

THE ISSUES AND CHALLENGES IN REGULATING CRYPTOCURRENCY: LESSONS FROM INDIAN PERSPECTIVES

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ABSTRACT

Cryptocurrencies have emerged as a disruptive force in the global financial landscape, presenting unique regulatory challenges for governments worldwide. This research paper focuses on the role of financial institutions such as central banks in regulating cryptocurrencies, with a specific emphasis on the Indian context. The paper begins by providing an overview of cryptocurrencies and the regulatory challenges they pose. It explores the distinctive characteristics of cryptocurrencies and the concerns related to investor protection, money laundering, and financial stability.

Moving specifically to the Indian context, the paper delves into the legal framework and regulatory measures pertaining to cryptocurrencies in India. Furthermore, it identifies the key challenges faced by Indian regulatory authorities in their efforts to regulate cryptocurrencies effectively. Based on these insights, the paper offers future directions and recommendations for cryptocurrency regulation in India. It proposes potential regulatory reforms that strike a balance between fostering innovation and mitigating risks. Moreover, it emphasizes the importance of collaborative approaches and international cooperation to address the cross-border nature of cryptocurrencies effectively. In conclusion, this research paper sheds light on the role of central banks in regulating cryptocurrencies, focusing on the Indian context. By analysing the experiences and perspective, it provides valuable lessons that can inform future policymaking and contribute to the development of effective regulatory frameworks for cryptocurrencies in India and beyond.

Key Words: - Cryptocurrency, Block Chain Technology, Regulation, etc.

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1. INTRODUCTION

The rise of information and communication technologies has created many new opportunities in the financial and business sectors. One of the most notable developments among them is the emergence of cryptocurrencies. They are digital or virtual currencies that utilize cryptographic techniques to secure transactions and control the creation of new units. They operate on decentralized networks, typically based on blockchain technology, which allows for secure and transparent peer-to-peer transactions without the need for intermediaries like banks or governments.¹ The decentralized nature of cryptocurrencies offers several potential advantages, including increased security, reduced transaction costs, faster cross-border transfers, and greater financial inclusivity.

One of the key features that distinguish cryptocurrencies from traditional forms of currency is their underlying technology, the blockchain.² A blockchain is a distributed ledger that records all transactions in a transparent and immutable manner. This technology ensures the integrity and transparency of transactions, as each transaction is verified and recorded by multiple participants in the network. This decentralized and transparent nature of blockchain technology has attracted considerable interest from various industries beyond finance, including supply chain management, healthcare, and voting systems.

The rapid growth and adoption of cryptocurrencies have presented both opportunities and challenges for financial institutions, businesses, regulators, and consumers. On one hand, cryptocurrencies have facilitated innovative business models, such as Initial Coin Offerings (ICOs) and decentralized finance (DeFi) platforms, enabling new forms of fundraising and financial services. Additionally, cryptocurrencies have provided individuals with greater control over their finances, particularly in regions with limited access to traditional banking services.

On the other hand, the decentralized and pseudonymous nature of cryptocurrencies has raised concerns related to money laundering, terrorist financing, tax evasion, and consumer protection. Regulatory authorities, including central banks, have grappled with developing

¹ BW Christian Beer, Bitcoin – The Promise and Limits of Private Innovation in Monetary and Payment Systems. Retrieved from Research Gate: <https://www.researchgate.net/publication/271473884> (2015, January 28).

² S Basu, T R Saha, & S K Maity, Implications of cryptocurrency: A new business proposition of today's entrepreneurial horizon. *International Journal on Recent Trends in Business and Tourism (IJRTBT)*, 2(3), 64-70 (2018).

appropriate frameworks to address these concerns while fostering innovation and maintaining financial stability.

Central banks play a crucial role in the regulation and oversight of the financial system. As the custodians of monetary policy and financial stability, central banks have a vested interest in understanding and managing the implications of cryptocurrencies on the economy. They have been at the forefront of exploring the potential benefits and risks associated with cryptocurrencies and formulating appropriate regulatory responses.

The regulation of cryptocurrencies by central banks varies across jurisdictions, reflecting different approaches and priorities. Some central banks have embraced cryptocurrencies, recognized their potential benefits and explored the use of blockchain technology in their operations. Others have taken a more cautious stance, emphasizing consumer protection, anti-money laundering measures, and the stability of the financial system. The regulatory approaches employed by central banks range from outright bans or restrictions to licensing and supervision of cryptocurrency-related activities.

