

A STUDY ON CRYPTO CURRENCY WITH RESPECT TO BITCOIN AND ETHEREUM

S. Vijay Kumar and Anjum Fathima

ABSTRACT

The corporate landscape in the modern world is evolving quickly. In light of current acts and requirements held by the regulatory authorities, numerous adjustments are being made to the technological aspects. A crypto currency has this feature. Transactions are encrypted and validated in crypto currencies, which has given them a reputation. Crypto currency is a fantastic example of a new type of currency that is both worldwide and unrestricted by a central bank or other regulatory body. 2009 saw the creation of Bitcoin, the first crypto currency. Today, crypto currencies are a well-known global phenomenon. This paper provides an overview of crypto currency, its features, and its impact on the financial services sector. The study recommends that investors carefully evaluate their risk tolerance and investment goals before investing in crypto currencies and suggests strategies for managing these investments. Due to security concerns while handling financial transactions, digital currencies are necessary. The two crypto currencies that are the subject of the current investigation are Bitcoin and Ethereum. The historical price data is taken and comparison is done. Data analysis uses statistical methods including mean, standard deviation and variance. The study is carried out between 2019 and 2023.

Key words: Crypto currency, Bitcoin, Ethereum

I. INTRODUCTION

A digital payment system known as crypto currency doesn't rely on banks to validate transactions. Peer-to-peer technology makes it possible for anybody, anywhere, to send and receive payments. Payments made using crypto currencies do not exist as actual physical coins that can be transported and exchanged; rather, they only exist as digital entries to an online database that detail individual transactions. A public ledger keeps track of all bitcoin

transactions that involve money transfers. Digital wallets are where crypto currency is kept. Due to the fact that transactions are verified using encryption, crypto currency has earned its moniker. This means that the storage, transmission, and recording of bitcoin data to public ledgers all entail sophisticated code. Encryption's goal is to offer security and protection. Bitcoin, which was created in 2009 and is still the most well-known crypto currency today, was the first. The main reason people are interested in crypto currencies is to trade them for profit, with speculators occasionally driving values sky high.

Today, crypto currencies are a well-known global phenomenon. Today, it's difficult to find a major bank, a significant accounting firm, a well-known software provider, or the government that hasn't done crypto currency research, written a paper about it, or launched a project involving block chains. Even bankers, consultants, scientists, and developers generally know relatively little about crypto currency. Strong cryptography, or the art of writing or deciphering codes, is used by a crypto currency, which is a digital or virtual asset intended to function as a medium of exchange, to safeguard financial transactions, regulate the creation of new units, and confirm the transfer of assets. It is a digital currency that functions without a central bank and uses encryption (the process of encoding a message or information so that only authorised parties can access it and those who are not authorised cannot) to control the creation of units of currency and verify the transfer of funds. Using private and public keys, as was previously discussed, crypto currency can be sent directly between two parties. Users can avoid the exorbitant fees charged by conventional financial institutions by using these transactions, which have negligible processing costs. Systems known as crypto currencies enable secure online payments for transactions that are valued in terms of a virtual "token" that represents ledger entries unique to the system itself. The term "crypto" refers to the use of various encryption methods and cryptographic techniques, including hashing functions, public-private key pairs, and elliptical curve encryption.

According to Jan Lansky, a crypto currency is a system that meets six conditions:

- The system does not require a central authority its state is maintained through distributed consensus.

- The system keeps an overview of crypto currency units and their ownership.
- The system defines whether new crypto currency units can be created. If new crypto currency units can be created, the system defines the circumstances of their origin and how to determine the ownership of these new units.
- Ownership of crypto currency units can be proved exclusively cryptographically.
- The system allows transactions to be performed in which ownership of the cryptographic units is changed. A transaction statement can only be issued by an entity proving the current ownership of these units.
- If two different instructions for changing the ownership of the same cryptographic units are simultaneously entered, the system performs at most one of them.

Origin and Evolution of Crypto currencies

The first decentralised money in the world, Bitcoin, was founded in 2009, marking the beginning of crypto currencies. Since that time, its worth has greatly increased. Numerous hundred new crypto currencies have entered the market since the launch of Bitcoin. In December 2020, there were about 330,000 daily transactions for Bitcoin. By early January 2021, that number had increased to over 400,000. Altcoins, which are more widely available alternatives to Bitcoin, are being sold for less money.

