura 799 022, India.
E-mail: debraja3@gmail.com

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of Bitcoin (BTC) in 2009, the presence of cryptocurrencies is evident in various spheres of society, the business world, security market transactions and even in private and public profit-motive or non-profit motive organisations. The financial history of digital currency (DC) suggests the International Monetary Fund proposes to offer the Central Bank Digital Currencies (CBDC) a legal tender at par with physical currency notes. The DC transactions get momentum in volume and value after popular DCs, such as BTC and Diem are widely accepted by many countries, influencing financial systems and market capitalisation globally. Penetration of different cryptocurrencies such as Libra, Litecoin, Tether and Ethereum substantially increased their use globally, but challenges and controversies exist. The central banks, realising the distinct possibility of rapid growth of the cryptocurrencies, engaged in developing their own DCs, are usually called CBDCs. The blockchain technology-enabled CBDC ensures intermediary-free user-to-user digital transactions (Morgan, 2022). Experience suggests cryptocurrencies offer money transfers and settlement of transactions on a real-time basis, but most are unregulated, posing threats to their long-term sustainability. Research suggests CBDC could accelerate short-term investments, albeit priority-based investments substantially increase (Kou et al., 2021). Again, news and events about CBDCs significantly impact BTC returns (Akin et al., 2023) and its market (Mzoughi et al., 2022). The theory posits three functions of a traditional paper currency—a unit of account, medium of exchange and store value. However, cryptocurrency is unlikely to match the second and third functions due to its wider use as a speculative asset. Again, the nature of cryptocurrency significantly differs from established public finance theories like the credit theory of money (Mitchell-Innes, 1913) and the value derivation mechanism from issuance by the governments (Knapp, 1905). The Indian money market regulator RBI consistently vigil the facets of global cryptocurrencies and plans to launch the CBDC. On 1st December 2022, it launched the wholesale DC (e-wallet W) and, a month later, the retail DC (₹) to offer almost similar benefits of cryptocurrencies but in a legal, secured and regulated manner.

The saga of cryptocurrencies is long. A critical analysis of cryptocurrencies and other traditional financial market instruments distinguishes themselves regarding capping in transaction quantities and regulation. Cryptocurrencies have been primarily unregulated in the last few years, raising doubts about their use as a common medium of exchange in preference to paper currencies. Controversies evolve primarily due to almost lean or no control in its supply side with a simultaneous exorbitant rate of yields (Bibi, 2023). Academic research indicates multiple flip sides of cryptocurrencies, ranging from opaqueness, lack of liquidity, inefficiency and inherent risks (Le Tran & Leirvik, 2020). Assessing the potential adverse consequences, particularly in their financial markets and the economy in general, the central banks worldwide attempt to regulate cryptocurrencies differently, such as amending tax and other economic legislations and even designing their unique CBDCs. Following its peers, the RBI launched the wholesale ₹ on 1st November 2022 and the retail ₹ in a pilot project a month later. In its first phase with ₹1.71 crores, it launched the ₹ through four commercial banks, viz., the State Bank of India (SBI), ICICI Bank, YES Bank and IDFC First
Bank, in four cities, that is, New Delhi, Mumbai, Bengaluru and Bhubaneswar. Four more banks—Bank of Baroda, Union Bank of India, HDFC Bank and Kotak Mahindra Bank—were included, and operations in nine cities were added in the subsequent phase. Considering the success of the ₹, during the G-20 Summit held on 9th and 10th September 2023, the RBI announced its target to reach 1 million daily transactions by the end of December 2023. The RBI visualises that with the targeted volume, it could assess the behaviours and expectations of the customers, expectation gap, implementation challenges and subsequent changes in the design and security features of the ₹. Although the vision of the RBI is commendable, prolonged ongoing communal violence and consequent ban on mobile and broadband internet services in the northeastern state of Manipur since early May 2023 probably imposes a challenge for the success of ₹ across the country. The internet ban, in contrast, clearly leads to a higher cash preference.

The qualitative study attempts to assess the potential of retail DC through the prism of its expected advantages and flipflops in replicating its wider success.

The picturing of the CBDCs is given in the second section, the status of India’s DC is given in the third section, the user’s concerns are discussed in the fourth section, India’s cash preference posing a challenge for ₹ is given in the fifth section, strategies of managing the challenges of ₹ are given in the sixth section, and finally, the seventh section presents the conclusion of the study and places the various issues in perspective.

