

INTERNATIONAL JOURNAL OF LAW MANAGEMENT & HUMANITIES

[ISSN 2581-5369]

Volume 3 | Issue 4

2020

© 2020 *International Journal of Law Management & Humanities*

Follow this and additional works at: <https://www.ijlmh.com/>

Under the aegis of VidhiAagaz – Inking Your Brain (<https://www.vidhiaagaz.com>)

This Article is brought to you for “free” and “open access” by the International Journal of Law Management & Humanities at VidhiAagaz. It has been accepted for inclusion in International Journal of Law Management & Humanities after due review.

In case of **any suggestion or complaint**, please contact Gyan@vidhiaagaz.com.

To submit your Manuscript for Publication at **International Journal of Law Management & Humanities**, kindly email your Manuscript at editor.ijlmh@gmail.com.

India Seeks to Join the Crypto-Bandwagon: Are CBDCs the Way Forward

RITUNJAY GUPTA¹

ABSTRACT

The Reserve Bank of India (RBI), vide a circular issued in April 2018, effectively 'banned' trading in virtual currencies in India - sounding the death knell for majority of 'crypto' traders and investors. RBI's 'bury head in the sand' response was met with several lawsuits filed across India; ultimately finding their way to the Apex judicial body.

On March 4, 2020, the Supreme Court of India, vide a 180-pages detailed decision, handed out a new lease of life to the stakeholders by lifting the 'ban'. The Supreme Court recognized RBI's authority to regulate the field but held against imposition of a total prohibition. The ruling comes as a welcome respite for the Indian fintech community.

Comparable to India's conundrum, a large part of the last decade witnessed major economies struggling to find a suitable response to the flourishing cryptology-driven parallel global financial system. While some major economies imposed an outright ban on trading in virtual currencies; other jurisdictions conceded to embrace the new technologies, rather than allow a parallel system to flourish without governmental oversight. Some countries also explored other forms of virtual currencies (Central Bank Digital Currencies or CBDCs) to replace their deteriorating physical cash economy.

Through this Paper, I expound the existing literature on the subject, and thereafter, attempt to analyze the benefits of the underlying technology in cryptocurrencies and advocate for its usage in issuance of a hybrid form of CBDCs to stimulate the current financial system of the country. I propose an e-Rupee model to assimilate the advantages of Facebook's Libra currency model with the need for necessary control and supervision attached to the nature of CBDCs, for adoption by India.

Keywords: *Bitcoin, Cryptocurrencies, Virtual Currencies, Central Bank Digital Currencies, Libra*

¹ Author is a LLM student at Columbia Law School, India.

“Any attempt to define what a virtual currency is, it appears, should follow the Vedic analysis of negation namely “neti, neti”. Avadhuta Gita of Dattatreya says, “by such sentences as ‘that thou are’, our own self or that which is untrue and composed of the 5 elements, is affirmed, but the sruti says ‘not this not that.’” The concept of Neti Neti is an expression of something inexpressible, but which seeks to capture the essence of that to which no other definition applies.”

- Justice V. Ramasubramanian, Supreme Court of India

I. INTRODUCTION

In 2008, Satoshi Nakamoto (purportedly a pseudonym) released a Whitepaper², wherein he proposed a novel way of transferring funds between two parties without the intervention of a third-party facilitator. He suggested the use of cryptology to code transactions on a decentralized electronic ledger which was accessible to all participants of the network, and where the authenticity of the transfers was validated through a joint consensus mechanism. He referred to the underlying technology as Blockchain, and the cryptocurrency, the Bitcoin.

The new technology took the financial world by storm. Soon all major economies (with the exception of a few) realized the only way forward was to embrace this technology and employ it to stimulate their existing financial systems. A few forward-looking countries also explored the possibility of employing the underlying technology to issue digital forms of *fiat*.

A decade later, the world is witness to a robust parallel fiscal system, comprised of over 2,116 cryptocurrencies (including Bitcoin), having a market capitalization of USD 119.46 billion.³ India also experienced widespread adoption of the technology by traders and investors. In fact, in 2018, the Indian crypto market catered to over 2 million investors with an average daily trade volume of around ₹1.5 billion.⁴

Amidst this growth in trade of crypto, the recent ruling⁵ of the Supreme Court of India comes as a welcome respite. Although in 2018, through executive action, the Reserve Bank of India (“**RBI**”) attempted to sever the “umbilical cord that virtual currency has with fiat currency”⁶ -

² Satoshi Nakamoto, *Bitcoin: A Peer-to-Peer Electronic Cash System*, at 1 (White Paper, Oct. 31, 2008), <https://bitcoin.org/bitcoin.pdf> [hereinafter *Bitcoin Paper*].

³ See Department of Economics Affairs, Ministry of Finance, India, *Report of the Committee to propose specific actions to be taken in relation to Virtual Currencies*, 8 (Feb. 28, 2019), <https://dea.gov.in/sites/default/files/Approved%20and%20Signed%20Report%20and%20Bill%20of%20IMC%20on%20VCs%2028%20Feb%202019.pdf> [hereinafter *Committee Report*].

⁴ Internet and Mobile Association of India v. Reserve Bank of India, W.P. (Civ.) No. 528 of 2018 with W.P. (Civ.) No. 373 of 2018, para 6.155, at 152 (Supreme Court of India, Mar. 4, 2020) [hereinafter *SC Verdict*].

⁵ *Id.*

⁶ *Id.* at para 6.155, p.152.

effectively imposing a ‘ban’ on trade in virtual currencies in India; the Court’s recent lifting of the ‘ban’ breathes new life into the Indian crypto market.

In this backdrop, the Paper analyzes the benefits of the underlying technology in cryptocurrencies, and its usage in issuance of a hybrid form of virtual currency to stimulate India’s existing financial system. To this end, the first section⁷ of the Paper expounds the basic concepts involved in the ‘cryptic’ world of finance. The second section⁸ discusses the regulatory response of India and the recent ruling by the Supreme Court; along with a brief overview of the global regulatory responses to crypto. The third section⁹ explores the appeal of adopting Central Bank Digital Currencies (“CBDCs”) in response to the current regulatory framework. In the final section¹⁰, the paper uncloaks the Libra currency model proposed by Facebook, and then proposes a hybrid currency ‘e-Rupee’, that assimilates the upsides of Libra and CBDCs, for adoption by India.

II. DECODING THE BASICS

(A) What is Distributed Ledger Technology?

Distributed Ledger Technology (“DLT”)¹¹ refers to the technology that enables data to be recorded, shared and synchronized across a distributed network of different network participants, through the use of independent computers (referred to as ‘nodes’). The nodes maintain the data in their respective electronic ledgers instead of keeping it centralized as with a traditional ledger.