In an effort to establish a decentralised DNS that would make internet censorship more challenging, Namecoin was developed in April 2011. After that, in October 2011, Litecoin was made available. Instead than using SHA-256 as its hash function, it used scrypt. Bitcoin, a well-known crypto currency, utilised a hybrid proof-of-work/proof-of-stake algorithm. The UK revealed that its Treasury had commissioned a research on crypto currencies to determine whether or not they may have any economic impact there. Additionally, the study sought to assess whether regulation was a viable option. Its final report was released in 2018, and in January 2021 it published a consultation on stable coins and digital assets.

El Salvador became the first nation to recognise Bitcoin as legal cash in June 2021 as a result of the Legislative Assembly's 62–22 approval of a bill introduced by President Nayib Bukele categorising the crypto currency as such. Cuba then passed Resolution 215 in August 2021 to recognise Bitcoin as legal cash in order to get over American sanctions. The government of China, the world's largest crypto currency market, outlawed all crypto currency transactions in September 2021, capping a campaign against the currency that had already restricted the operation of middlemen and miners inside China.

Regarding the legal status of crypto currencies in India, a measure to outlaw "private crypto currencies" was scheduled to be filed in the Parliament's Budget Session in February 2021, but it never made it to the floor. The Crypto currency and Regulation of Office Digital Currency Bill 2021 will instead be introduced in Parliament by the Indian government during the currently underway Winter Session. Furthermore, all signs point to the introduction of much-needed beneficial laws.

Architecture of Crypto Currencies

Decentralised crypto currency is created by the entire crypto currency network collectively, at a rate that is set when the system is created and is made available to the general public. The supply of currency is regulated by company boards or governments in centralised banking and economic systems like the Federal Reserve System (US) by printing units of fiat money or by imposing updates to digital banking ledgers. Companies or governments cannot create new crypto currency in the case of decentralised currencies, and they have not yet offered financial support to other businesses, banks, or corporate organisations that hold assets valued in such currencies. The entity or person known as Satoshi Nakamoto developed the technical framework that decentralised crypto currencies are founded on.

Over 9,148 crypto currency specifications were available as of January 17, 2022. A group of people known as "miners" work together to validate and timestamp transactions, adding them to the ledger in accordance with a specific time stamping scheme, and maintaining the security, integrity, and balance of ledgers within a crypto currency system.

The majority of crypto currencies have production caps that steadily reduce the total amount of the money that can ever be in circulation. Crypto currencies may be more difficult for law authorities to seize than regular money held by banking institutions or kept on hand.

Some of the most common features of crypto currency are:

- Irreversible: Crypto currency transactions are irreversible by anyone. Even Satoshi is unable to reverse a payment once it has been sent.
- Pseudonymous: Crypto currency transactions are pseudonymous, not anonymous, and they take place in so-called addresses. There are 30 characters in these addresses. As a result, it is challenging to determine the users' true identities.
- Permission less: The usage of crypto currencies is not subject to authorization. After the software is installed, anyone can use it.
- Secured: The crypto currency's funds are kept secure under a public key mechanism. This implies that only the holder of the private key is able to send crypto currency.
- Fast and Global: Instantaneous transactions take place, and anyone in the globe, regardless of their location, can transmit money using a worldwide network of computers.

Crypto currency in India

Until the publication of the 2022 Union Budget, India's stance on crypto currencies was mostly undetermined. The Indian Finance Minister's pronouncement in the Budget that gains on the transfer of virtual digital assets, including crypto currencies, would be subject to a 30% tax, was first interpreted as support for crypto currencies. It sparked discussion over whether or not the tax on crypto currencies shows that the government has accepted them as valid forms of payment.

In February 2022, RBI Deputy Governor T. Rabi Sankar made an outright statement to this effect, advising India to outlaw crypto currencies. We'll have to wait and see if this has the same outcome as the government's 2018 ban on crypto currencies, which was later overturned by India's Supreme Court in 2020. The Indian government ruled that crypto currencies like bitcoins and

Bitcoins are not a legal tender in 2018 during the union budget announcement. For those who use, trade, or deal in them, there is no accessible protection.

