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A comparative analysis of cryptocurrency returns and inflation in India

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Abstract

Purpose: The rapidly growing cryptocurrency market presents a potentially lucrative avenue for investment in a sector experiencing increasing demand. This study aimed to investigate the volatility of four prominent cryptocurrencies - Bitcoin, Ethereum, Tether, and BNB - and assess their impact on inflation for Indian investors.

Methodology: Data on the four chosen cryptocurrencies was collected and analyzed to assess volatility margins and trading volumes during specific periods. Microsoft Excel functions were used for data retrieval, while Bollinger Bands were generated using the open-source R statistical software (version 4.4).

Findings: Construction of Bollinger Bands with R software and data analysis using Excel revealed significant volatility in Bitcoin and Ethereum prices. Conversely, Tether and BNB demonstrated relatively low volatility.

Practical Implications: The findings of this research offer valuable insights for academics, current and potential investors, and policymakers navigating the evolving cryptocurrency market.

Originality: This study uniquely focuses on identifying cryptocurrencies with lower volatility, addressing a crucial concern for investors beyond mere utility. It stands out as a rare investigation specifically aimed at pinpointing safer cryptocurrency options for future investment.

Keywords: Volatility, Cryptocurrency, Bitcoin, Ethereum, Tether, BNB

Introduction

Cryptocurrencies carry a lot of risk and uncertainty, even though they have the potential to generate enormous riches (Research and Markets, 2022). Fears of inflation are linked to a number of the volatility problems with bitcoin investments in India.

- **High Volatility:** Due to their extreme volatility, cryptocurrency prices have a history of fluctuating significantly over brief periods of time. Because of this, projecting the future value of a Bitcoin investment may be challenging.
- **Inflation Hedge:** Some people believe cryptocurrencies can be a hedge against inflation because their values usually increase in tandem with drops in the value of fiat currencies. However, since cryptocurrencies are still a relatively young asset class, there is little historical data to back the argument, and there is no assurance that this will always be the case.
- **Regulatory Uncertainty:** Since India's regulatory landscape is continuously evolving, the government may eventually impose more strict regulations on cryptocurrencies. This makes it possible that trading cryptocurrencies or even acquiring them altogether would grow increasingly difficult (Tambe, 2024) ^[29].

In the midst of this uncertain economic environment, investing seems to be made easier by the growth of alternative currencies (Bhattacharjee & Kaur, 2015) ^[4]. Cryptocurrencies have become one of the most important financial tools, as numerous studies have shown (Narayanawamy & Karthika, 2018) ^[22]. Finding many cryptocurrencies with sustained performance potential even in erratic economic times is the aim of the current research. There appears to be a significant lack of information in the literature regarding actual, useful investment opportunities in the market, despite the fact that many research have been conducted on cryptocurrencies and volatility. This study offers a novel viewpoint on well-known cryptocurrencies and could present profitable investment opportunities for investors.

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Therefore, the proposed study has the potential to offer a fresh perspective on the subject and bolster the growing demand for Bitcoin investments that are both safer and more lucrative.

Literature Review

We have separated the literature into several sections, specifically.

Global Cryptocurrency Market

Web 3.0, the future internet architecture for decentralized ownership, was proposed by a wellknown researcher (Chohan, 2022) ^[8]. Proponents of Web 3.0 called for an internet design built on blockchain that puts user ownership and involvement first. According to Harvey *et al.* (2021) ^[14], decentralized finance, or DeFi, is a potential solution to a number of problems with the traditional financial infrastructure as well as a danger to the status quo. It was stated that the fintech projects with the longest lifespan are those that adapt the existing financial system. We contend that ventures utilizing decentralized methods, particularly blockchain technology, have the most potential to influence the future financial scene.

Investigating cryptocurrencies has drawn a lot of attention ever since Bitcoin's value spiked. The findings show that 151 articles were written by 483 distinct authors. The 151 publications written by 483 different authors were co-cited in Finance Research Letters to construct these clusters, which were then used to analyze changes in the bitcoin market (Sharma *et al.*, 2024) ^[27].

Mohsin (2021) ^[20] looked at the several challenges related to the adoption of cryptocurrencies worldwide. Concerns about the long-term effects of the widespread use of cryptocurrencies persist. Because Bitcoin mining uses a lot of energy, many opponents and environmentalists are concerned that this could increase carbon emissions and exacerbate climate change. The widespread use of Bitcoin has resulted in a dramatic upheaval of the banking industry. It also has worldwide ramifications. Regardless of your stance on cryptocurrencies, it is undeniable that Bitcoin and other proof-of-work block networks consume a significant lot of energy. Another study on the implications of the CBDC provides central bankers with additional understanding of the structure of the CBDC. Whenever possible, the CBDC should be able to be redesigned and recreated to match shifting central bank priorities (Ozili, 2022) ^[23].