In the Indian context, the Reserve Bank of India (RBI) has closely monitored and regulated cryptocurrencies. In 2018, the RBI issued a circular prohibiting banks and financial institutions from providing services to individuals or businesses dealing in cryptocurrencies. However, this circular was subsequently overturned by the Supreme Court of India in 2020, which deemed it unconstitutional. Since then, the regulatory framework surrounding cryptocurrencies in India has been evolving, with ongoing discussions and deliberations to strike a balance between innovation, consumer protection, and financial stability. Some of the most popular cryptocurrencies are Bitcoin, Ethereum, Tether, Binance Coin, USD Coin, etc.

2. HISTORICAL DEVELOPMENT OF CRYPTOCURRENCY

Although the history of cryptocurrency is very short, it can be traced back to the early 1980s, when David Chaum, a computer scientist at the Massachusetts Institute of Technology, proposed the idea of a digital currency that would be secure and anonymous. Chaum's idea was not immediately adopted, but it laid the foundation for the development of cryptocurrencies in the years to come.

In 1998, Wei Dai published a paper titled "B-Money," which outlined a design for a digital currency that would be decentralized and secure.³ Dai's paper was influential in the development of Bitcoin, which was created in 2009 by Satoshi Nakamoto.⁴ Bitcoin is the first and most well-known cryptocurrency, and it has been followed by a number of other cryptocurrencies, such as Ethereum, Litecoin, and Ripple. The price of Bitcoin was just \$0.09 in 2009, which reached all time high to \$68,991 in November, 2021.⁵

Cryptocurrencies have been praised for their potential to revolutionize the way we think about money. They are decentralized, meaning that they are not subject to government control. They are also secure, thanks to the use of cryptography. However, cryptocurrencies have also been criticized for their volatility and their potential to be used for illegal activities.

The future of cryptocurrency is uncertain. Some experts believe that cryptocurrencies could become a mainstream form of payment, while others believe that they will remain a niche product. Only time will tell how cryptocurrencies will ultimately be used.

Here is a more detailed timeline of the history of cryptocurrency:

- ✓ 1983: David Chaum conceives of the idea of a digital currency called ecash.
- ✓ 1995: Chaum implements ecash through Digicash, an early form of cryptographic electronic payments.
- ✓ 1996: The National Security Agency publishes a paper entitled How to Make a Mint: the Cryptography of Anonymous Electronic Cash, describing a cryptocurrency system.
- ✓ 2008: Satoshi Nakamoto publishes the Bitcoin whitepaper, outlining the design for a peer-to-peer electronic cash system.
- ✓ 2009: Bitcoin is launched.
- ✓ 2011: Namecoin is created as an attempt at forming a decentralized DNS.
- ✓ 2013: Ethereum is launched.

³ W. Dai, "b-money," available at <http://www.weidai.com/bmoney.txt>, 1998.

⁴ Satoshi Nakamoto: "Bitcoin: A Peer-to-Peer Electronic Cash System" available at www.bitcoin.org/bitcoin.pdf

⁵ John Edwards, Bitcoin's Price History, available at <https://www.investopedia.com/articles/forex/121815/bitcoins-price-history.aspx>

- ✓ 2014: Ripple is launched.
- ✓ 2021: The price of Bitcoin reaches a new all-time high of \$68,991
- ✓ 2022: The cryptocurrency market experiences another crash.

The history of cryptocurrency is still being written, and within short span of time the development in field has been phenomenal. Although still in nascent stage, the possibilities of further development in this field are immense.

3. CREATION AND PRICING OF CRYPTOCURRENCY

Cryptocurrencies are typically created through a process called mining, although there are other mechanisms for token creation as well. Mining involves solving complex mathematical problems using computational power to validate and add transactions to the blockchain. Miners compete to solve these problems, and the first one to solve it successfully is rewarded with newly created cryptocurrency tokens as an incentive. This process ensures the security and integrity of the blockchain network⁶

Different cryptocurrencies have different mechanisms for token creation. Bitcoin, for example, uses a proof-of-work (PoW) consensus algorithm, where miners compete to solve computational puzzles. Ethereum, on the other hand, is transitioning from PoW to a proof-of-stake (PoS) mechanism, where validators are chosen to validate transactions based on the number of tokens they hold and are willing to "stake" as collateral.⁷ Other cryptocurrencies may use alternative consensus mechanisms like delegated proof-of-stake (DPoS), practical Byzantine fault tolerance (PBFT), or directed acyclic graph (DAG) structures.

In addition to mining, some cryptocurrencies are created through pre-mined distributions or initial coin offerings (ICOs). Pre-mined distributions involve creating a certain number of tokens upfront, which are then allocated to various stakeholders or used for specific purposes. ICOs involve selling a portion of the cryptocurrency's initial supply to investors in exchange for other established cryptocurrencies or fiat currencies.