Since 2012, crypto currency has been accessible in India. There are currently 11 trading platforms in India, with roughly 1 million users. The RBI has prohibited the exchange of crypto currencies in India at this time. So, it is not possible to pay for goods and services using crypto currencies. This is untrue, though there have also been rumours that the introduction of the RBI's own official digital currency will be followed by a ban on private crypto currencies.

The Indian government advises users of these forms of currencies to exercise caution because there is no legal protection for them. And if the citizens experience fraud, they will not receive any assistance from the government. In order to assess the risk associated with crypto currencies in India in the future, a committee of experts was also established. While some nations have made the decision to adopt crypto currencies, others have not yet done so. Crypto currencies come with their own set of challenges.

<Table – 1>

RBI Regulation on Crypto currency in India

The Prevention of Money Laundering Act (PMLA) now covers the trading, storage, and related financial services of digital assets and fiat currencies, virtual digital assets, more commonly known as the crypto currencies, and other such digital assets, according to a notification issued by the central government on March 7, 2023.

In the operative part of the RBI Circular on Crypto currency, it is suggested to add a new section 115BBH to the IT Act that will only take effect on April 1st 2023 and is drafted as follows:

1. When an assessee's total income includes any income from the transfer of a virtual digital asset, the amount of income tax that is due is the sum of
 - a. The 30% income tax calculated on that income, and
 - b. The amount of income tax that would have been due had the assessee's total income been reduced by the income mentioned in clause (a).
2. Regardless of what is stated in any other sections of this Act;

- a. No set-off of the loss from the transfer of the virtual digital asset computed under clause (a) of sub-section (1) shall be allowed against income computed under any other provision of this act to the assessee, and
- b. No deduction in respect of any expenditure (other than the cost of acquisition) or allowance or set-off of any loss shall be allowed to the assessee under any provision of this Act in computing the income referred to in clause (a) of sub-section (1).

The tax implications of Section 115BBH are that the transferor would be subject to a 30% tax on the transfer of "Virtual Digital Assets" and would not be permitted to deduct any expenses other than the cost of purchasing the Assets. Any loss resulting from the transfer of a Virtual Digital Asset would also not be permitted to be offset against other income.

The Finance Minister added that "virtual digital assets" given as gifts will be equally taxed in the recipient's hands. A new section 194S is also being considered and it will take effect on July 1st, 2022. This section 194S mandates that the acquirer deduct 1% TDS (Tax Deducted at Source) and deposit it with the tax authorities at the moment the consideration is paid.

The Reserve Bank of India will begin issuing a "Digital Rupee" in the FY 2022–2023 period, according to the Finance Minister's announcement. The economy will benefit from this and currency management will become less expensive and more effective.

According to T V Somanathan, the Finance Secretary, as of February 2nd, 2022, while crypto currencies and NFTs will never replace fiat money as a means of payment (that distinction belongs to the Central Bank Digital Currency or the Digital Rupee that will be issued by the RBI), crypto assets are in a grey area and it is legal to transact in them. The RBI suggested a crypto currency prohibition in July 2022 due to their "Destabilising effects" on the country's monetary and fiscal stability.

The RBI-imposed restriction on crypto currencies was lifted by the Indian Supreme Court in 2020. Cryptocurrency trading, mining, holding, transferring, and use are punishable in India with a monetary fine or/and a term of imprisonment up to 10 years, according to a 2019 RBI statement.

Future of Crypto currency in India

As it can be seen, using crypto currencies has both benefits and drawbacks, thus several regulatory agencies are working to reduce the risks associated with trading and investing in this market. It has been noted that Mr. Jerome Powell, the chairman of the Federal Reserve, has expressed interest in seeing crypto currencies regulated by the Securities and Exchange Commission. This demonstrates the need to create a digital currency in the future, but it must be governed by the right standards and regulations. Legislation has been passed on crypto currencies that will aid in lowering tax avoidance and enhancing regulation.