DLT is used to enable a network participant/node to transfer peer-to-peer a record of some digital asset such as money, security, land titles etc., over a decentralized network, in an immutable, non-repudiable manner. All transactions are updated on an electronic ledger and the authenticity of the digital asset spent i.e. each transaction is verified by the participating nodes (or validator nodes) in the network using a consensus mechanism. The records of the transaction is encrypted to provide pseudonymity to the nodes participating in the transaction. DLT are categorized as permissioned or permissionless depending upon whether the nodes need permission from any entity to access and make changes to the electronic ledger. In a private permissioned DLT, only selected participants are allowed to join the network. In

⁷ See *infra* II.

⁸ See *infra* III.

⁹ See *infra* IV.

¹⁰ See *infra* V.

¹¹ Banning of Cryptocurrency and Regulation of Official Digital Currency Bill, 2019 (proposed draft, February 28, 2019) (India) [hereinafter *Draft Bill 2019*].

contrast, a public DLT network is a permissionless network wherein anyone who meets the technical requirements can become a participating node.¹²

Blockchain is a specific kind of DLT which rose to prominence as the underlying technology for the cryptocurrency, Bitcoin.¹³

(B) What is Virtual Currency?

Virtual currency is a digital representation of value that can be digitally traded and functions as a (a) medium of exchange, and/or (b) unit of account, and/or (c) store of value, but does not have legal tender status (i.e., when tendered to a creditor, is not recognized as a valid and legal offer of payment) in any jurisdiction.¹⁴

Virtual currency is distinguishable from *fiat* currency, which is the coin and paper money of a country that designates it as legal tender and which is customarily used and accepted as a medium of exchange in the issuing country.¹⁵ Virtual currency is also distinct from ‘e-money’, which is essentially a digital representation of *fiat* currency and used as a mechanism to electronically transfer value denominated in *fiat* currency.¹⁶ However, virtual currency can be treated as a private medium of exchange that does not reflect a sovereign guarantee of the underlying value or its legal tender status.¹⁷

(C) What is Crypto Currency?

Cryptocurrency is a subset of virtual currency. It is a math based, decentralized convertible virtual currency, protected by cryptography, by relying on public and private keys to transfer value from one person to another and signed cryptographically each time it is transferred.¹⁸

A transaction in cryptocurrency utilizes DLT to transfer units of the currency from one address on the distributed network to another address through the use of a pair of public and private (encrypted) keys.¹⁹ Once a participant creates a public key address, that address is publicly available to all users in the network as an address (akin to a bank account number) where they can transfer cryptocurrencies. A transaction is encrypted using a participant’s public key so that only that participant who has the corresponding private key can decrypt it. In effect, to

¹² See Committee Report, *supra* note 2, at 17.

¹³ *Id.* at 8.

¹⁴ FATF, *FATF Report, Virtual Currencies: Key Definitions and Potential AML/CFT Risks*, 4 (Jun. 2014), <https://www.fatf-gafi.org/media/fatf/documents/reports/Virtual-currency-key-definitions-and-potential-aml-cft-risks.pdf> [hereinafter *FATF Report*].

¹⁵ *Id.*

¹⁶ *Id.*

¹⁷ See Committee Report, *supra* note 2, at 21.

¹⁸ See FATF Report, *supra* note 13, at 5.

¹⁹ See Committee Report, *supra* note 2, at 16.

complete the transaction and receive the currency, the participant uses the private key (which functions like a digital signature) corresponding to its publicly available address. A wallet (which can be in the form of a smartphone app) is used by a participant to manage its address i.e. store its public and private key.

Transactions on the Blockchain are authenticated by network participants, known as ‘Miners’²⁰, who solve computationally challenging cryptographic puzzles. To create an incentive to solve the puzzle first, the participant is rewarded with a unit of the cryptocurrency. This concept is referred to as ‘proof of work’.²¹

A block is a record of the current and all previous transactions on the network. After being verified, transactions are grouped into blocks and published on the decentralized network. With subsequent transactions being executed and validated, more blocks are added on the existing chain of transaction, forming the Blockchain. The creation of a chain ensures that valid records are permanently published, making it difficult for ledger records to be changed and/or for a participant to double spend the same digital asset.²²

Bitcoin is an example of a cryptographic virtual currency and was the first of its kind.²³ Bitcoin became extremely popular in the fintech circles as it introduced a currency system based on the Blockchain-based DLT technology which could function without the presence of a trusted third party facilitator.²⁴ Blockchain thereby provided a cheaper and faster alternative, through a decentralized machinery, to transfer money between parties.²⁵

(D) The Pinch of Salt!

Cryptocurrencies have certain characteristics that make regulation necessary. Unlike *fiat* money, cryptocurrencies do not have an implicit sovereign guarantee. Most cryptocurrencies are also not backed by an underlying asset like bullion. This makes the intrinsic value of cryptocurrencies negligible, and subject to severe fluctuations in price²⁶. In absence of a third-

²⁰ The participants who strive to solve the puzzle are called Miners. Miners look for hashes (akin to a signature for a data file) of the blocks, which not only contain the information about the block but also the previous blocks. The intensive computation required for finding the solution to the puzzle also impede hacker attacks who attempt to create false changes in the blockchain.

²¹ See Committee Report, *supra* note 2, at 13, 16.

²² The problem of double spend is unique to digital assets whereby the same asset may be expended more than once by a user.

²³ *Id.* at 21.

²⁴ See Bitcoin Paper, *supra* note 1, at 1 (“Completely non-reversible transactions are not really possible, since financial institutions cannot avoid mediating disputes. The cost of mediation increases transaction costs...What is needed is an electronic payment system based on cryptographic proof instead of trust, allowing any two willing parties to transaction directly with each other without the need for a trusted third party.”).

²⁵ In a traditional financial transaction, banks act as third party facilitators to validate any transfer of money, and typically charge a transaction fee for their services.

²⁶ See Committee Report, *supra* note 2, at 29 (“In December 2017, Bitcoin was valued at around USD 20,000 per

party facilitator, trade and investment in cryptocurrencies are driven mainly by speculation, resulting in a volatile market²⁷. This severely limits the use of cryptocurrency as a store of value.

Further, owing to the consensus-based algorithms in Blockchain-based DLT, processing transactions is time consuming due to validation procedures and network latency²⁸. This severely hinders the ability of cryptocurrencies to be an effective medium of exchange.