An analysis of the movement of Bitcoin in the main industrialized economies using daily returns and returns on higher-frequency data showed huge swings on both sides and raised important questions about the portfolio's protective capabilities. According to Chopra and Saldi (2022) ^[9], the results also suggested that investors should proceed with extreme caution.

India's Cryptocurrency Market

With projected sales of US\$222.70 million in 2023 and a compound annual growth rate (CAGR) of 9.83% between 2023 and 2027, the Indian digital currency market is expected to expand quickly. Numerous reasons, including the further development of DeFi and other blockchain-based systems and the increasing utilisation of cryptocurrencies by consumers and organizations, are anticipated to drive the

market. By July 2023, the total estimated market value of cryptocurrencies in India is expected to be around 47.6 trillion (US\$620 billion). Tether, Ethereum, and Bitcoin are the main three cryptocurrencies currently in use in India. Since the Indian cryptocurrency market is still very young, there are still many challenges to be solved before it can develop to its full potential. Among these difficulties are:

- The lack of regulation in the cryptocurrency space: The Bitcoin market in India remains unregulated. For companies and investors, this has resulted in a lack of transparency and uncertainty.
- The extreme price volatility of cryptocurrencies: Investing in cryptocurrencies may be risky due to these virtual currency significant price swings.
- Lack of understanding about cryptocurrencies: In India, there is still a serious dearth of knowledge regarding cryptocurrencies. Consequently, it could be challenging for companies to draw in new clients and investors.
- Notwithstanding these difficulties, it is anticipated that the Indian cryptocurrency sector would expand in the upcoming years. This growth will probably be fueled by the increasing use of cryptocurrencies by businesses and consumers, as well as the continuous development of DeFi and other blockchain-based platforms.

Methods of Investment in Cryptocurrencies:

Several popular cryptocurrency investment strategies include

- **Buying and Holding (HOLDING):** Buying and holding cryptocurrencies is a long-term investment strategy in which investors buy them with the expectation that their value would rise over time. Some digital currency holders are less worried with short-term price swings because they trust in the long-term potential of these currencies (Yogarajah, 2022) ^[32].
- **Trading:** In order to profit from price fluctuations, cryptocurrency traders must make fast purchases and sales. Trading strategies include a variety of approaches, such as technical analysis and market sentiment (Cocco *et al.*, 2017) ^[11].
- **Dollar-Cost Averaging (DCA):** Regardless of the situation of the market, investors who use the DCA approach consistently allocate a set amount of money into cryptocurrencies at predetermined periods. By using this strategy, investors can lessen the impact of transient price fluctuation while gradually accumulating bitcoin assets (Constantinides, 1979) ^[12].
- **Staking:** Several cryptocurrencies employ a proof-of-stake (PoS) consensus mechanism that allows holders to participate in the network's validation process and earn rewards in the form of additional coins. Staking can be considered an investing strategy because it generates passive income (Tosh *et al.*, 2018) ^[30].
- **Mining:** The computing power that mining offers helps with network security and transaction validation. In return for transaction fees, miners get newly minted currencies. Because mining requires a lot of resources, it could not be feasible for small investors (Aste *et al.*, 2017) ^[2].
- **Token sales and Initial Coin Offerings (ICOs):** Previously, startups would make money by offering their own tokens for sale through token sales and ICOs. However, ICOs are losing popularity because to fraud

- and regulatory uncertainties (Howell *et al.*, 2020)^[17].
- **Decentralized Finance (DeFi) Yield Farming:** To generate income from their bitcoin holdings, investors can engage in a range of DeFi protocols and liquidity provision through DeFi platforms (Chohan, 2021)^[7].
- **Exchange-traded funds (ETFs) and cryptocurrency funds** are offerings of certain investment firms that enable investors to invest in cryptocurrency and obtain exposure to a wide portfolio without requiring them to possess any of the cryptocurrencies themselves (Brito *et al.*, 2014)^[6].