Crypto currencies, which are also being supported by the governments, are what started the technological revolution. Businesses are now accepting payments in crypto currencies, which is causing the market to expand even faster than necessary. Due to the fact that it has never been hacked, blockchain technology is regarded as being incredibly safe. The only way to compromise such technology is through the connected wallets. However, it is anticipated to rank among the world's most secure networks.

Future expectations for crypto currencies range widely. Bitcoin is anticipated to be worth more than \$100,000 per unit. Additionally, the commodity markets will transition entirely to digital form. Trading and investing would have been simpler as a result. The exchanges will be entirely digitalized and decentralised. Only with the aid of cryptoc urrencies is this practical. For the businesses, liquidity is more essential than profitability. Companies are unable to pay their present liabilities as a result of the liquidity crisis. Future consumers will have easy access to financing, which will help micro-lending. Additionally, this improves financial inclusion in numerous nations around the world. Since all transactions are recorded on a digital platform, it is anticipated that crypto currencies would also help to alleviate the problem of tax avoidance. The hypothesis of the "emergence of the bitcoin-denominated yield curve" is currently gaining traction. There are some countries that trade crypto weaponry.

The Crypto currency and Regulation of Official Digital Currency Bill, 2021, which is relevant to India, foreshadow the development of the virtual coin market in that nation. This demonstrates the industry's potential growth in the

future. As a result, it can be seen that the industry as a whole will continue to grow. It is clear that investors need security, protection, and safety. There has been a lot of government regulation found in various nations. But it has also been noted that when government restrictions are introduced, taxes and levels of corruption also rise. Finally, it can be said that the economy in India is not yet prepared for crypto currencies because of the length of the processes within the next five years.

An effective regulatory agency that can quickly adapt to digital networks and increase openness is necessary for the economy. The introduction of crypto currencies into the Indian money market is met with scepticism by organisations like the Reserve Bank of India. The fluctuation in instrument pricing is the reason for this. Thus, the government and other regulatory organisations must yet decide the bitcoin industry's future in India. The fluctuation in instrument pricing is the reason for this. Therefore, the government and other regulatory organisations still need to make decisions about the future of cryptocurrencies in India. It was made plain in India's Union Budget, which was unveiled on February 1st, 2018, that crypto currencies will not be declared legal there.

II. LITERATURE REVIEW

Kayal and Balasubramanian (2021) their research reveals that Bitcoin is subject to high volatility. But with time, the volatility is decreasing and becoming more stable.

Almeida, (2021) Since Bitcoin was the first cryptocurrency ever established, other cryptocurrencies like Ethereum, Litecoin, Ripple, Dash, and Altcoin have a chance to follow.

Fang et al., (2021), Li et al., (2021), Białkowski, (2020), Angerer et al., (2020) Cryptocurrencies have grown quickly and are now common assets on the international financial markets, garnering interest from the media, retail investors, institutional investors, and regulators as well as emerging as a significant and current study issue in a number of academic sectors.

Akhtaruzzaman et al. (2020) According to this analysis, Bitcoin can rank well among the assets used for hedging. Be aware that you can use Bitcoin to hedging risk against market sectors and bond indices.

Arunmozhi Manimuthu Raja Sreedharan V, Rejikumar G and Drishti Marwaha, (2019) In order to report on the influence of bitcoin and Ethereum and to comprehend its function in daily life, the study reviewed academic literature. This article tried to offer a normative stance on bitcoin based on the review. The study covered the factors that led to the necessity for bitcoin, its prerequisites for operation, ramifications, and difficulties. Several characteristics of bitcoin have been cited from the literature to address the RQ. The study also concentrated on presenting a normative perspective of bitcoin.

Torpey (2018) the anonymity of crypto currency is their key characteristic. This, in my opinion, is not a good thing. Finding money laundering, tax evasion, and terrorist funding by the government is a good thing. Cryptocurrencies are currently used to purchase fentanyl and other drugs, making them an unusual technology that has very directly contributed to fatalities. For those that go long, I believe the speculative surge surrounding ICOs and cryptocurrencies is extremely dangerous.