**Picturing CBDC**

The literature reports exciting facts about CBDCs—their uniqueness, benefits and challenges. Research documents the benefits of cost saving as incurred in printing currency notes, expansion of monetary policy and providing guarantee people as a legal tender (Auer et al., 2020), improved lending and avoiding the risk of bank runs (Fernández-Villaverde et al., 2020), promoting financial inclusion, improving transaction efficiency and improving security by countering cyber frauds and reducing cross-border cash transactions. The role of CBDCs is commendable in controlling hyperinflation, curbing counterfeit currency notes, effective implementation of monetary policy, helping central banks in accounting for money supply, velocity and multiplier and achieving other monetary policy objectives. CBDCs are unlikely to compete with decentralised cryptocurrencies and instead provide versatility (Scharnowski, 2022). The large-scale popularity of the CBDC emanates due to its inherent benefits of anonymity in transactions completed without internet connectivity through e-W. Fractionalisation and affordability are other unique features as CBDCs allow fractional division of assets and livestock (Lee et al., 2021). Tokenisation further assists in tracking different reported and even unreported transactions, which eventually formalise these. The controversies surrounding cryptocurrencies, like exorbitant yields, as indicated by stalwarts like Warren Buffett referring to those like speculative bubbles, and those observations could primarily motivate central banks to launch their CBDCs (Patterson, 2018). Research motivates to assess the developments in banking and monetary policy.
due to the expansion of cryptocurrencies and CBDCs considering post-Keynesian monetary theory (Cesaratto & Febrero, 2022).

The flip sides of the CBDCs are no longer uncommon, and studies document challenges of its broader adoption arising from the legal, social, technological and ethical perspectives. Research concludes that CBDCs could lead to higher liquidity requirements. This is likely to crowd out bank deposits with consequent reduced investments and increased cost of funding (Parlour et al., 2020). CBDCs could catalyse the introduction of derivative instruments, further leading to uncertainty due to its spread of transactions with high volumes. Although the law regarding compensating the gullible depositors of cyber fraud exists across countries, the provision for CBDCs requires significant changes in the legal framework. Bottleneck arises due to effective operations of CBDCs and supervision. Authors cautioned against the ill effects of CBDC, which could trigger a run of bank savings, causing panic and uncertainty in the economy and may have adverse consequences on international investments and transactions (Tong & Jiayou, 2021). The third group of researchers report a neutral impact of CBDCs’ credit provision and hedging bank risk. The monetary policy will likely interchangeably adjust the impact of public and private monies.

**Indian Digital Currency**

CBDCs globally issue account types and tokens, and the RBI prefers the latter. As the name suggests, the account type CBDC is like a demand deposit account of the holder having a linkage to CBDC. Token form of CBDCs is like a cash or gift voucher commonly used in transactions embedded with relevant information with access to value to the owner. Tokens are programmability of cryptocurrencies which, apart from holding and transferring funds, can create new cryptocurrencies and could be traded digital and physical assets fully or fractionally. Tokens have multiple features, as evident from simultaneous events during transactions updating the parties involved, token state and confirmation. This unique simultaneous event reduces the settlement risks substantially, and the outcome of each token transaction remains unchanged and is reportable in real-time. Besides, those tokens do not have a homogenous small unit liability component; cryptocurrency-based technology assures the parties’ anonymity. Although the process of issuing CBDCs could be in the two forms mentioned earlier, the research indicates significant distinctions between those. The token-based CBDC is blockchain-based and easily transferrable, like digital assets through transactions. However, the account type of CBDC is not a digital asset; instead, it shows the outstanding balance of the holder, just like a bank account. Another distinguishable feature of the token is exchangeability against other cryptocurrencies or fiat currencies, which is absent for the account-type CBDC. So far, the validation process is concerned; the RBI adopts a hybrid approach, that is, for the e-W, it prefers the account-based CBDC, and for the ₹, the retail-based. The RBI preferred the token form of CBDC over account type for those inherent benefits, like its symmetry to physical currency notes (Haque & Shoaib, 2023). However, ₹ cannot be akin to any cryptocurrency.
The purpose of creating wholesale and retail CBDC differs as the former supports and settles inter-bank transactions between banks and financial institutions. However, the latter aims to serve as an alternate physical currency as a medium of exchange in retail transactions. Studies show that CBDC launched in any of the following three ways: Model FI, where only financial institutions have access to DC; Model EW, where the individuals may directly access DC; and Model FI+, a combination of the first two models (Kumhof & Noone, 2018). The RBI declares that it digitally issued currencies to banks, and based on user requests, the participating banks would credit DC to their accounts for subsequent smooth ₹ transactions. To execute ₹ transactions, users must access the digital rupee wallet downloadable on Android operating system-enabled smartphones, and, like other e-payments, they can make payments by scanning the unique quick response (QR) code accessible at different points of sale. In its concept note issued in October 2022, the RBI considered the security concerns and smooth data updating and preferred a centrally controlled conventional database infrastructure over distributed ledger technology.