Consequently, several legitimate concerns have been raised regarding the use of cryptocurrencies. Several countries have flagged issues surrounding consumer protection, risks to the financial system and the overall economy, possible facilitation of criminal activity etc.. Several scams have unearthed in the recent past, in India²⁹ and elsewhere, evidencing the dangers of using cryptocurrency as an alternate payment system. This is especially true for a country like India where embracing technology is still a distant dream for a large majority of the population.

Important functions such as regulating money supply, keeping checks on inflation rate, monitoring cross border fund transfers and controlling forex rate fluctuations - in the absence of the Central Bank - have been left to a decentralized network of competing interests, which itself raises a red flag for the economies.

The anonymous nature of transactions over DLT also fuel concern about whether the technology will be used for facilitating illicit activities like money laundering and financing terrorist activities. Mining of cryptocurrencies has also proved to be a very resource intensive activity raising legitimate environmental concerns.³⁰ It is, therefore, imperative for economies to seek regulation of cryptocurrencies and put in place adequate checks and balances.

coin. However, by end-November, Bitcoin's value toppled to USD 3800. In December 2017 Bitcoin was valued at around USD 20,000 per coin. However by November end bitcoin's value toppled to approximately 80 percent of its peak value. By November end, bitcoin was trading at a price of USD 3800.”)

²⁷ Reserve Bank of India, *Annual Report (2017-18)*, at Box. II.3.2. (Aug. 29, 2018) <https://www.rbi.org.in/Scripts/AnnualReportPublications.aspx?Id=1229> (“Bitcoins lost nearly US\$200 billion in market capitalisation in about two months from the peak value in December 2017. As per the CoinMarketCap, the overall cryptocurrency market had nearly touched US\$800 billion in January 2018.”)

²⁸ Committee Report, *supra* note 2, at 27 n.6 (Latency refers to the time taken from the creation of a transaction until the initial confirmation of it being accepted by the network or the participant in the transaction. Low latency is preferable for designing a feasible payments system.)

²⁹ SC Verdict, *supra* note 3, at 166 (“VCs have been used to defraud consumers in an INR 2000 crore scam in India whereby users were assured returns upon their investment in GainBitcoin and were paid their return in another form of virtual currency, whose value was much lower than that of GainBitcoin.”)

³⁰ Committee Report, *supra* note 2, at 29 (Bitcoin mining has used as much electricity as all of Switzerland, terming it as an environmental disaster.)

III. REGULATORY RESPONSES TO CRYPTO

(A) India's Regulatory Response and the Supreme Court Verdict

On December 24, 2013, a press release³¹ was issued by the RBI cautioning consumers and traders against the potential financial, operational, legal and customer protection and security related risks associated with cryptocurrencies³². The press release noted that the creation, trading or usage of virtual currencies as a medium of exchange was not authorized by RBI or any other central bank/ monetary authority. Since then, the RBI and the Ministry of Finance, Government of India (“**MoF**”) have been repeatedly issuing public statements to sensitize the public to the associated risks. Contemporaneously, several working groups (at the intra-departmental level and international level) were formed or facilitated to undertake an in-depth study and analysis of this new technology.

Amidst growing popularity of virtual currencies as an investment option, in December 2017, MoF issued a statement³³ warning that virtual currencies are not recognized as legal tender and requested consumers to avoid investing in them. This was followed by a cautionary note sounded by the Minister of Finance in his budget speech³⁴, on February 1, 2018, wherein he mentioned that, *inter alia*, all measures will be undertaken by the Government to eliminate use of virtual currencies as part of the payment system or to finance illegitimate activities.

In this backdrop, the RBI came to issue a “Statement on Development and Regulatory Policies” dated April 5, 2018 (“**Statement**”)³⁵ and a Circular titled “Prohibition on dealing in Virtual

³¹ Reserve Bank of India, *RBI cautions users of Virtual Currencies against Risks*, 2013-2014/1261 (Press Release, Dec. 24, 2013) https://www.rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=30247.

³² The terms ‘cryptocurrency’ and ‘virtual currency’ will be used synonymously for the following discussion on the SC Verdict.

³³ Press Information Bureau, Government of India, *Government Cautions People Against Risks in Investing in Virtual ‘Currencies’; Says VCs are like Ponzi Schemes*, Release ID: 1514568 (Dec. 29, 2017) <https://pib.gov.in/PressReleaseDetail.aspx?PRID=1514568>.

³⁴ Arun Jaitley, Minister of Finance, Govt. of India, Budget Speech 2018-19, para 112 (Feb. 1, 2018) <https://www.indiabudget.gov.in/budget2018-2019/ub2018-19/bs/bs.pdf> (“Distributed ledger system or the block chain technology allows organizations of any chain of records or transactions without the need of intermediaries. The Government does not consider crypto-currencies legal tender or coin and will take all measures to eliminate use of these crypto-assets in financing illegitimate activities or as part of the payment system. The Government will explore use of blockchain technology proactively for ushering in digital economy.”).

³⁵ Reserve Bank of India, *Press Release, Statement on Development and Regulatory Policies*, 2017-2018/2642 (Apr. 5, 2018) <https://rbidocs.rbi.org.in/rdocs/PressRelease/PDFs/PR264270719E5CB28249D7BCE07C5B3196C904.PDF> (“13. Ring-fencing regulated entities from virtual currencies: Technological innovations, including those underlying virtual currencies, have the potential to improve the efficiency and inclusiveness of the financial system. However, Virtual Currencies (VCs), also variously referred to as crypto currencies and crypto assets, raise concerns of consumer protection, market integrity and money laundering, among others....In view of the associated risks, it has been decided that, with immediate effect, entities regulated by RBI shall not deal with or provide services to any individual or business entities dealing with or settling VCs. Regulated entities which already provide such services shall exit the relationship within a specified time...”).

Currencies (VCs)” dated April 6, 2018 (“**Circular**”)³⁶. By way of the Statement and Circular, the RBI directed the entities regulated by it to not deal in virtual currencies nor provide services for facilitating any person or entity in dealing with virtual Currencies. This effectively imposed a “ban”³⁷ on virtual currencies in India and sounded the death knell for investors and entities engaged with crypto exchanges. The Statement and the Circular were impugned before the Supreme Court in instant writ proceedings.