M. Draghi (2018) remarked that because of their extreme volatility and speculative values, "bitcoin" and other digital currencies are very risky investments. Although there is no special supervisory strategy that applies to digital currencies, research is being done to identify the potential prudential risks that these institutions that hold digital assets may face within the context of the unified supervisory mechanism.

Stefan Seebacher and Ronny Schuritz, (2017) the first structured literature evaluation on the technology, based solely on peer-reviewed literature, was carried out to discuss the effects of blockchain technology on service systems. Thus, a collection of traits that support trust and decentralisation in a collaborative environment were made apparent. By making information accessible to the public across its entire network and ensuring the accuracy and immutability of data, blockchain technology fosters a culture of trust. Regarding future study, it would be interesting to examine how blockchain technology contributes to actual use cases. Therefore, insights will be produced by conducting a thorough empirical examination of current application areas.

Jaroslav Bukovina and Matus Marticek, (2016) the results of earlier studies about the more dramatic effects of irrational elements, such as societal attention,

served as inspiration for this study. This report specifically mentions sentiment as a driving force behind the development of the Bitcoin price. The study presents a novel method for dividing the value of Bitcoin into its more and less reasonable components. The study's conclusions show that sentiment only partially accounts for overall volatility. The results of earlier studies about the more dramatic effects of irrational elements, such as societal attention, served as inspiration for this study.

Dwyer, (2015) the first cryptocurrency to exist is called Bitcoin. Even though other cryptocurrencies, such as Feathercoin and Bitcoin, are now available, Bitcoin has continued to hold the top spot in this market. The market capitalization of the 27 Bitcoins was over \$10 billion USD at the end of June 2016 (coinmarketcap.com), accounting for more than 80% of the market capitalization of all cryptocurrencies available.

Yermack, (2013) states that because Bitcoin's market capitalization is enormous compared to the economic transactions it supports, it behaves more like a speculative investment than a currency and has no inherent value. The author also comes to the conclusion that Bitcoin's volatility reduces its usefulness as a medium of exchange. While the velocity of Bitcoin, measured by data transactions, fails to explain the Bitcoin price, Bouoiyour and Selmi demonstrate the substantial impact of a lagged Google search for the phrase "Bitcoin" in doing so. Polasik reports similar findings on the contributions of the two above-mentioned variables—the volume of daily Internet searches for bitcoin and the number of bitcoin transactions—to the explanation of the bitcoin price.

III. RESEARCH METHODOLOGY

Need for the Study

World is transitioning into the digital era is a well-known fact. Digital technology is becoming increasingly necessary. Digital currency is taking the place of traditional currency in corporate transactions. Due to security concerns while handling financial transactions, digital currencies are necessary. The sector of crypto currency is one that is expanding and changing quickly and has the potential to upend established financial structures. Studying crypto currencies opens up new avenues for financial inclusion and investment, especially for individuals who might not have access to conventional banking

institutions. As it operates outside of conventional regulatory frameworks, crypto currency also presents new issues for regulators and policymakers. Understanding crypto currency trading in India, how it works, how it developed there, and the participants in these transactions is crucial. Studying crypto currencies can help us better understand how to create regulatory frameworks that balance consumer protection and innovation.

Objectives of the Study

- To study the origin and evolution of crypto currencies.
- To measure the risk and return in Bitcoin and Ethereum during the year 2018-2023
- To compare the performance of Bitcoin and Ethereum during the year 2018-2023

Scope of the study

The scope of the study focuses around two crypto currencies and they are Bitcoin and Ethereum. Data analysis uses statistical methods including Mean, Variance, Standard Deviation and Correlation. The study is carried out between 2018 and 2023.

Limitations of the study

- This study is restricted to only two crypto currencies namely Bitcoin and Ethereum.
- This study is limited to historical price data of Bitcoin and Ethereum of 5 years.

Data Collection Method

Secondary price data are used in the study. Secondary data is collected from the newspapers, books, articles, physical journals, e - journals, and websites. The collected data was tabulated in the form of tables and analysis is made by using the statistical tools such as variance and standard deviation to have accuracy in the results.

Reference Period

Reference period selected for the study is 2018-2023.