⁶ Soni, N. (2020). An Analysis of Cryptocurrency and Their Functioning.

⁷ Kim T. The Predecessors of Bitcoin and Their Implications for the Prospect of Virtual Currencies. PLoS ONE. № 10(4). URL: <https://doi.org/10.1371/journal.pone.0123071>

4. PRICING OF CRYPTOCURRENCIES

The pricing of cryptocurrencies is determined by supply and demand dynamics in the market. Unlike traditional fiat currencies, which are typically regulated by central banks, cryptocurrencies operate in a decentralized and often volatile market. Several factors contribute to the pricing of cryptocurrencies:

1. **Market Forces:** The prices of cryptocurrencies are influenced by supply and demand dynamics. If the demand for a particular cryptocurrency surpasses its available supply, the price tends to increase. Conversely, if the supply exceeds demand, the price may decrease.
2. **Investor Sentiment:** Cryptocurrency prices are sensitive to investor sentiment, which can be influenced by factors such as market trends, news, regulatory developments, and economic indicators. Positive news, institutional adoption, or favorable regulatory announcements can drive up prices, while negative news or regulatory uncertainty can lead to price declines.
3. **Utility and Adoption:** The utility and adoption of a cryptocurrency play a significant role in its pricing. Cryptocurrencies that have widespread use cases, a robust network, and strong community support are more likely to have higher demand and value.
4. **Market Liquidity:** The liquidity of a cryptocurrency, i.e., the ease with which it can be bought or sold in the market, affects its pricing. Cryptocurrencies with higher trading volumes and liquidity tend to have more stable prices, while illiquid cryptocurrencies may experience higher price volatility.
5. **Market Manipulation:** The relatively unregulated nature of the cryptocurrency market leaves it susceptible to market manipulation. Activities like pump-and-dump schemes, where a group artificially inflates the price of a cryptocurrency before selling it off, can distort prices temporarily.

It's important to note that the cryptocurrency market is highly volatile and subject to rapid price fluctuations. Their pricing is determined by market forces, investor sentiment, utility and adoption, market liquidity, and the potential impact of market manipulation. Understanding these factors is crucial for comprehending the dynamics of the cryptocurrency market and making informed decisions related to cryptocurrency investment or trading.

5. REGULATION OF CRYPTOCURRENCY

Cryptocurrencies have not been recognized as currencies by the RBI, and no specific laws or laws related to cryptocurrencies have been introduced in India till date. Due to the lack of a clear legal definition of cryptocurrencies, cryptocurrencies are currently regulated by various requirements of applicable law. This creates a complex situation, where we neither have a clear definition of cryptocurrency, nor clear regulation.

Cryptocurrencies may be defined as a "computer programme" under the Indian Copyright Act of 1957.⁸ This is a series of instructions expressed in different formats, such as computer-readable media, which includes words, codes, schemas, or computers that execute a specified task or achieve specific results. Furthermore, bitcoins are probably certainly intangible "goods" under the Sale of Goods Act of 1930. Foreign exchange tax, service tax implications, if cryptocurrency mining is deemed a service, and earnings from bitcoin sales are all factors to consider.

Considering the increasing popularity and awareness of cryptocurrencies such as Bitcoin, Ripple, Dogecoin, and others among Indians, many have begun to invest the majority of their time and money in these virtual Currencies, hoping to profit from the current global wave.⁹ As a result of the massive popularity of the crypto market, its usage within a year, and potential revenue loss, the Government of India, regulators, and authorities began to take notice, and in 2013, the Reserve Bank of India (RBI) issued a press release warning the public against dealing in virtual currencies such as Bitcoin.

The Government of India formed a high-level Inter-Ministerial Committee in November 2017 to report on various issues concerning the use of virtual currency. While the report of this committee was pending RBI issued a circular in early April 2018 prohibiting all commercial and cooperative banks, small finance banks, payment banks, and NBFC from not only dealing in virtual currencies but also directing them to stop its usage. This completely broke down the cryptocurrency market in India. Following that, in July 2019, this Committee submitted its report. That effectively broke down the crypto sector because exchanges required banking services to transfer and receive money for turning it into cryptocurrency and

⁸ Section 2(ffc) of the Indian Copyright Act, a computer programme is defined as a "set of instructions which are expressed in words, codes, schemes or in any other form, which also includes a machine readable medium, capable of causing a computer to perform a particular task or achieve a particular result".