**User’s Concerns**

The technology acceptance model posits acceptance of any individual technology, as coined by Davis (1986) and subsequently enlarged by researchers proposing new theories (Venkatesh & Davis, 2000). Different factors significantly influence technology adoption, but resistance is not uncommon. The literature indicates that BTC, a pioneer cryptocurrency designed in a peer-to-peer (P2P) cash system model, was highly volatile and referred to as an investment (Bedi & Nashier, 2020). Cryptocurrencies have inherent limitations, such as easy cash conversion in the event of stealing, which could adversely impact the volatility (Mai et al., 2018). Research further indicates relevant issues concerning protecting users’ privacy and anonymity, accounting and taxation, high protection costs, money laundering, terror financing and impacts on the global financial system (see Elsayed & Nasir, 2022; Kaplan, 2021). However, studies also report that in a decentralised cryptocurrency-based monetary system, the market should automatically reach the equilibrium point without interference from the central bank (Crandall, 2019). Although CBDCs are unlikely to be exposed to the risk of bank robbery and counterfeiting problems like physical currencies, the threat of cyberattacks persists. Apart from these dimensions, concerns remain in monitoring and governing aspects and legislation issues related to taxation, anti-money laundering (AML) and anti-terrorism. Although RBI prefers the transparent conventional database infrastructure for ₹, the risk of cyberattacks remains an issue of the users’ concern.

The CBDCs evolved based on experience learnt globally from the cryptocurrencies, but experts caution that the challenges will likely evolve with its large-scale usage. Research indicates the probable interoperability problems in the financial system due to excessive conversion of physical currencies to CBDCs, which may trigger fund crises for commercial banks in financing development.
projects and destabilise the financial system (Yamaoka, 2022). Research also concludes that such experience with retail CBDCs (Bindseil, 2019) and central banks could enjoy monopolistic power, which may lead to bank runs (Sinelnikova-Muryleva, 2020). However, India is unlikely to witness this phenomenon due to its sound financial system. Critics of cryptocurrencies argue that these reach that equilibrium point through the law of demand and supply. Excessive volatility and lack of regulation could adversely impact the economies. The CBDCs could address those concerns as the central banks issue and closely monitor those but are likely to hamper price stability (Elsayed & Nasir, 2022). The CBDCs could verify the potential buyers’ details record, and monitor transactions. However, privacy and anonymity concerns are prominent grey areas for the CBDCs due to the lack of generally accepted underlying technology and loopholes in the existing blockchain-based technology. Consequences of privacy and anonymity risks could have wider ramifications in the social and national arena, may trigger biased credit decisions and could misuse the leaked data with ill motives (Jabbar et al., 2023).

Research suggests that lessons learnt from cryptocurrencies improve the designing of CBDCs, but unaddressed questions still need to be answered regarding the regulation of property rights, accounting and taxation (Goodell & Shen, 2021). Regulations of CBDCs concerning transaction verifications and control vary worldwide, enhancing vulnerability. However, cryptocurrency-related pitfalls, for example, high volatility and speculative nature, decentralised DC, money laundering and terror financing and probable tax evasion (Alsalimi et al., 2023), are unlikely to arise in the ₨ era. The concerns regarding bank runs are unlikely to arise in India; instead, the domestic currency-denominated CBDCs could complement bank deposits, as research affirms (Goodell & Shen, 2021). The literature concurs that the increasing cost of regulatory compliance catalyses financial sectors to adopt regulatory technology (RegTech) (Butler & O’Brien, 2019). Moreover, post-global financial crisis era banks focus more on transparency and close monitoring of transactions. The Basel-III requirements indicate that banks should comply with AML and counter-financing of terrorism (CFT) regulations. Banks adopt uniform strategies to detect the perpetrators of AML and CFT and prefer stringent rule-based systems, but those strategies are not flawless (Han et al., 2020). Again, recognising the drawbacks of the rule-based system, banks widely prefer artificial intelligence (AI) technologies to minimise human errors (Aziz & Dowling, 2019), but solving those problems requires more comprehensive experience.