Statistical Tools Used for Data Analysis

The statistical tools used to analyze data are:

- Mean
- Variance
- Standard deviation
- Correlation

IV. RESULTS and DISCUSSIONS

The tools of mean, variance, and standard deviation have been used in this chapter to analyse and explain the High prices on Bitcoin and Ethereum. By using the high values of Bitcoin and Ethereum, the computations have been created and are being visualised as tables and graphs. The formulas for returns, average returns, and deviations are used to compute closing price returns. By contrasting the values, results are visualised as graphs.

Risk and Return Analysis

In a risk-return study, "efficient decisions" are those that, on average, generate the highest return for a particular amount of portfolio risk. It looks for potential investments. The following are the formulas that are utilised for the Risk Return Analysis:

Returns- The earnings made on an investment over time or any change in the value of an asset. They can alternatively be described as net results or gross returns that just take the price movement into consideration.

$$\text{Returns (X)} = \frac{\text{Closing value of current month} - \text{Closing value of previous month}}{\text{Closing value of previous month}} \times 100$$

Average Returns - It is a measure for determining how profitable an investment is. It is the straightforward mathematical average of the number of responses produced over time.

$$\text{Average Returns} = \frac{\text{Total Return}}{\text{No. of Returns}}$$

Deviations - It is a metric used in statistics to describe how variable a distribution is around its mean. Differences between a data set's values and a measure of central tendency

Deviation($X - \bar{X}$) = Difference between Returns and Average Returns

Standard Deviation – It is a number used to tell how measurements for a group are spread out from the average (mean), or expected value.

Standard Deviation = $\sqrt{(X - \bar{X})^2 / n - 1}$

<Table 2>

The returns and standard deviation for Bitcoin and Ethereum during a five-year period, from 1st April 2018 to 31st March 2023, are shown in the table above. It is clear from the data that both Bitcoin and Ethereum's returns experience swings. In contrast to Ethereum, which has positive returns every year, bitcoin has a negative return in 2020–2021, but positive returns in the other years. In the years 2018–2019 and 2020–2021, respectively, the highest and lowest Bitcoin return values were recorded. The year 2020–2021 has the highest Ethereum return value, while 2019–2020 has the lowest Ethereum value. The risk is likewise changing. When compared to other years, there was a lot of risk for Bitcoin in the years 2020–2021, and for Ethereum, it was the years 2018–2019. Ethereum posed a greater risk than Bitcoin during the most recent fiscal year (2022–2023). Therefore; it is obvious that there is no stability. The graph 1, which shows the swings in both Bitcoin and Ethereum, was created using the same calculations for return values and Standard Deviation.

Statistical software called SPSS (Statistical Package for the Social Sciences) was used to examine the link between Bitcoin and Ethereum mentioned above. There is no noticeable relationship between the price trends of Bitcoin and Ethereum, according to a test of the Karl Pearson correlation. According to the significance level of 0.01, there is a significant correlation between Bitcoin and Ethereum. The graph 2, which shows the test result of correlation for both Bitcoin and Ethereum.

DISCUSSION

- In the year 2018-2019, both Bitcoin and Ethereum generated positive returns, with Ethereum having a higher return of 0.156 compared to Bitcoin's return of 0.092. However, Ethereum had a much higher variance of 2.47 compared to Bitcoin's variance of 0.88, indicating higher volatility in Ethereum.
- In the year 2019-2020, both cryptocurrencies had very low returns of 0.001. The variance of both Bitcoin and Ethereum was lower compared to the previous year.
- In the year 2020-2021, Bitcoin had a negative return of -0.148, while Ethereum had a positive return of 0.158. The variance of both Bitcoin and Ethereum was relatively high in this period, but Bitcoin had a higher variance of 2.21 compared to Ethereum's variance of 2.53.
- In the year 2021-2022, both Bitcoin and Ethereum generated positive returns, but Bitcoin had a higher return of 0.041 compared to Ethereum's return of 0.0069. The variance of Bitcoin was higher compared to Ethereum, indicating higher volatility in Bitcoin.
- In the year 2022-2023, both Bitcoin and Ethereum generated positive returns, with Ethereum having a higher return of 0.077 compared to Bitcoin's return of 0.057. The variance of Ethereum was slightly higher compared to Bitcoin, indicating higher volatility in Ethereum.
- The standard deviation of Bitcoin and Ethereum was generally higher in periods where the variance was higher, indicating that the cryptocurrencies were more volatile during those periods.
- A correlation of 0.928 between the price trend of Bitcoin and Ethereum suggests a strong positive relationship between the two crypto currencies.
- The strong positive correlation between the price trend of Bitcoin and Ethereum suggests that they may have a similar market behavior and respond similarly to market trends. This implies that if Bitcoin is experiencing a bullish or bearish trend, Ethereum is likely to follow the same trend.