The Cryptocurrency Volatility

In a study, Yermack (2015)^[31] looked at the evolution of cryptocurrencies historically, as well as the causes of their volatility and possible ramifications. Cryptocurrency volatility is the term used to describe the abrupt and erratic fluctuations in the value of digital assets such as Bitcoin and other cryptocurrencies. The volatility of the cryptocurrency market is well-known, and it may lead to significant price swings in a brief amount of time. Numerous factors, like as macroeconomic trends, regulatory changes, market sentiment, technological advancements, and overall market liquidity, might affect how volatile cryptocurrencies are (Hayes, 2017)^[16]. One study examines the variables affecting the price of Bitcoin and the connection between price and mining expenses. A deeper comprehension of mining costs can help explain why the price of Bitcoin fluctuates (Hayes, 2015)^[15]. A study by Moreno-Sánchez *et al.* (2018)^[21] looked at the variables-such as market dynamics, legislative changes, and technological advancements-that affect cryptocurrency values.

Kong *et al.* (2023)^[18] used high-frequency transaction-level data to examine the return and volatility characteristics of Bitcoin in their study article. Another significant study looked at the relationship between volatility and potential profits in order to assess the risk-return tradeoff in the cryptocurrency market (Bouri *et al.*, 2018)^[5]. A study by Sakunia and Parida (2023)^[25] helped to clarify the complex relationship between social media activity and bitcoin pricing. The study's conclusions emphasized how important it is to perform in-depth research and consider a variety of aspects, such as social media participation, when making judgments about cryptocurrency investments.

The Volatility's Effect on Inflation

There is a complicated link between inflation and volatility. In general, more volatility can result in higher inflation rates. This is due to the possibility that volatility makes it harder for businesses to set prices, which could increase uncertainty and inflation. The following are a few noteworthy consequences that have been observed.

- **Wealth Effect:** Investors who own substantial holdings of digital assets may see a decrease in wealth as a result of cryptocurrency volatility. Price increases for cryptocurrencies boost investor wealth, which may encourage more spending and investment. Conversely, during times of market collapse, investors' wealth can decrease, which might result in less money being invested and spent. The economy's inflationary pressures may be impacted by these changes in investment and consumption patterns (Chuen *et al.*, 2018)^[10].

- **Speculative Activity:** Investors who purchase and sell cryptocurrencies based on brief price changes may find the erratic cryptocurrency market appealing. Price bubbles might not directly impact consumer prices, but they might have an effect on asset valuations, financial stability, and collapses brought on by this speculative activity. According to Bau *et al.* (2018)^[3], these speculative bubbles have the capacity to start financial crises that, in the worst cases, lead to inflation.
- **Currency Substitution:** In countries with high rates of inflation or unstable currencies, some people may turn to cryptocurrencies as a substitute store of value and method of exchange. The "currency substitution" that occurs when the central bank prints more money has the potential to increase inflationary pressures and decrease demand for local currency (Ammous, 2018)^[11].
- **Monetary Policy and Regulatory Impact:** The volatility of cryptocurrencies may have an effect on the monetary policy decisions made by central banks. Central banks may implement precautionary steps to protect financial stability and contain inflation in light of the cryptocurrencies' rising volatility and hazards. Investor confidence, liquidity, and general economic conditions can all be impacted by government responses to the cryptocurrency market (Meaning *et al.*, 2021)^[19]. According to a research report, there are reasons to be concerned about investing in Bitcoin and other cryptocurrencies, including value issues and the potential for the economy's goals pertaining to regulation and investment returns to become unstable (Shah, 2018)^[26].

According to the literature study above, there appears to be a difference between the volatility of early cryptocurrency stocks and the realities of the current crypto market. As a result, we must comprehend a few details about popular cryptocurrency stocks, like.

- Performance and volatility of Bitcoin cryptocurrency stocks from April 1, 2021 to March 31, 2023.
- Performance and volatility of Ethereum cryptocurrency stocks from April 1, 2021, to March 31, 2023.
- Performance and volatility of Tether cryptocurrency equities from April 1, 2021, to March 31, 2023.
- Performance and volatility of BNB cryptocurrency stocks from April 1, 2021 to March 31, 2023.

Additionally, related alternative theories have been created, which consist of

- **H1:** Longer term volatility is significant for Bitcoin cryptocurrency stocks.
- **H2:** Longer term volatility is significant for Ethereum cryptocurrency stocks.
- **H3:** Longer term volatility is significant for Tether cryptocurrency stocks.
- **H4:** Longer term volatility is significant for BNB cryptocurrency stocks.
- **H5:** Cryptocurrency prices within the same cluster exhibit comparable behavior over time.