Interestingly, regulating AML/CFT against the backdrop of the launching of e-W and ₨ is likely to be a difficult task as RBI lacks such rules. The RBI, as a regulator, is required to verify users’ identities, complying with provisions of Section 35A of the Banking Regulation Act, 1949, and Rule 9(14) of the Prevention of Money Laundering (Maintenance of Records) Rules, 2005 (PMLA). However, quashing RBI’s impugned circular by the Supreme Court debarring the mobile operators from virtual currency transactions on the grounds of proportionality exposes its limited regulating power. Although RBI subsequently issued guidelines for banks and financial institutions dealing with DCs to follow the provisions
of existing acts, controversy remains evident from the infamous WazirX story. Consequently, the RBI should extensively study the development to prevent its recurrence concerning implementing DCs. Again, successful implementation of ₹ primarily depends on robust and real-time solutions to problems pertinent to risk aversion, anonymity and data protection, vulnerability testing, high cost of firewall protection, lower user adoption and building mechanisms of internet-free operation. To address most of these problems, chalk out plans with adequate financial support, mass awareness and law amendments are inevitable. However, India’s infamous history of mobile internet suspensions due to law-and-order issues requires an immediate revisit. Doubt regarding operational modalities likely has its solution in framing rules and guidelines for smoothly implementing them. Regarding settling small-value transactions, specific guidelines are needed; consequently, the successful ₹ would likely achieve the financial inclusion objective.

Reverting to the issue of frequent and prolonged mobile internet suspension due to law-and-order issues, as evident in Kashmir and other parts of India and five months long in Manipur, since 3rd May 2023, mar the success potentiality of ₹, whenever it will be operational nationwide. Frequent internet ban hampers in the growth of digital transactions, and ₹ would unlikely be safe. The research concludes that the winding up of small business firms that predominantly access mobile connectivity in Kashmir is due to the prolonged internet ban (Qadir & Dar, 2021). Data suggest the adverse impact on the economy due to internet suspension in Kashmir from 2012 to 2017 for 680 days was around USD 3.04 million (Rydzak, 2019). Media news of communal violence in Manipur since 3rd May 2023 and the subsequent internet ban galvanises the country, where citizens of the state suffer physically, mentally and economically. The suspension of mobile internet completely ceases digital transactions with a simultaneous unprecedented surge in cash preference. Furthermore, in the second phase of ₹ implementation in nine cities, including Guwahati, the capital of Assam, a neighbouring state of Manipur, but the people of Imphal, Manipur’s capital, were unlikely to use ₹ if that city was in the second phase due to the ban on internet services. This phenomenon raises serious doubts about the sustainability of the ₹. The ban on mobile internet services and cash preference are inversely correlated, posing a serious concern regarding the success of ₹ in the affected parts of the country post-pan-India implementation. Data document that Indians reduced consumption during the Covid-19 pandemic, but the cash economy reports a substantial surge (Mohan, 2022). In view thereof, the RBI should evolve a mechanism to run ₹ without internet connectivity. Otherwise, its moot objective of the digital economy through ₹ in preference to the cash economy will be a reverie and unlikely to be achievable soon.

**Cash Preference: A Challenge for ₹**

The central banks design monetary policy considering the public finance theories, and the RBI is no exception. The RBI considers global economic trends
and socio-economic factors in promoting a cashless economy; despite its
different policy measures, data paint an increasing cash concentration trend. In
the last couple of years, government initiatives, such as demonetisation, boosting
digital transactions by introducing the Unified Payments Interface (UPI), and
enacting the Goods and Services Tax (GST). However, cash in circulation (CIC)
is unlikely to show a declining trend. Theoretically, the income elasticity of
currency demand is likely to influence increased digital transactions coupled
with government policy decisions like direct bank transfers to the beneficiaries
of different schemes and GST implementation, but contesting the theory that
income elasticity reports a result approximately to unity. Notably, cash with the
public (CwP), another parameter in CIC research, shows a significant growth
rate in the last two decades but reports an unprecedented increase during the
financial years 2019–2022. Again, the CwP to demand deposit (DD) ratio for
FY 2011–2022 stood at 1.44 in comparison to 1.35 reported during the period
1991–2000 (Chandak, 2022). CIC, computed as the total of CwP and cash held
by banks, reports an increasing trend as a proportion of GDP. The contributing
factors for high CIC include under-invoiced Chinese imports and trade credit
(TC) flows with disruptions. Research also suggests that users prefer cash
for illegal and illicit trading under-invoiced imports. The Indian government
identified the parallel economy and terror financing as potential causes of
cash preference, triggering the demonetisation of high-value currency notes in
November 2016. Moreover, the lower TC velocity also contributes to cash
intensity.

