

## CRYPTOCURRENCY: AN IN-DEPTH ANALYSIS OF HISTORICAL EVOLUTION AND ASSOCIATED RISKS

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### ABSTRACT

*With the rapid advancement of information technologies, cryptocurrencies have become an increasingly popular topic in the financial sector. In the financial market, cryptocurrency has brought about legendary developments that have positive as well as negative consequences. Objectives of the study are to study the historical background of cryptocurrency in India and major risk and issues associated with cryptocurrency. Result of the study shows that journey of cryptocurrency in India has faced many ups and downs. This study also explains various issues and risk in the cryptocurrency market.*

**Keywords:** *Cryptocurrency, Blockchain, Bitcoin, Peer-to-Peer, Cryptography.*

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### Introduction

Since all economies now accept particular currencies (money) as a form of exchange, today's economies are all money economies. The excess and decrease in the money supply produce inflation and deflation in economies, respectively. As a result, governments around the world regulate their respective national currencies to prevent these two economic conditions. Many nations throughout the world are now focusing on digital currencies and transactions. Even some people do not want their money and transactions to be regulated. This led to more advancement in the field of new money, particularly in the field of cryptocurrency, one of the most cutting-edge, unclear, and unregulated currencies.

The global digital economy is rapidly expanding and evolving, forcing all market participants to make necessary changes to their daily operations. One of the most significant and revolutionary technologies nowadays is blockchain technology. By maintaining immutable distributed ledgers across thousands of nodes, blockchain is the primary technology behind the creation of the cryptocurrency Bitcoin (Nakamoto, S., 2008). Blockchain technology struggled to attract much attention when it first started to emerge. The society has subsequently understood the huge potential of the underlying technology of this finding in its application to not only cryptocurrency but to a wide range of other fields as bitcoin has continued to operate safely and steadily over the years (Underwood, S., 2016).

The digital tokens known as cryptocurrencies are created by cryptographic algorithms and used as a form of payment. The peer-to-peer networking technology is then used by these tokens to move through internet. The supply and demand for the tokens determine their values. India is drafting laws to control cryptocurrencies, but no draught has been made available to the public as of yet.

Regulators have issued warnings against the usage of cryptocurrencies in a number of nations. Some nations have implemented particular regulatory measures to prevent potential bitcoin adopters. There are no legitimate means to recover cryptocurrency payments made when a problem emerges, but authorities work to create solutions to ensure that users of cryptocurrencies are protected (Castillo & Brito, 2019).

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## Cryptocurrency

The concept of cryptocurrencies is new to the world economy. They have only been around for around 13 years, yet they have already garnered a lot of attention. They have had unpredictable fluctuations in their exchange rates, particularly after 2013. The category of virtual currency includes cryptocurrencies. We can imagine cryptocurrencies as a type of digital currency that operates on the principles of cryptography to enable the execution of safe decentralised and distributed economic transactions (Greenberg, A., 2011). The first cryptocurrency introduced in 2009 known as bitcoin. Cryptocurrencies are a decentralised type of money that are not governed by any authorities. Since double spending can be prevented, they are generated utilising cryptography, which increases their level of security. Additionally, as there are no middlemen involved, they can be sent directly to the recipient's digital wallet.

A Cryptocurrency is defined as “a digital asset designed to work as a medium of exchange using cryptography to secure the transaction and to control the creation of additional units of the currency”.

### Review of Literature

Understanding the Blockchain technology which drives the cryptocurrency platform is essential before trying to assess the potential worth of cryptocurrencies. Blockchain is the foundation of the decentralized payment system, and it was first developed by Satoshi Nakamoto in 2008. The initial intention was to design a system of electronic payment using cryptographic proof rather than faith (Waldo, 2019).

DeVries (2016) in their study concludes that with a free-flowing, fee-free trading structure, cryptocurrencies are revolutionising the market for digital currencies. The primary driver of the steadily expanding market for digital money is rapid technological improvement. Still, cryptocurrencies cannot replace the place of conventional money. Recent developments and movements may also have an impact on how significantly Bitcoin can influence a change in economic paradigms.