Research Methodology & Tools

Transactional tracking secondary research served as the main source of data for the study. Between April 1, 2021,

and March 31, 2023, the stock history () function in MS Excel 2020 Enterprise Edition was used to collect the data. The data tools also featured a graphical depiction of the volume of sales trends for four major cryptocurrencies, namely Bitcoin, Ethereum, Tether, and BNB, during a period of 513 stock trading days, as well as a calculation of volatility using Bollinger Bands. This instrument, which is recognized as one of the fundamental techniques for obtaining stock data from stock market indices worldwide, depicts stocks traded at various prices and in varying volumes. From now on, Microsoft Excel 365 Version (2023) and its features were used to collect and organize stock data in a methodical manner.

Analysis & Results

The graphical depiction of the analysis looks like this.

- **Volatility of Bitcoin:** Figure 1 illustrates the range of volatility for the stocks, which traded between 2,174,748 and 3,410,449 units, or from the 128th to the 178th day.
- **Volatility of Ethereum:** Figure 2 shows how the equities traded between 139,784 and 149,496 units, respectively, over the 88th and 128th day period, or between 5.022 and 5.428.
- **Volatility of Tether:** Figure 3 shows how, from the 126th to the 154th day, when stocks traded between 110,158 and 212,027 units, respectively, volatility fluctuated between 39.55 and 56.20.
- **Volatility of BNB:** The range of volatility, as indicated in Figure 4, was 0.4311 to 1.51, or the 392nd to 434th day, during which the value of the stocks traded ranged between 5,000 and 34,000 units, respectively.