From the stand taken by the RBI before the Court, it appears that the purpose behind targeting the trade in virtual currencies was to ensure consumer protection, prevention of violation of money laundering laws, curbing the menace of financing terrorism, and safeguarding the existing financial system from being polluted. However, as the RBI could not directly target the traders and investors, the RBI, vide the impugned Circular, sought to protect its regulated entities while purportedly ring fencing them.³⁸

Pertinent to note that while proceedings were underway, an Inter-Ministerial Committee on Cryptocurrency (“**Committee**”) submitted its report³⁹ dated February 28, 2019 (“**Committee Report**”) along with a draft bill titled “Banning of Cryptocurrency and Regulation of Official Digital Currency Bill, 2019⁴⁰ (for being introduced in Parliament). Pursuant to the Committee Report, the Committee made certain recommendations⁴¹, *inter alia*, that “all private cryptocurrencies, except any cryptocurrency issued by the State, be banned in India”⁴².

On March 4, 2020, a three-members Bench of the Supreme Court of India delivered its verdict in *Internet and Mobile Association of India vs. Reserve Bank of India* (“**SC Verdict**”). Vide a 180-pages judgement, the Supreme Court found that the RBI had not presented any empirical evidence that virtual or cryptocurrencies have adversely impacted the banking sector of India

³⁶ Reserve Bank of India, *Notifications, Prohibition on dealing in Virtual Currencies (VCs)*, RBI/2017-18/154 (Apr. 6, 2018) <https://www.rbi.org.in/Scripts/NotificationUser.aspx?Id=11243> (“2. In view of the associated risks, it has been decided that, with immediate effect, entities regulated by the Reserve Bank shall not deal in VCs or provide services for facilitating any person or entity in dealing with or settling VCs...3. Regulated entities which already provide such services shall exit the relationship within three months from the date of this circular...”).

³⁷ See SC Verdict, *supra* note 3, para 6.94, at 112 (noting that the prohibition or “ban” was not *per se* against the trading in virtual currencies but against banking companies with respect to certain transactions. So long those trading in virtual currencies did not wish to convert them into fiat currency in India or utilize the banking channels for functioning, they were not affected by the Circular.)

³⁸ See *Id.* at para 6.146, p.147.

³⁹ Committee Report, *supra* note 2.

⁴⁰ In April 2018, the Committee had submitted, along with its initial report, a draft bill titled “Crypto Token and Crypto Asset (Banning, Control and Regulation) Bill, 2018”. The key aspects of the bill, found in paragraph 13 of the ‘Note-precursor to report’, showed that the Committee was fine with the idea of allowing the sale and purchase of digital crypto-asset at recognized exchanges. However, within a year, the Committee’s final report dated February 28, 2019 recommended imposition of a total ban on private cryptocurrencies vide another draft bill titled “Banning of Cryptocurrency and Regulation of Official Digital Currency Bill, 2019”.

⁴¹ Committee Report, *supra* note 2, at 19, 34, 45, 53.

⁴² *Id.* at 34.

or hampered the functioning of entities regulated by the RBI. Accordingly, the Supreme Court set aside the impugned Circular on a technical ground of proportionality, holding that total prohibition was not warranted in the circumstances.⁴³ The following observations⁴⁴ of the Court are worth noting:

“6.171.... The position as on date is that VCs are not banned, but the trading in VCs and the function of VC exchanges are sent to comatose by the impugned Circular by disconnecting their lifeline namely, the interface with the regular banking sector. What is worse is that this has been done (i) despite RBI not finding anything wrong about the way in which these exchanges function and (ii) despite the fact that VCs are not banned.

6.172...Till date, RBI has not come out with a stand that any of the entities regulated by it namely, the nationalized banks/ scheduled commercial banks/ cooperative banks/ NBFCs has suffered any loss or adverse effect directly or indirectly, on account of the interface that the VC exchanges had with any of them...there must have been at least some empirical data about the degree of harm suffered by the regulated entities (after establishing that they were harmed)...”

This landmark SC Verdict comes as a breath of fresh air for the Indian fintech community. However, although the “ban” on virtual currencies may have been temporarily lifted by the Supreme Court, it’s not all sunshine and rainbows. Some remain skeptical that the RBI may have failed to present adequate empirical evidence, but if the regulatory instincts of the central bank are consistent, then a similar regulatory prohibition, supported with adequate documentation, might not be too far away.

What more important is that the Apex Court recognised RBI’s authority to regulate matters related to virtual currencies.⁴⁵

The petitioners had contended that virtual currencies are goods and not real money; and RBI does not have the power to regulate transfer of goods between private persons. Judgements⁴⁶

⁴³ SC Verdict, *supra* note 3, para 7.1, at 178 (The Supreme Court observes that the impugned Statement is not in the nature of a statutory direction so the question of setting it aside does not arise.).

⁴⁴ *Id.* at 176-77.

⁴⁵ *Id.* at para 6.91, p.110.

⁴⁶ *See, e.g.*, United States v. Faiella, 39 F. Supp. 3d 544 (2014) (Bitcoin clearly qualifies as money or funds); *In re BFXNA Inc.*, CFTC Docket No. 16-19 (Jun. 2, 2016) (Bitcoin and other virtual currencies are commodities); CFTC v. My Big Coin Pay, Inc. et al., Case 1:18-cv-10077-RWZ (Sep. 26, 2018) (Since there is future trading in virtual currencies, they are considered commodities); State v. Espinoza, 264 So. 3d 1055 (2019) (Bitcoin would certainly fall under the definition of a ‘payment instrument’ if not expressly under ‘currency’); Quoine Pte Ltd. v. B2C2 Ltd., [2020] SGCA(I) 02 (Cryptocurrencies are capable of assimilation into the general concepts of property); AA v. Persons Unknown & Ors. Re Bitcoin, [2019] EWHC 3556 (Comm) (Virtual currencies can be treated as property); Skatteverket v. David Hedqvist, Case C-264/14 (Oct. 22, 2015) (Virtual currencies are non-traditional currencies).

from various jurisdictions were presented identifying virtual currencies as belonging to different categories ranging from property, commodity, non-traditional currency, payment instrument to money.

Rejecting the contentions of the petitioners, the Apex Court observed the following:

- (i) Some institutions accept virtual currencies as valid payments for purchase of goods and services;⁴⁷
- (ii) RBI has the statutory obligation to operate and regulate the currency and payment system of the country;⁴⁸
- (iii) Anything that may pose a threat to or have an impact on the financial system of the country, can be regulated or prohibited by the RBI, despite the said activity not forming part of the credit system or payment system.⁴⁹
- (iv) Under Section 3(1) of the RBI Act⁵⁰, “management of the currency” is not necessarily confined to management of what is recognized in law to be currency, but would also include what is capable of playing the role of currency.⁵¹
- (v) Section 18 (and the overall scheme) of the Payment and Settlement Systems Act, 2007⁵², empowers the RBI to frame policies and issue directions to banks who are system participants, with respect to transactions that fall within the category of payment obligation or payment instruction, if not a payment system.⁵³

In view of the aforesaid, the Court vindicated RBI’s legal authority to monitor and regulate the virtual currency market in India, observing that “if an intangible property can act under certain circumstances as money (even without faking a currency) the RBI can definitely take note of

⁴⁷ SC Verdict, *supra* note 3, para 6.87, at 108.