The growth of the no-frill bank accounts opened under the PMJDY is largely
attributable to the disparity in the Indian financial system. The number of
PMJDY accounts reached 486.54 million in March 2023 from 7.07 million
reported in September 2014 (Fernand, 2023). Most significant economies
recovered from the ill effects of the Covid-19 pandemic and reported substantial
expansion in economic activities, increasing GDP growth rates. The GDP
growth primarily due to turnaround economic activities contributes to increased
monetary liquidity and high CIC. However, since the announcement of the
demonetisation of high-value currency notes of ₹500 and ₹1,000 on 8th
November 2016, CIC reported a monthly decline and the lowest figure was
reported in December 2016. The withdrawal of ₹2,000 notes from circulation
and its non-acceptance by banks from 7th October 2023 onwards are likely to
impact the CIC partially. The RBI’s DBIE for the last 13 years, as shown in
Figure 1, suggests that CIC reported consistent growth year-on-year from April
2011 to April 2016 and recorded a significant decline in April 2017 due to the
demonetisation. Since April 2018, CIC recorded an upward growth rate, which
continued in April 2023. A scrutiny of this trend further suggests insignificant or
no impact of CIC even during the Covid-19 pandemic-imposed restrictions.
Such an increasing trend during the pandemic period contradicts the cashless
economy.
Managing Challenges

Broader acceptance of ₹ in preference to cash for a diverse and most populated country like India is a mammoth task for the RBI. Public finance literature suggests that apart from speculative motives, people hold cash for transactions and precautionary motives. Both these motives have their uniqueness, such as the former reduces transaction costs without borrowing, and the latter prevents emergency expenses like exorbitant healthcare expenses, thereby preventing liquidity constraints cost. Cash is indispensable during unavoidable situations such as technical snags and uncertainty. In the Indian context, the rationale could be that the government imposed a prolonged internet ban like Manipur, poor internet connectivity and even cyber fraud threats. Cash is preferable to access investment opportunities during financial constraints and counter agency problems (Lin & Chiu, 2017). Cash preference is significantly evident in small businesses and unorganised sectors due to privacy concerns, social welfare such as anonymous donations and controlling impulse transactions (Png & Tan, 2020). Furthermore, traditional reasons for cash preference, like tax evasion and the high costs of digital transactions, contribute significantly. The uncertainty involved in the operations of cryptocurrencies significantly supports the launching of CBDCs with a consequent substantial decrease in cash management cost. RBI’s ₹ implementation is likely an appropriate step in that direction, but unanswered questions remain.

The digitisation of the payments ecosystem drastically reduces the cost-of-service delivery across industries and higher profitability in other areas.
The research addressed e-payment issues, including modes like digital wallets, mobile and cards, the potential advantages and flip sides, and suggestive measures to counter the challenges (Lehdonvirta et al., 2009). Launching the UPI-enabled Bharat Interface for Money (BHIM) app and multiple benefits such as cashback and discounts for e-payments catalyse cashless transactions. India’s digital payment revolution stemmed from the remarkable success of the UPI, UPI processed more than 46 billion transactions totalling USD 84.17 billion in 2022. The Indian model is being emulated by Brazil’s Pix and Kenya’s M-PESA (Economist, 2023). However, research on behavioural finance indicates that the ‘pain of cash payment’ is relatively higher than digital payments, motivating deferred payments (Rick, 2018). In contrast, Indian evidence likely paints an opposite scenario of a higher cash preference than developed economies. The prolonged internet ban in Kashmir in 2019 and Manipur since May 2023 and in isolated parts of other states threatens the cashless economy’s success story rather than fuels cash preferences. The challenges of cash preference for the central banks, like currency note printing and destroying costs, as logistical costs, such as cost of carriage and providing securities, are substantial. Considering those central banks globally, in a phased manner moving to cashless economies, India followed its peers with a bold step of demonetisation in 2016. Research reports that India spends around 1.7% of its GDP in that regard (VISA, 2016), higher than the world average of 1.5% (Jenkins, 2018), albeit in Singapore, the figure merely stood at 0.5% (Menon, 2016). The literature further highlights the pitfalls of cash preference in cross-border smuggling, prostitution, terror and drug financing and inherent threats of using cash, for example, loss due to theft, pilferage, embezzlement and natural calamities (Hazra, 2017).