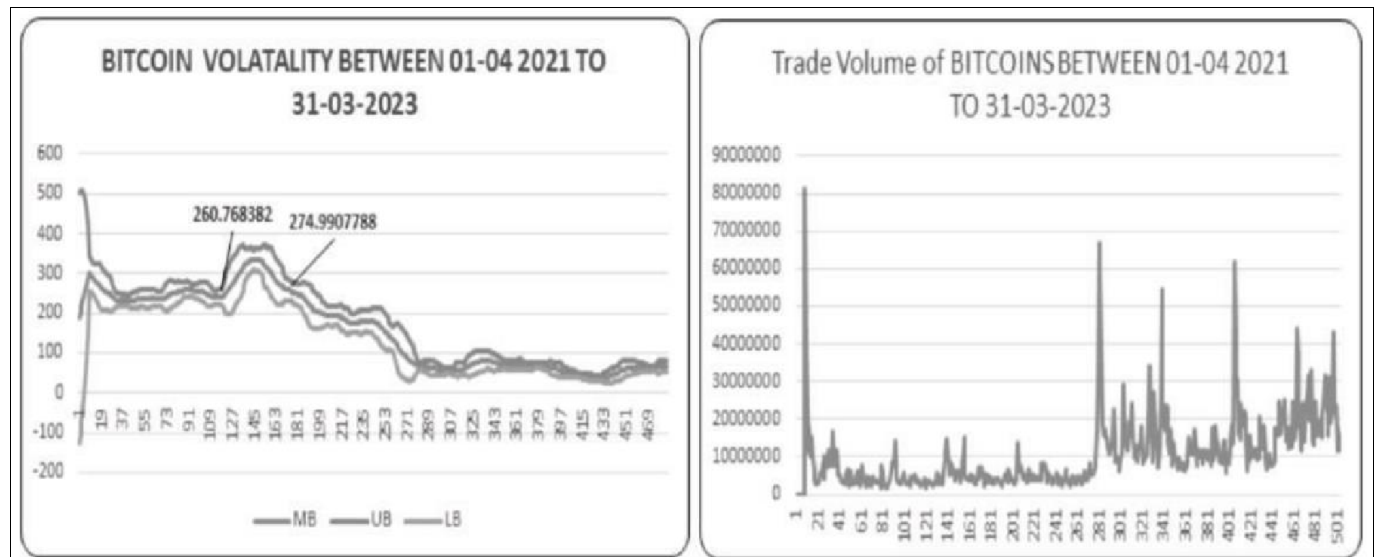


Fig 1: Bitcoin Volatility and Stocks Traded from April 1, 2021 to March 31, 2023

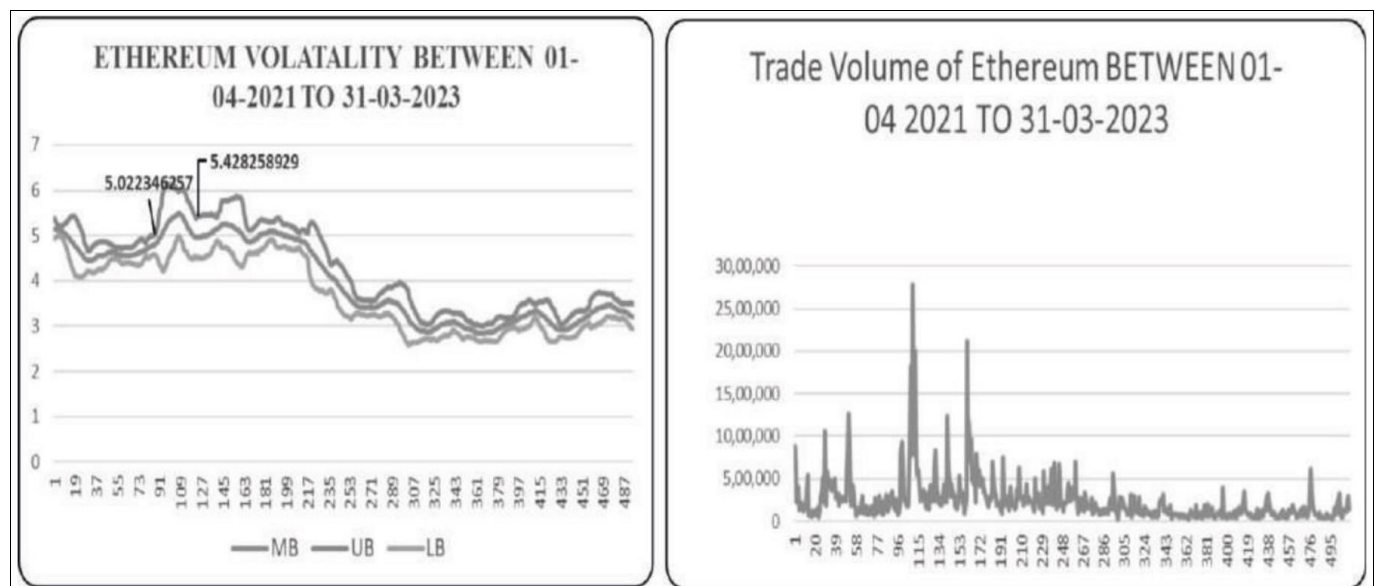


Fig 2: Ethereum Volatility and Stocks Traded from April 1, 2021 to March 31, 2023