⁴⁸ *Id.*

⁴⁹ *Id.* at para 6.90, p.109-110.

⁵⁰ Reserve Bank of India Act, No. 2 of 1934, at §3(1) (Mar. 6, 1934) [hereinafter *RBI Act*] (“A bank to be called the Reserve Bank of India shall be constituted for the purposes of taking over the management of the currency from the Central Government and of carrying on the business of banking in accordance with the provisions of this Act.”).

⁵¹ SC Verdict, *supra* note 3, para 6.90, at 110.

⁵² The Payment and Settlement Systems Act, No. 51 of 2007, at §18 (Dec. 20, 2007) (“Without prejudice to the provisions of the foregoing, the Reserve Bank may, if it is satisfied that for the purpose of enabling it to regulate the payment systems or in the interest of management or operation of any of the payment systems or in public interest, it is necessary so to do, lay down policies relating to the regulation of payment systems including electronic, non-electronic, domestic and international payment systems affecting domestic transactions and give such directions in writing as it may consider necessary to system providers or the system participants or any other person either generally or to any such agency and in particular, pertaining to the conduct of business relating to payment systems.”).

⁵³ SC Verdict, *supra* note 3, para 6.111 at 121.

it and deal with it.”⁵⁴

(B) Global Regulatory Responses

Jurisdictions around the world have accorded varying legal treatment to virtual currencies. Some countries allow the use of cryptocurrencies as a means of payment or recognize it as a medium of exchange; however, none of the countries have accorded legal tender status to them. The Committee Report⁵⁵ has broadly categorized economies according to their treatment of virtual currencies, into:

- (i) Barter Transactions: Countries like Russia and Canada allow virtual currencies to be traded for goods and services;
- (ii) Mode of Payment: Countries like Switzerland and Thailand allow virtual currencies to be used as modes of payment, though still not recognizing virtual currencies as legal tender (parties are not legally obliged to accept them);
- (iii) Legal Tender: No country has recognized virtual currencies as legal tender for discharge of obligations; and
- (iv) Complete Ban: China has completely banned virtual currencies, including virtual currency exchanges.

As per the Committee Report⁵⁶, front running the race of crypto currencies are Japan, South Korea and Thailand, which have allowed transactions in notified and approved virtual currencies. Japan has also permitted usage of crypto exchanges for buying and selling virtual currencies as well. In fact, Japan accounts for half of the transactions worldwide in Bitcoins.⁵⁷ Moreover, countries such as Canada, Thailand, Japan and Russia have brought users and intermediaries into crypto currency transactions within the purview of their anti-money laundering and prevention of terror laws.

On the other hand, New York has restrictions in place, requiring the user of the virtual currencies to register with the relevant regulatory authority. The Securities and Exchange Commission (SEC) and the Commodity Futures Trading Commission (CFTC) have emerged as primary regulators of cryptocurrencies in the United States.⁵⁸ At the other extreme of the spectrum lies China, which has prohibited all kinds of transactions in crypto currencies,

⁵⁴ *Id.* at para 6.87, p.108.

⁵⁵ Committee Report, *supra* note 2, at 22-23.

⁵⁶ *See Id.* at tbl.2.1, p.24-26.

⁵⁷ *See SC Verdict*, *supra* note 3, para 2.31, at 23.

⁵⁸ *Id.* at para 2.31, p.23.

including crypto mining and operation of crypto exchanges within its jurisdiction.

IV. APPEAL OF CBDCs AS A VIABLE ALTERNATIVE

(A) What are CBDCs?

Traditionally, access to central bank's money was limited to banks, and in some instances, to certain financial and public institutions, in the form of reserves.⁵⁹ CBDC is the digital form of *fiat* money⁶⁰ that is different from physical cash or central bank reserve/ settlement accounts that may be made available to the public at large.⁶¹

It is important to note that CBDCs are different from virtual currencies or cryptocurrencies, which are not issued by the sovereign and lack legal tender status.⁶² Figure 1 below emphasizes the key attributes of CBDCs:

- (i) *Issuer* - CBDCs are issued by the Central Bank;
- (ii) *Form* - CBDCs are in digital form as against physical form (i.e. cash);
- (iii) *Accessibility* - Access is not restricted to few institutions (i.e. banks in the form of reserve money) but to the public at large.

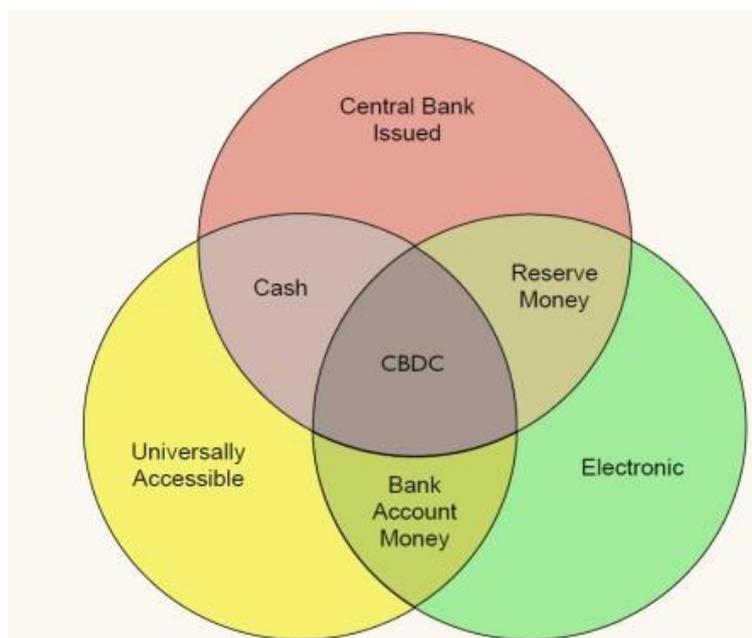


Figure 1

Source: Committee Report⁶³

⁵⁹ See Committee Report, *supra* note 2, at 37.

⁶⁰ *Fiat* money is legal tender backed by sovereign guarantee.

⁶¹ Committee Report, *supra* note 2, at 37.

⁶² See BIS, *Proceeding with caution - a survey on central bank digital currency* (BIS Papers No. 101, Jan. 2019), <https://www.bis.org/publ/bppdf/bispap101.htm> [hereinafter *BIS Report*].