Thackeray, (2018) explain in their study the advantages of cryptocurrency include improving cross-border payments. But the scope and structural deficiencies of the cryptocurrency markets as well as their connections to the conventional financial systems might cause a huge disruption to the world economy. The value of cryptocurrencies is solely based on supply and demand, making them volatile and subject to dramatic fluctuations in value.

Auer (2019) concluded that the management and storage of cryptocurrencies continue to be severely restricted by security concerns. A user's wallet might be attacked by hackers, who would then take the bitcoin. In 2016, a bug in the Ethereum protocol application led to the theft of ether tokens, which at the time were worth about USD 70 million.

### Objectives of the Study

- To study the historical background of cryptocurrency in India
- To study the major risk and issues associated with cryptocurrency

### The Journey and Future Aspects of Cryptocurrency in India

Around 2009, Bitcoin became the first cryptocurrency to be used in India. In 2010 there was the first business transaction, and in 2013 there was the first cryptocurrency exchange. In the market for cryptocurrencies, India has been extremely active. With more than 15 million retail investors, more than 60% of the states in India are emerging as CryptoTech adopters. A strong institutional presence and almost 230 start-ups in this industry also exist in the nation, providing many prospects for expansion (Times of India, 2016).

Timeline	Description	
2008	Introduction to Cryptocurrency	First cryptocurrency Bitcoin introduced in 2009 after a paper titled "Bitcoin: A Peer to Peer Electronic Cash System" was published.
2010	First Sale using Cryptocurrency	The first Bitcoin transaction was someone exchanging 10,000 Bitcoin for two pizzas. For the first time, this provided cryptocurrencies a monetary worth. The digital currency quickly gained popularity as new cryptocurrencies like Litecoin, Namecoin, and Swiftcoin started to appear.

2013	Circular issued by RBI	The Reserve Bank of India (RBI) released the first cryptocurrency-related circular as cryptocurrency investments increased in India as well and exchanges like Zebpay, Pocket Bits, Coinsecure, Koinex, and Unocoin started to emerge. The RBI issued a warning to users, holders, and traders of virtual currencies (VCs), such as bitcoins, concerning potential hazards to their finances, operations, legality, customer protection, and security.
2017	Warning regarding no legal tender o	A year after demonetization, as the Indian cryptocurrency sector was expanding quickly, the Reserve Bank of India (RBI) issued a warning in 2017 warning people that cryptocurrencies are not considered legal tender in the country. However, there was no virtual currency restriction.
2018	Ban on crypto trading by bank and other financial institutions	The Central Board of Digital Tax (CBDT) presented the finance ministry with a draught plan to outlaw virtual currencies in March 2018. About a month later, the RBI issued a circular prohibiting banks, NBFCs, and payment system providers from working with virtual currencies and offering their services to virtual currency exchanges.
November 1, 2018	#IndiaWantsCrypto	Nischal Shetty, the founder of WazirX, launched the #IndiaWantsCrypto campaign on November 1st, 2018, ten years after Nakamoto's article called for the favourable regulation of cryptocurrencies in India. The campaign's initial impact was when Rajeev Chandrashekhar, a current Rajya Sabha MP, responded favourably to it.
2019	Ban on cryptocurrencies	According to the RBI, participating in cryptocurrency trade, mining, holding, or use is punishable in India with a fine or up to 10 years in prison. Additionally, the RBI stated that it might introduce the digital rupee as legal money in India in the future.
March, 2020	Strike Down the Crypto Banking Ban by Supreme Court	Ban on cryptocurrencies imposed by RBI removed by Supreme court of India.
January 29, 2021	Announcement of CryptoBill	The Indian government stated that it would introduce legislation to establish a national digital currency and then outright prohibit private cryptocurrencies.
November, 2021	Not banned but regulated	The Standing Committee on Finance came to the conclusion that cryptocurrencies should be regulated rather than outlawed after meeting with the Blockchain and Crypto Assets Council (BACC) and other cryptocurrency stakeholders in November 2021.
2022	Union Budget 2022-2023	Union Finance Minister Nirmala Sitharaman has stated at the annual budget 2022 that the government would tax income from cryptocurrency investments at 30%. However, India has yet to grant the legislation legal status.