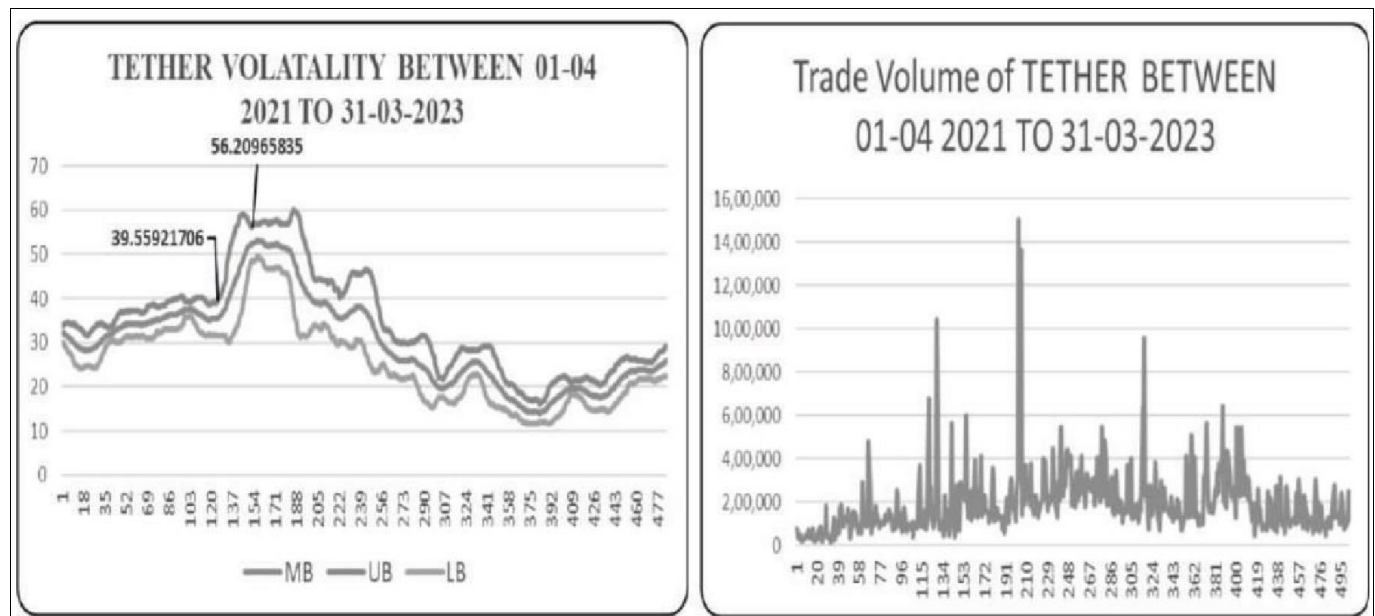


Fig 3: Tether Volatility and Stocks Traded from April 1, 2021 to March 31, 2023

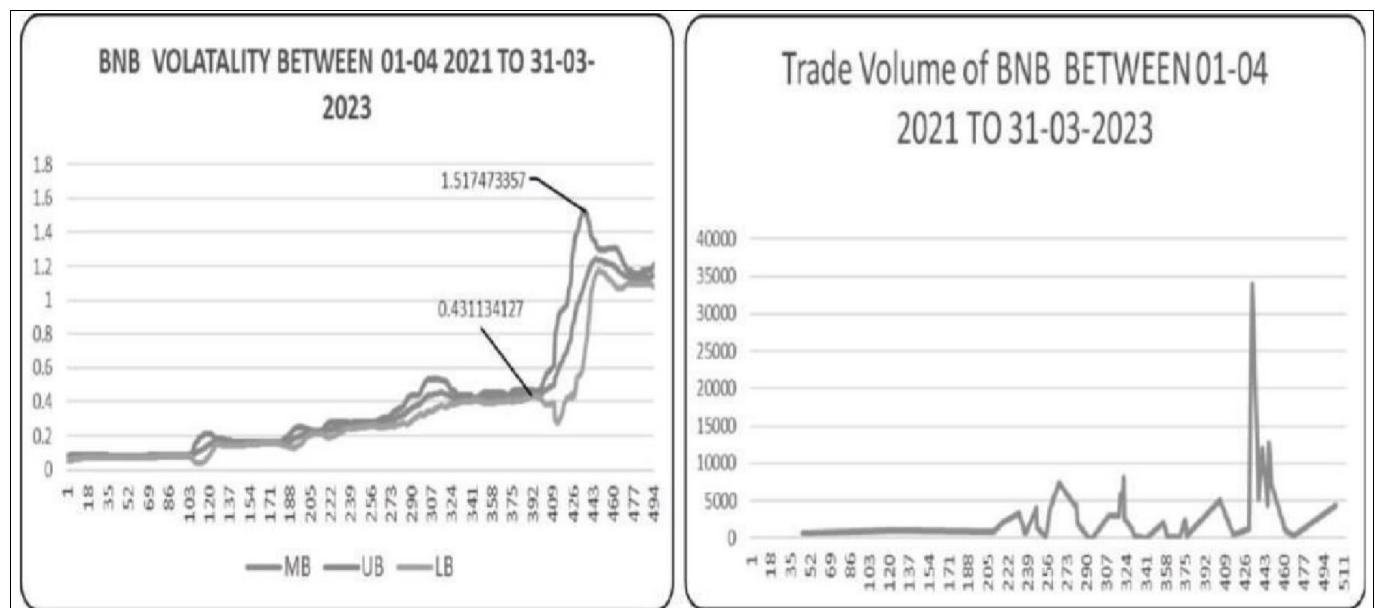


Fig 4: BNB Volatility and Stocks Traded from April 1, 2021 to March 31, 2023 Findings

According to the study, the following are the results

- It seems that Bitcoins are highly volatile, as evidenced by the length of time that a prolonged period of volatility lasts (See Figure 1).
- Given that a prolonged period of volatility lasts for a sizable amount of time, Ethereum likewise appears to be quite volatile (See Figure 2).
- Given that a medium period of volatility lasts for a while, Tether appears to be rather volatile (see Figure 3).
- While BNB was initially less volatile, it has recently begun to exhibit more volatility (See Figure 4).
- Most of the cryptocurrency stocks under consideration appear to be very volatile to somewhat volatile.