The literature extensively studied cash preference and the challenges associated with e-transactions, concluding with exciting results. The primary reasons for cash preference include small-value transactions, lack of trust in digital transactions, influence of users’ customs and culture, resistance to change attitude, poor internet speed, cyber frauds and tax evasion (Srouji, 2020). Cash preference is evident in low-income sections with lean access to digital transactions. However, research conducted during the pandemic reports cash preference declines for transaction motive but substantially increases for precautionary motive (Rogof & Scazzero, 2021). If implemented, the ₹ could be an alternative to cash preference and UPI-based digital transactions, countering its embedded pitfalls. Although the RBI attempts to address the concerns for broader use of ₹. TRBI aims to evolve a mechanism for opening CBDC wallets without bank accounts, which could operate without internet connectivity. The offline transactions through ₹ could be a game changer for rural India and northeastern and remote India with poor internet connectivity and a low level of financial inclusion history. RBI further needs to address the concerns related to anonymity, cyber frauds and risk of double-spending and costs incurred with know-your-customers.
Conclusion

The blockchain technology-based ₹, the Indian version of retail DC, depicts huge potentiality and a relatively more secure alternative to other private cryptocurrencies. However, users and supporters of cryptocurrencies are unlikely to prefer ₹ and have their arguments. Notably, post-launching of ₹ reports suggest a significant increase in e-cash transfers across P2P outlets as opposed to UPI transactions with the presence of banks as intermediaries. The National Democratic Alliance (NDA)-I government led by Prime Minister Narendra Modi 2014 launched Prime Minister Jan Dhan Yojana (PMJDY) to bring the unbanked Indians under the ambit of the banking orchestra. However, experts are still determining its consistent addition of more customers once the ₹ becomes operational on a broader scale. The literature paints that CBDC may be operational using Android smartphones with application software without any intermediary, but the risk of cyber fraud persists. However, the encryption techniques used in DC could partially hedge the associated risks, for example, through cross-verifying transactions. The ₹ would not accelerate any run risks for banks if used with proper planning, even in stressed situations. Experts suggest an appropriate capping in the wallet transactions with a non-interest accruing feature and a periodical review likely to address this concern smoothly. However, the interest-free DCs are convertible in the event of losses. The ₹ can be a potential solution for unbanked Indians, and policymakers can monitor the transactions, which, in turn, not only achieve financial inclusion but also formalise the transactions substantially. Rural India with relatively weak internet speed and coverage may access the benefits of ₹. Considering the users’ pertinent and apprehension of anonymity, the amendment of the RBI Act is a potential solution. The uniqueness of CBDC indicates it is programmable, and its creation and circulation are to achieve specific objectives. The RBI envisages that as ₹ would work like C2C or P2P, the transfer of funds would reach the destination without any threat of embezzlement or cyber fraud. Section 194N of the Income Tax Act 1961 deals with tax deducted at the source of cash withdrawal from banks exceeding certain limits, which the broader use of ₹ will likely address. Fintech innovation would further guide the RBI in combating security-related threats and anonymity problems.

The functions of currency suggest it works uniformly irrespective of its form-physical digital and has an insignificant impact on the unit of account. However, all those have their unique pros and cons. The second function of currency indicates a medium of exchange; the present forms serve the purpose comprehensively. Nevertheless, as a third function of ₹, it is likely to bring sea changes as a store of value. The third function fortifies the broader acceptability of the ₹ as the holding of cash involves inherent pitfalls such as logistic challenges and security risks. Albeit, banks offer interest to the customers for such cash accumulation. The ₹ could be a preferred mode in response to those challenges encountered by the Indians, banks, financial institutions, and the regulator and be a game changer. However, the ₹ is also unlikely to be free from snags. Reconciliation
of cybersecurity with a more comprehensive application could be a significant challenge for the RBI. The settlement of cross-border payments is still in its initial stage, posing doubts about using ₹ as a preferred mode. Consequently, the study concludes that although the ₹ in its initial stage and significant development in the financial market may be perceived if the regulator RBI can address the pertinent issues, the ₹ could bring significant changes not only in the financial market but also in the Indian economy. But as succinctly summed up in a Carnegie paper the crux of the issue lies in designing the digital rupee in a user-centric manner by identifying the user requirements, attitudes, preferences and behaviour that derive the demand for a digital rupee (Priyadarshini, 2021).

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