V. CONCLUSION

This paper discussed the benefits and drawbacks of crypto currencies by contrasting Bitcoin and Ethereum in order to understand the better side of

crypto currency transactions. It also discussed the current state of crypto currencies in India and the rules and regulations that apply to them because Indian minds are not yet fully prepared for crypto currency trading or transactions and because the crypto market is currently in a state of flux. The essay's executive summary suggests that crypto currencies have both benefits and drawbacks. Before 2008, there was no such thing as digital currency, but the inventor of crypto currency single-handedly changed everything. I may sum up by noting that people can learn more about crypto currencies by reading the literature, as well as by looking into its origins and history. Both good and bad things might come from trading crypto currencies, but the good things outweigh the bad.

Suggestions

- Bitcoin and Ethereum are highly correlated in terms of their price trends, indicating that they are influenced by similar market factors. This suggests that investors who are interested in Bitcoin are likely to also be interested in Ethereum, and vice versa.
- The high correlation between Bitcoin and Ethereum can be explained by the fact that they are both cryptocurrencies and are often traded on the same cryptocurrency exchanges. This suggests that the trading activity and sentiment on these exchanges can impact the price trend of both cryptocurrencies.
- While the correlation between Bitcoin and Ethereum is strong, it is important to note that correlation does not necessarily imply causation. Investors should be cautious when interpreting correlations and should conduct further analysis to understand the underlying factors influencing the price trends of these cryptocurrencies.
- By being informed of the market potential for cryptocurrencies, the trader can invest in and trade in them.
- The trading of cryptocurrencies comes with consequences, tax repercussions, drawbacks, concerns about security and privacy, legal considerations, obstacles, risks, and challenges. Additionally, there are some safety precautions and regulatory authority initiatives. Before continuing, the trader should adhere to the initiatives and measures to the best of their knowledge and belief.

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List of tables

Table 1 There are many different crypt occurrences in the market

Crypto Currency	Symbol	Founder	Started In
Peercoin		Sunny King and Scott Nadal	August 2012
Litecoin		Charles “Charliee” Lee	October 2011
Bitcoins		Satoshi Nakamoto	3 January 2009
Namecoin		Vincent Durham	17 April, 2011
Dogecoin		BillyMarkusandJacksonPalmer	December 2013
Grid Coin		RobHalförd	October 16,2013
Primecoin		Sunny King	July 7, 2013
Ripple		Chris Larsen andJed McCaleb	2012
ZCash		Zooko Wilcox-O’Hearn	October2016
Dash(DigitalCash)		Evan Duffield	Jan 18, 2014
IOTA		Sergey Ivancheglo, Serguei Popov, David Sonstebo& Dominik Schiener	October 2015
Tron		Justin Sun	2017







Crypto Currency	Symbol	Founder	Started In
NEM	 <small>Figure 14: Logo of NEM</small>	Jeff McDonald	March 31, 2015
Monero	 <small>Figure 15: Logo of Monero</small>	Nicolas van Saberhagen	April 2014
Ethereum	 <small>Figure 16: Logo of Ethereum</small>	Vitaly Dmitriyevich "Vitalik" Buterin	30 July 2015
NEO	 <small>Figure 17: Logo of NEO</small>	Da Hongfei and Erik Zhang	2014 and Rebranded in June 2017
Cardano	 <small>Figure 18: Logo of Cardano</small>	Charles Hoskinson,	2015
BitcoinCash	 <small>Figure 19: Logo of Bitcoin Cash</small>	Satoshi Nakamoto	2017

Table 2 Risk and Return analysis of Bitcoin and Ethereum for 5 years i.e., 2018-2023