Conclusions and Suggestions

Based on the data, there is higher volatility in Tether, Ethereum, and Bitcoin over a period of time similar to stock

trading days. However, in the last few days, BNB has been less volatile during a similar period of stock trading days. Therefore, we may conclude that H1, H2, and H3 are true, whereas H4 and H5 are still debatable and may need additional time for a more in-depth analysis. The volatility of cryptocurrencies and the regulatory uncertainties surrounding them are the two key concerns of investors in India. Nonetheless, some investors believe that these risks are outweighed by the potential rewards of investing in cryptocurrencies. An investing strategy that is well-diversified and includes cryptocurrency may offer additional protection against inflation. Because cryptocurrencies have no correlation to traditional asset classes like stocks and bonds, they are a good tool for diversification.

Implications: The study's findings add to the corpus of recent work and deepen our understanding of bitcoin research. This study's transparent volatility and volume

elements make safer stocks more acceptable and adaptable for bitcoin portfolio investments. It also increases the likelihood that fund managers or individual investors will consider adding a larger proportion of safer cryptocurrency equities. Safer equities will also show to be essential for managing wealth, containing speculative bubbles, and reducing the impact of currency substitution.

Limitations of the Study and Scope for Further Research:

This study looks at how many transactions there were and how volatile it was for the four cryptocurrencies (Bitcoin, Ethereum, Tether, and BNB) between April 1, 2021, and March 31, 2023. This means that the investigation's findings are limited to this period of time. Additionally, more data on these safer cryptocurrency stocks might be obtained by examining a far wider range of equities over an extended period of time. We recommend looking at other cryptocurrency assets and expanding the time horizon in future study because it is evident. Finding safer solutions could be facilitated by doing this for institutional and individual investors alike.

Conflict of Interest

The authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

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References

1. Ammous S. Can cryptocurrencies fulfil the functions of money? *Q Rev Econ Finance*. 2018;70:38-51. <https://doi.org/10.1016/j.qref.2018.05.010>
2. Aste T, Tasca P, Di Matteo T. Blockchain technologies: The foreseeable impact on society and industry. *Computer*. 2017;50(9):18-28. <https://doi.org/10.1109/MC.2017.3571064>
3. Baur DG, Hong K, Lee AD. Bitcoin: Medium of exchange or speculative assets? *J Int Financ Markets Inst Money*. 2018;54:177-89. <https://doi.org/10.1016/j.intfin.2017.12.004>
4. Bhattacharjee S, Kaur H. An overview of alternative currency: The bitcoin. *Indian J Finance*. 2015;9(6):51-60. <https://doi.org/10.17010/ijf/2015/v9i6/71162>
5. Bouri E, Shahzad SJ, Raza N, Roubaud D. Oil volatility and sovereign risk of BRICS. *Energy Econ*. 2018;70:258-69. <https://doi.org/10.1016/j.eneco.2017.12.018>
6. Brito J, Shadab HB, Castillo O'Sullivan A. Bitcoin financial regulation: Securities, derivatives, prediction markets, and gambling. Available at SSRN. 2014. <https://doi.org/10.2139/ssrn.2423461>
7. Chohan UW. Decentralized finance (DeFi): An emergent alternative financial architecture. Available at SSRN. 2021. <https://doi.org/10.2139/ssrn.3791921>
8. Chohan UW. Web 3.0: The future architecture of the Internet? Available at SSRN. 2022. <http://dx.doi.org/10.2139/ssrn.4037693>
9. Chopra M, Saldi R. Investment in Bitcoin: A delusion or diligence? *Indian J Finance*. 2022;16(7):8-22. <https://doi.org/10.17010/ijf/2022/v16i7/170632>
10. Chuen DL, Guo L, Wang Y. Cryptocurrency: A new investment opportunity? *J Altern Invest*. 2018;20(3):16-40. <https://doi.org/10.3905/jai.2018.20.3.016>
11. Cocco L, Concas G, Marchesi M. Using an artificial financial market for studying a cryptocurrency market. *J Econ Interact Coord*. 2017;12:345-65. <https://doi.org/10.1007/s11403-015-0168-2>
12. Constantinides GM. A note on the suboptimality of dollar-cost averaging as an investment policy. *J Financ Quant Anal*. 1979;14(2):443-50. <https://doi.org/10.2307/2330513>
13. Cryptocurrency prices in India Today: Compare Bitcoin, Ethereum, Dogecoin, Litecoin, Ripple prices across CoinSwitch, Coinbase, WazirX and other major exchanges. *Gadgets 360*. 2023 Jul 21. Available from: <https://www.gadgets360.com/finance/crypto-currency-price-in-india-inrcompare-bitcoin-ether-dogecoin-ripple-litecoin>
14. Harvey CR, Ramachandran A, Santoro J. DeFi and the future of finance. Available at SSRN. 2021. <http://dx.doi.org/10.2139/ssrn.3711777>
15. Hayes AS. A cost of production model for Bitcoin. Available at SSRN. 2015. <http://dx.doi.org/10.2139/ssrn.2580904>
16. Hayes AS. Cryptocurrency value formation: An empirical study leading to a cost of production model for valuing bitcoin. *Telemat Inform*. 2017;34(7):1308-21. <https://doi.org/10.1016/j.tele.2016.05.005>
17. Howell ST, Niessner M, Yermack D. Initial coin offerings: Financing growth with cryptocurrency token sales. *Rev Financ Stud*. 2020;33(9):3925-74. <https://doi.org/10.1093/rfs/hhz131>
18. Kong X, Ma C, Ren YS, Narayan S, Nguyen TT, Baltas K. Changes in the market structure and risk management of Bitcoin and its forked coins. *Res Int Bus Finance*. 2023;65:101930. <https://doi.org/10.1016/j.ribaf.2023.101930>
19. Meaning J, Dyson B, Barker J, Clayton E. Broadening narrow money: Monetary policy with a central bank digital currency. *Int J Cent Bank*. 2021;17(2):1-42. Available from: <https://www.ijcb.org/journal/ijcb21q2a1.pdf>
20. Mohsin K. Cryptocurrency & its impact on environment. *Int J Cryptocurrency Res*. 2021;1(1):1-4. <https://doi.org/10.51483/IJCCR.1.1.2021.1-4>
21. Moreno-Sánchez P, Modi N, Songhela R, Kate A, Fahmy S. Mind your credit: Assessing the health of the ripple credit network. In: *Proceedings of the 2018 World Wide Web Conference*. 2018 Apr;329-38. <https://doi.org/10.1145/3178876.3186099>
22. Narayanaswamy T, Karthika P. Cryptocurrency: Invisible or invincible currency – Answers for unanswered questions. *Indian J Finance*. 2018;12(6):63-73. <https://doi.org/10.17010/ijf/2018/v12i6/128140>
23. Ozili PK. Central bank digital currency research around the world: A review of literature. Available at SSRN. 2022. <https://ssrn.com/abstract=4001852>
24. Research and Markets. India cryptocurrency market - Forecasts from 2022 to 2027. 2022. Available from: <https://www.researchandmarkets.com/reports/5681935/india-crypto-currency-marketforecasts-from>