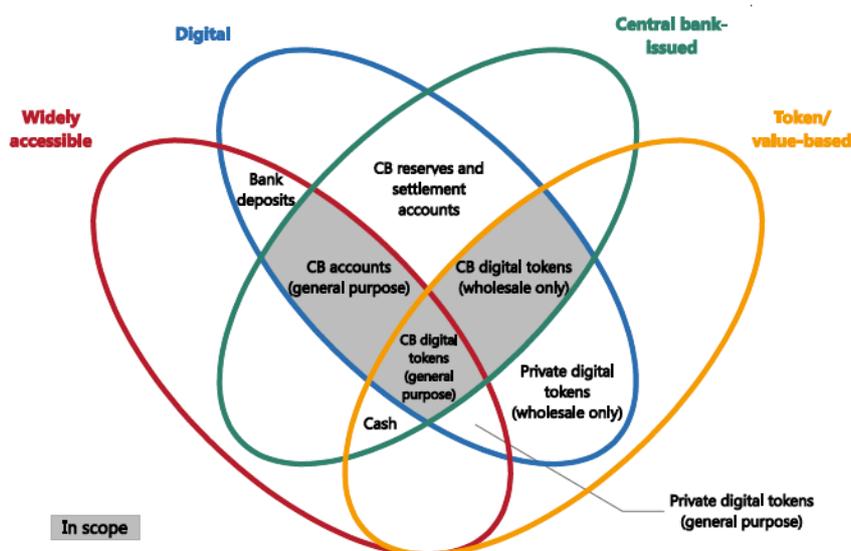
⁶³ See Committee Report, *supra* note 2, fig.3.1, at 38.

There are broadly two types of CBDCs - general purpose and wholesale, with the former having two variants⁶⁴ (token or value based, and account based)⁶⁵. The general purpose CBDCs can be used in peer-to-peer and retail payments; whereas, the wholesale CBDCs can be utilized by commercial banks and clearing houses for more efficient interbank payments that occur outside traditional correspondent banking and other payment systems.⁶⁶ Pertinently, cryptocurrencies are privately issued general purpose digital tokens.⁶⁷ Figure 2 below shows the taxonomy of money (“the money flower”).

CBDC may or may not be issued using DLT; it can alternatively operate on traditional centralized technologies.⁶⁸ However, with the advent in new technologies in fintech, central banks around the world are exploring the potential application blockchain based DLT to issue new money, equivalent to – and redeemable for – its physical cash; often simultaneously removing/replacing the equivalent amount of currency from the country’s money supply.⁶⁹

The money flower: a taxonomy of money

Graph 1



The Venn diagram illustrates the four key properties of money: issuer (central bank or not); form (digital or physical); accessibility (widely or restricted); and technology (account-based or token-based). CB = central bank. *Private digital tokens (general purpose)* include cryptocurrencies, such as Bitcoin. For examples of how other forms of money may fit in the diagram, please refer to the source.

Sources: CPMI-MC (2018); Bech and Garratt (2017).

Figure 2

Source: BIS Report⁷⁰

⁶⁴ BIS Report, *supra* note 61, at 2

⁶⁵ *Id.* (In a ‘token/value based’ variant, a person receiving a token will verify that the token is genuine; whereas, in an ‘account-based’ variant, an intermediary verifies the identity of an account holder.)

⁶⁶ See WEF, *Central Banks and Distributed Ledger Technology: How are Central Banks Exploring Blockchain Today?* 2 (Whitepaper, Mar. 2019), http://www3.weforum.org/docs/WEF_Central_Bank_Activity_in_Blockchain_DLT.pdf [hereinafter *WEF Paper*].

⁶⁷ See BIS Report, *supra* note 61, grph.1, at 2 (The money flower: a taxonomy of money).

⁶⁸ WEF Paper, *supra* note 65, at 8.

⁶⁹ *Id.*

⁷⁰ See BIS Report, *supra* note 61, grph.1, at 2

(B) Motivations behind CBDCs

CBDCs have created quite a stir within the central banking community world-wide for its potential to address long-standing challenges such as financial inclusion, payments efficiency, and payment system operational and cyber resilience.⁷¹

A recent survey⁷² of some 63 central banks (of those 41 were from emerging market economies including India) revealed, *inter alia*, the range of motivating factors for these banks to potentially issue wholesale or general purpose CBDCs. As per the survey, ‘payments safety’ and ‘domestic efficiency’ were the most important motivating factors to central banks. The banks from emerging markets valued domestic payment efficiency, financial inclusion of the community, supporting digitization and fighting financial crimes as top priority amongst the pre-defined list of quantitative and qualitative factors.

The above is indicative that economies are viewing the potential application of DLT technology as complementing (if not supplanting) the financial and credit system of their countries. The attractiveness of CBDCs as a viable alternative to cash may be the reason why the Inter-Ministerial Committee itself recommended that “all private cryptocurrencies, except any cryptocurrency issued by the State, be banned in India.”⁷³

V. PROPOSAL FOR INDIA: HYBRID CBDC - LIBRA MODEL

(A) Introduction to Libra

Facebook recently released its white paper⁷⁴ for its new decentralized blockchain, low-volatility cryptocurrency and smart contract platform - Libra. The white paper claims that the proposed model seeks mass-market usage of Libra by overcoming issues of volatility and lack of scalability, inherent in other cryptocurrencies. According to Facebook, these issues have made existing cryptocurrencies poor stores of value and mediums of exchange. The proposed model is made up of three parts:

(i) Libra Blockchain

The Libra currency will be built on an open source Libra Blockchain. *Inter alia*, the Libra

⁷¹ WEF Paper, *supra* note 65, at 4.

⁷² BIS Report, *supra* note 61.

⁷³ Committee Report, *supra* note 2, at 34.

⁷⁴ Libra, *An Introduction to Libra* (White Paper, Revised Jan. 21, 2010), <https://libra.org/en-US/white-paper/> [hereinafter *Libra Paper*].

Blockchain⁷⁵ will be a permissioned⁷⁶ blockchain using a Byzantine Fault Tolerant (BFT) consensus approach. The Whitepaper claims that this approach will build trust in the network as it is designed to function correctly even if up to one-third of the network's validator nodes are compromised or fail. This will enable high transaction throughput, low latency and a more energy-efficient approach to consensus as against "proof of work" used in other blockchains (discussed above with respect to Bitcoin). Further, unlike other blockchains, the Libra Blockchain will use a single data structure that records the history of transactions and states that over time. Making it 'open access' will ensure low barriers to entry and innovation and encourage healthy competition that benefits consumers. In sum, Facebook claims that by way of implementing this new technology, it will be able to ensure highly secure and reliable blockchain with scalability to billions of accounts.