⁹ James, B. (2018). Cryptocurrency: An overview on its impact on Indian Economy, International Journal of Creative Research Thought .695-698.

paying workers, vendors, office space, and so on. Following that, in July 2019, this Committee issued a report suggesting a total ban on private cryptocurrency in India.¹⁰ However, the situation surrounding cryptocurrency and its use dramatically changed on March 4, 2020, when the Apex Court of India, i.e., the Hon'ble Supreme Court of India, issued a ruling quashing the earlier ban imposed by the RBI.

6. CRYPTOCURRENCY AND REGULATION OF OFFICIAL DIGITAL CURRENCY BILL, 2021

The Official Digital Currency Bill, 2021, which is pending in Lok Sabha aims to establish a regulatory framework for the creation of an official digital currency issued by the Reserve Bank of India. The bill proposes a blanket ban on private cryptocurrencies, although there may be some exceptions. Initially, the Indian government was firm in its decision to prohibit cryptocurrencies and advocated for a complete ban.¹¹ However, experts argue that it may be challenging to ban cryptocurrencies entirely as they contain code segments that can still be utilized as a medium of exchange and hold value.

One of the key concerns revolves around private cryptocurrencies and the confusion surrounding their classification. While the government has not clearly defined them, private cryptocurrencies are typically associated with transactions linked to wallet addresses. Some cryptocurrencies engage in anonymous blockchain transactions, concealing users' real wallet and address information. These are referred to as "private cryptocurrencies." However, the classification of private cryptocurrencies remains unclear. It is important to note that the majority of cryptocurrencies are developed by private entities or companies and not by the government.

The ownership of cryptocurrencies is another focus of the bill. Popular cryptocurrencies like Bitcoin and Ethereum, if classified based on ownership, could face a ban. Bitcoin, Ethereum, and similar currencies are not controlled or managed by any private entity, and transactions occur on public ledgers, making them public cryptocurrencies. However, past incidents of private cases, such as scams and fraudulent activities, may support the government's decision to ban private cryptocurrencies.

¹⁰ Kumar, M. (2018). 'Bitcoins in India: A Study of Legal and Economic Aspects'. Journal of Business and Management, 20(2), p-ISSN: 2319-7668, 75-78.

¹¹ All you need to know the RBI Central Bank Digital Currency or digital rupee. (2022, February 11). The Economic Times. <https://economictimes.indiatimes.com/wealth/save/all-you-need-to-know-the-rbi-central-bankdigital-currency-or-digital-rupee/what-is-the-digital-rupee/slideshow/89409003.cms>

The Official Digital Currency Bill suggests that cryptocurrencies will not become legal tender in India. The original concept of cryptocurrencies was to serve as an alternative to fiat currency regulated by government authorities. While countries like El Salvador have embraced Bitcoin as legal tender, India is unlikely to replace fiat currency with any form of cryptocurrency.

The Reserve Bank of India (RBI) has shown interest in introducing its own digital currency, although details about it have not been disclosed. The RBI has expressed concerns about cryptocurrencies' potential threats to the economy. The Regulation of Official Digital Currency Bill, 2021 indicates that an RBI-backed official digital currency will be introduced in the future. There is speculation that the proposed Official Digital Currency Bill aims to promote a newly established RBI-backed cryptocurrency. The government may allow cryptocurrency exchanges through officially recognized platforms and establish a dedicated body to oversee cryptocurrencies under the purview of the RBI.

7. CONCLUSION

In conclusion, the absence of a regulatory framework for cryptocurrencies in India has left the cryptocurrency space unregulated. While the Supreme Court's ruling¹² has brought some momentum to the crypto market, there are concerns about a potential government bill that could ban cryptocurrencies. Despite these uncertainties, cryptocurrency start-ups remain optimistic about the vast potential and future of cryptocurrencies in India. They are actively engaging with the government to advocate against a blanket ban.

The use of blockchain technology by Indian banks, such as the ongoing testing of BankChain, provides a glimmer of hope for the regulation of cryptocurrencies. These developments demonstrate the potential for utilizing blockchain in areas such as integrated corporate e-KYC platforms and asset registers. Experts argue that a complete ban on cryptocurrencies is not a viable solution. Instead, the government should focus on harnessing the benefits of cryptocurrencies and their underlying technology. A risk-based framework, addressing various aspects such as legal tender, security contracts, taxation, financial markets, data storage, and privacy, should be developed in consultation with stakeholders and market participants. Implementing such a framework in phases could pave the way for a bright future for cryptocurrencies in India, fostering their evolution and advancement in the years to come.

¹² Internet and Mobile Association of India V. Reserve Bank of India, Writ Petition (Civil) No.528 of 2018.