### Major Risk and Challenges Associated with Cryptocurrency

- **Theft/Fraud Risk**

Identity theft and fraud are very common in the world of cryptocurrencies. A distinction is made here; identity theft refers to the taking of a crypto trader's identity, including their private data, financial information, and other details, while identity fraud is the use of stolen information to engage in unlawful or unethical activities. The fakeness of trade volume is regarded as one of the major identity fraud problems in the area of cryptocurrencies. One another method that hackers employ to steal money with cryptocurrencies is the use of Ponzi schemes. A mother and son team from Las Vegas scammed 277 investors in 2021 of more than USD 12 million after assuring them enormous returns of 20 to 30 percent annually from investments in stocks and cryptocurrencies (Woolley & Wells, 2021).

- **Money Laundering and Fraud**

Many people hold the opinion that cryptocurrencies enable criminal networks new ways to commit fraud, money laundering, and many other kinds of other financial crimes. Cryptocurrencies enable an economic system which is utilized for criminal activities such as child pornography, money laundering, and drug trafficking. As consequently, the stability of people's lifestyles, activities, and earnings is threatened by the widespread existence of black markets in controlled economies (Scharing, 2019).

- **Loss of the Private Key**

Digital wallets are used to hold cryptocurrencies, which can only be managed by the owner of the digital wallet using public key and private key, both of which are distinct. An investor might not be able to access the cryptocurrency stored in the associated digital wallet if the private key is misplaced, destroyed, or otherwise compromised, in which case it will effectively be lost. A third party might be able to access the cryptocurrencies if the private key is obtained by this third party.

- **Legal Risk**

The argument over how to govern decentralised cryptocurrencies and the legal implications of crypto-assets is still unresolved. The "DLT" of cryptocurrencies and their rapid rise made central banks, regulators and financial institutions aware of the widening chasm between technology and decision-makers and legislation. Cryptocurrencies cannot be categorised as a specific asset class. They mix features of commodities, payments systems, securities, and currencies. Additionally, cryptocurrencies come in a variety of forms (coins, stablecoins, tokens etc.), each of which has a unique legal status. This results in uncertainty on the appropriate regulatory framework to use (Foley et al. 2019). Various norms, regulations, and legal frameworks are being used by nations all over the world to monitor and control cryptocurrency-related activity. Governments have to manage their strict and unclear regulatory regimes. Although there are no clear legal guidelines and accepted standards for cryptocurrencies, their value will likely fluctuate in the future, causing instability and maybe triggering additional financial dangers.

- **Market Risk**

Market risk is defined as a decline in investment value caused by variables that could impact the overall financial market performance and can't be avoided through diversification. Compared to traditional financial markets, the performance of the cryptocurrency market could be influenced by potential losses caused by the highly stylized nature of these digital assets. Due to its critical implications for portfolio decision-making, asset pricing analysis, market efficiency, risk management techniques and choices regarding capital budgeting, the volatility risk associated with cryptocurrencies has drawn a lot of attention. Speculative investors may be attracted to the cryptocurrency market due to its high volatility, which increases the risk of bubbles and major downturns (Baek & Elbeck, 2015).

- **Liquidity Risk**

The market cap of the top ten cryptocurrencies, including Bitcoin, Ethereum, and Litecoin, exceeds US\$2 billion. Especially, the value of Bitcoin reaches USD 190 billion in February 2020 (coinmarketcap). In recent years, cryptocurrencies have received the attention of a lot of market makers and investors. The rising speculative activity and price manipulation in the cryptocurrency markets, however, has raised a few issues. This introduces another problem about the liquidity risk of cryptocurrencies.

## **Conclusion**

The study provided a broad review of the various risks and issues connected to the cryptocurrency as well as historical background of cryptocurrency in India. The above discussion comes to the conclusion that although India's cryptocurrency journey has been relatively brief, it has experienced a lot of ups and downs. The two most important problems are the Supreme Court ruling in 2020 and the measure prohibiting cryptocurrencies in 2019. Cryptocurrencies have very much potential, particularly recently with the 2022–2023 union budget. This study also explain various risk and issues associated with cryptocurrency i.e. market risk, liquidity risk, market risk, legal risk. Risk arise due to money laundering and illegal activities etc.

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