(ii) *The Libra Currency and Reserve*

The Libra is claimed to be a stable digital cryptocurrency that will be fully backed by a reserve of real assets, the Libra Reserve. Instead of "pegging" the Libra to a single currency, the Reserve will comprise of a collection of low-volatility assets, such as bank deposits and short-term government securities in currencies from stable and reputable central banks. The assets will be held by a geographically distributed network of custodians with investment-grade credit rating to provide security and decentralization of assets. This will be supported by a network of exchanges trading in Libra, thereby ensuring convertibility of Libra into local *fiat* currency based on a (prevailing) exchange rate.

(iii) *The Libra Association*

A Libra Association will be set up to facilitate the operation of the Libra Blockchain and coordinate activities between the network's validator nodes. The Association will be an independent, not-for-profit membership organization, headquartered in Geneva, Switzerland. The Association will manage the reserve and act as the "buyer of last resort"- being the only party able to create (mint) and destroy (burn) the Libra.⁷⁷

The Association will be governed by the Libra Association Council, comprised of one representative per validator node - to make decisions on the governance of the network and

⁷⁵ The Libra Blockchain will also use "Move", a new programming language for implementing custom transactions logic and smart contracts; and "Merkle trees", a data protection structure used by Bitcoin and other blockchains that enables the detection of any changes to existing data; *See Id.* at 5.

⁷⁶ In a permissioned DLT, access is granted to a limited number of validator nodes; *See Id.* at 4.

⁷⁷ Coins will be minted only when authorized resellers have purchased those coins from the Association with *fiat* assets to fully back the new coins. Coins will be burnt only when the authorized resellers sell Libra coin to the Association in exchange for the underlying assets; *See Id.* at 8.

reserve. Initially, the group will consist of the Founding Members - businesses, nonprofit and multilateral organizations, and academic institutions from around the world such as Facebook/Calibra⁷⁸, PayU, Creative Destruction Lab, Kiva, Women's World Banking etc.

In the aforesaid fashion, Facebook aims to provide “a stable currency built on a secure and stable open-source blockchain, backed by a reserve of real assets, and governed by an independent association”.⁷⁹

(B) Proposal for the Indian Economy: e-Rupee Model

From the survey⁸⁰ conducted by Bank of International Settlements⁸¹, it is seen that the concerns of Central Banks were narrowly focused on non-official digital currencies, and not on using the underlying DLT technology for supplanting the financial and credit system of the country. In light of the Supreme Court's latest ruling⁸², it is apposite for the RBI to embrace (rather than find more reasons to oppose) “crypto” as a viable addition to the existing financial structure.

The RBI was constituted for the purpose⁸³ of regulating the issuance of bank notes, keeping reserves with a view to securing monetary stability in the country, and operating the currency and credit system of the country to its advantage. With this avowed objective in mind and seeming vindication of its authority⁸⁴ to issue digital *fiat* currency, RBI ought to consider issuing CBDCs being representative of the digital form of the Indian Rupee. However, given the risks associated with cryptocurrency in general, the RBI ought to consider adopting a variant of CBDCs that specifically caters to the needs of the Indian economy.

Through this Paper, it is suggested that a hybrid of a CBDC and Libra model (“**e-Rupee**”) would work best for the Indian economy in the circumstances. The hybrid e-Rupee would entail the following key features:

(i) Libra-like Blockchain Technology

The technology ought to adopt a validation mechanism such as that of Libra Blockchain, which enables high transaction throughput, low latency and a more energy-efficient approach to consensus as opposed to the traditional “proof of work”. Being an energy-starved nation, it will

⁷⁸ Facebook created Calibra, a regulated subsidiary, to ensure separation between social and financial data and to build and operate services on its behalf on top of the Libra network; *See Id.* at 4.

⁷⁹ *Id.* at 12.

⁸⁰ *See* BIS Report, *supra* note 61.

⁸¹ Bank of International Settlements is a body corporate established under the laws of Switzerland, in the year 1930, pursuant to an agreement signed at Hague on January 22, 1930, and is owned by 60 Central Banks of different countries including the Reserve Bank of India.

⁸² SC Verdict, *supra* note 3.

⁸³ RBI Act, *supra* note 49, at Preamble.

⁸⁴ *See* Draft Bill 2019, *supra* note 10, at §4 (1) (“The Central Government, in consultation with the Central Board of the Reserve Bank, may approve Digital Rupee to be legal tender...”).

prove beneficial for India to adopt the BFT consensus approach despite the tradeoff of being susceptible to greater security/hacking risks. The RBI must also consider making the blockchain open source and permissionless to ensure financial inclusion of a 1.3 billion populace; but with adequate safeguards in place to protect the innocent end consumer.

(ii) *Fiat Currency and Central Bank's Reserve of Assets*

Under the proposed model, the RBI will embrace new technology to issue digital fiat currency, while simultaneously removing the equivalent amount of currency from the country's money supply. This replacement would be required to control inflation rates pursuant to increased money supply in the digital form. Further, as with physical fiat currency, the e-Rupee will function as legal tender backed by sovereign guarantee. This would mean that any creditor would be able to discharge its obligation by tendering/transferring the e-Rupee of requisite value. To guard against volatility in its intrinsic value, the e-Rupee will be pegged against an underlying asset - the United States Dollar. This is the case for physical currency, and the same ought to be the case with the digital currency as USD is considered to be at the helm in the 'hierarchy'⁸⁵ compared to all other currencies.

(iii) *Reserve Bank of India's Body of Advisors*

The RBI will embrace the pseudo-centralized nature of the Libra model by constituting a Body of Advisors (“**BOA**”) akin to the Libra Association. The BOA will comprise of professionals from different fields - technology, finance, economics etc. - and appointed by the RBI in consultation with the Ministry of Finance.

The BOA will be responsible for the operation of the Blockchain; for coordinating activities between the network's validator nodes; for establishing a network of authorized resellers and exchanges; and for managing the reserve and act as the “buyer of last resort”. In effect, the BOA will assist the RBI in discharging its current obligations in the crypto-space.

The proposed e-Rupee model set out above can assist RBI (and the Indian Government) in utilizing the DLT technology, in a pseudo-decentralised manner, to ensure financial inclusion of 1.3 billion Indians, while maintaining the integrity and security of the financial system of the country. The e-Rupee may thereby be able to satisfy and bring together the attributes of the world's best currencies - i.e., stability, low inflation, wide acceptance, and fungibility.⁸⁶

⁸⁵ See generally KATHARINA POSTER, *THE CODE OF CAPITAL: HOW THE LAW CREATES WEALTH AND INEQUALITY*, (Princeton University Press, 2019); *But see Id.* at 202 (“With the help of the digital coding technology, it may well be possible to gain a better check over the hierarchy of money.”).