25. Sakunia D, Parida B. Is social media engagement and sentiments the right metric for investing in cryptocurrencies? Implications for entrepreneurs and investors. *Indian J Res Capital Markets*. 2023;10(1):8-14. <https://doi.org/10.17010/ijrcm/2023/v10i1/172801>
26. Shah KK. Microeconomic analysis of Bitcoin pricing and establishing theoretical conditions for the possibility of a bubble or a crash. *Indian J Res Capital Markets*. 2018;5(1):54-61. <https://doi.org/10.17010/ijrcm/2018/v5/i1/122909>
27. Sharma D, Ghosh R, Sharma CS. Cryptocurrency in the light of sentiments: A bibliometric approach. *Indian J Finance*. 2024;18(2):60-75. <https://doi.org/10.17010/ijf/2024/v18i2/173521>
28. Statista. Cryptocurrencies – India. 2024. Available from: <https://www.statista.com/outlook/dmo/fintech/digital-assets/cryptocurrencies/india>
29. Tambe N. All you need to know about India's crypto bill. *Forbes Advisor*. 2024 Apr 2. Available from: <https://www.forbes.com/advisor/in/investing/crypto-currency/crypto-bill/>
30. Tosh DK, Shetty S, Foytik P, Kamhoua CA, Njilla L. CloudPoS: A proof-of-stake consensus design for blockchain integrated cloud. In: 2018 IEEE 11th International Conference on Cloud Computing (CLOUD); 2018 Jul 2-7; San Francisco, CA, USA. IEEE; c2018. p. 302-9. <https://doi.org/10.1109/CLOUD.2018.00045>
31. Yermack D. Is Bitcoin a real currency? An economic appraisal. In: *Handbook of digital currency*. Academic Press; c2015. p. 31-43. <https://doi.org/10.1016/B978-0-12-802117-0.00002-3>
32. Yogarajah Y. 'Hodling' on: Memetic storytelling and digital folklore within a cryptocurrency world. *Econ Soc*. 2022;51(3):467-88. <https://doi.org/10.1080/03085147.2022.2091316>