⁸⁶ Libra Paper, *supra* note 73, at 7.

While the aforesaid approach may seem feasible at first glance, there are obvious downsides. Foremost amongst them being whether the RBI has legal authority to issue digital fiat in the first place. The Supreme Court stopped short of vindicating RBI's legal authority to issue digital fiat⁸⁷; and in the absence of legislative concession, the fate of e-Rupee or any other form CBDC is unclear.

Only in the recent past has India witnessed a large-scale shift from traditional banking to embracing technology for conducting day-to-day financial transactions. Financial inclusion over the digital space became possible only after majority of the populace got their hands on an affordable smartphone. However, cases of rampant phishing and other frauds have exposed the vulnerabilities of the Indian society - which begs the question - whether India is ready to embrace further technological innovations in the finance space. Whether India can overcome basic hurdles to adoption such as usability challenges, access, or insufficient government infrastructure etc.

Moreover, citizens may see e-Rupee held in accounts with RBI as a safer or more attractive substitute for holding money in deposits at a commercial bank. If citizens switch to holding money in e-Rupee, commercial bank deposits could become more volatile and volumes could decrease, which would cause instability in commercial bank balance sheets and a potential reduction in lending activity.⁸⁸ What impact will that have in the credit flow throughout the country?

Concerns may be raised regarding the precise structuring of the e-Rupee itself. How much control does RBI wish to have over the cryptocurrency supply within the economy? Will it be better to outsource the operations of the technology to an independent organization or to carve out an intra-departmental body? What should constitute the reserve of assets - the USD or a combination of stable currencies? How will cross border transactions be monitored? RBI has to find answer to these and many other critical questions before deciding to embrace "crypto" for the Indian economy.

VI. CONCLUSION

On November 8, 2016, the Indian Government announced the demonetization of its two highest bank notes in the denomination of ₹500 and ₹1000. The demonetized currency notes were

⁸⁷ See SC Verdict, *supra* note 3, para 6.170, at 176 ("At the same time, the [Draft] bill [2019] contemplated (i) the creation of a digital rupee as a legal tender, by the central government in consultation with RBI and (ii) the recognition of any official foreign digital currency, as a foreign currency in India...In case the said enactment (2019) had come through, there would have been an official digital currency, for the creation and circulation of which, RBI/central government would have had a monopoly. But that situation had not arisen.").

⁸⁸ WEF Paper, *supra* note 65, at 9.

sought to be replaced with new ₹500 and ₹2000 notes. The Government claimed that the action would curtail the shadow economy and reduce the use of illicit and counterfeit cash to fund illegal activities and terrorism.

The announcement was followed by prolonged shortages of cash which created significant disruption throughout the economy. The move was criticized for being poorly planned and inefficiently implemented, and was met with large scale protests, litigation and strikes across the country.

Contemporaneously, India experienced widespread adoption of private digital wallets and marketplaces like Paytm and Freecharge. In fact, the Indian Government itself appealed to the public to embrace digital banking to tide over the currency crunch. In the years to follow, India witnessed entry of several new players offering digital wallets, and existing players and banks transitioned to online servicing - resulting in an exponential growth in online banking and in online day-to-day financial transactions.

At the global level, a similar transition - from cash to cashless to digital transactions, and recently to virtual currencies - was noticed amongst the more developed jurisdictions in the world; not owing to policy changes but to consumer preferences.

Since the release of the Bitcoin Whitepaper in 2008, cryptocurrencies have taken the world by storm. A large part of the last decade witnessed major economies struggling to find a suitable response to the flourishing cryptology-driven parallel global financial system. While some economies like China, imposed an outright ban on trading in virtual currencies; other jurisdictions conceded to embrace the new technologies, rather than allow a parallel system to flourish without governmental oversight. Some countries also explored other forms of virtual currencies (CBDCs) to replace their deteriorating physical cash economy.

In this quest, Sweden's Riksbank started work, in early 2017, on 'e-Krona'⁸⁹, to complement the cash and current electronic payments system in the country. Similarly, in November 2017, the Central Bank of Uruguay successfully piloted issuance and testing of the electronic 'e-Peso'⁹⁰ as a complement to their physical cash.

By contrast, the reaction of India's Central Bank has been rather dismal. Pursuant to a Circular issued in April 2018, the RBI effectively 'banned' trading in virtual currencies in India -

⁸⁹ See BIS Report, *supra* note 61, at 3 ("An e-krona might be value based (ie not an account)...The Riksbank envisages a "platform" where payment service providers (PSPs) of the e-Krona would connect and distribute the currency. Those PSPs could, the Riksbank thinks, use DLT in providing their services.").

⁹⁰ *Id.* at 5 ("In total, 20 million e-Pesos were issued, of which 7 million were distributed by a third-party PSP, which held an equivalent value of pesos in a central bank account.").

sounding the death knell for majority of ‘crypto’ traders and investors. RBI’s “bury head in the sand” response was met with several lawsuits filed around India; ultimately finding their way to the Apex judicial body.

On March 4, 2020, the Supreme Court lifted the ‘ban’ on trading in virtual currencies. The Supreme Court recognized RBI’s authority to regulate the field but held against imposition of a total prohibition. The ruling comes as a welcome respite for the Indian fintech community.

The need of the hour is for RBI to embrace the recent technological innovations and devise novel ways for advancing payment safety, financial inclusion and cross border efficiencies. As the Supreme Court states “[w]hen currency itself has undergone a metamorphosis over the centuries, from stone to metal to paper to paperless and we have ushered into the digital age, cashless transactions (not penniless transactions) require banking channels.”⁹¹

Through this Paper, I have attempted to analyze the benefits of the underlying technology in cryptocurrencies and its usage in issuance of a hybrid form of CBDCs to stimulate the current financial system of the country. I propose a e-Rupee model to assimilate the advantages of Facebook’s Libra currency model with the need for necessary control and supervision attached to the nature of CBDCs.

Vibrancy of the Indian financial system requires acceptance of cryptocurrencies as an alternate mode of payments. The Supreme Court has championed the case of the crypto-traders and investors. One can only wait and look to the other two arms of the Indian Constitution to play their part in stimulating India’s economy with the adoption of these new innovations.

⁹¹ SC Verdict, *supra* note 3, para 6.144, at 145.