Year	Return of Bitcoin	Return of Ethereum	Standard Deviation of Bitcoin	Standard Deviation of Ethereum
2018-2019	0.09209091	0.156	0.935728792	1.571665144
2019-2020	0.00145455	0.001454545	0.231057553	0.231057553
2020-2021	-0.148	0.158181818	1.484954881	0.935728792
2021-2022	0.04145455	0.006909091	0.450712769	0.244222489
2022-2023	0.05736364	0.077	0.594863353	0.792166893

Table 3 Test result of Correlation of Bitcoin and Ethereum for 5 years i.e., 2018-2023

Currency		BITCOIN	ETHEREUM
Bitcoin	Pearson Correlation	1	.928**
	Sig. (2-tailed)		<.001
	N	60	60
Ethereum	Pearson Correlation	.928**	1
	Sig. (2-tailed)	<.001	
	N	60	60

** . Correlation is significant at the 0.01 level (2-tailed).

List of Graphs

Figure 1Graph showing the fluctuations in the Risk and Return of Bitcoin and Ethereum for the financial years i.e., 2018-2023

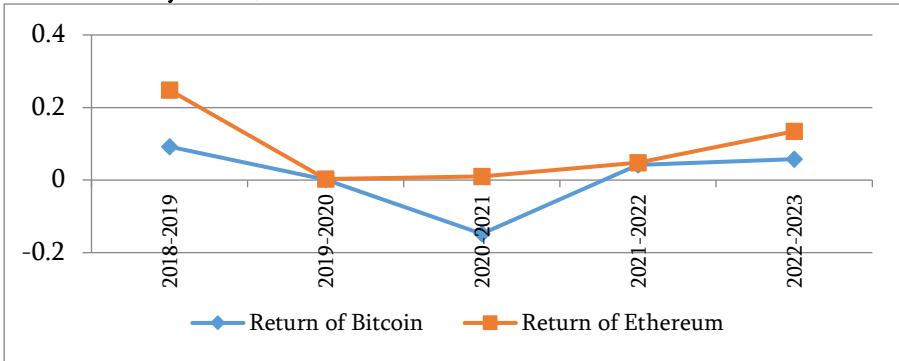
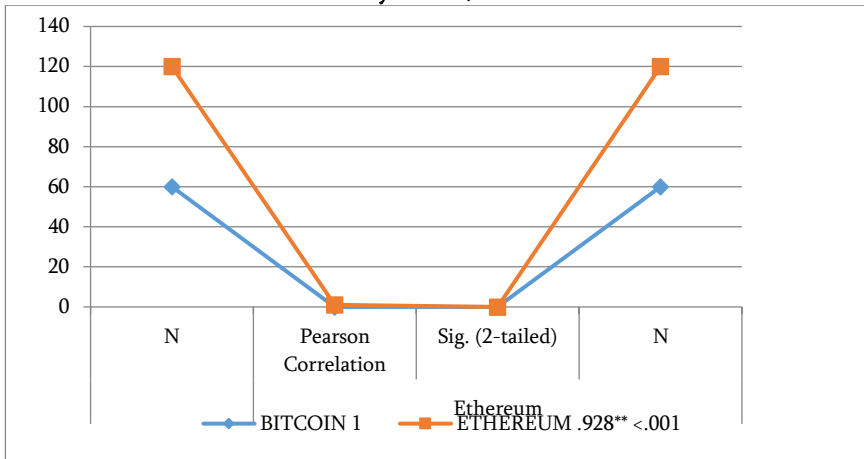


Figure 2-Graph showing the tested result of Correlation of Bitcoin and Ethereum for the financial years i.e., 2018-2023.



Author Profile

Mrs. Anjum Fathima, working as an Assistant Professor in the Department of Business Management at Stanley College of Engineering & Technology for Women, Hyderabad carries teaching experience of 3 years. She is a finance specialist and research enthusiast. She has successfully transformed the students in to professional managers by her effective teaching pedagogy and organizing bridge events from academia to industry.



Mr. S Vijay Kumar is an MBA graduate with a specialization in Finance. His professional journey commenced as a BPO executive, followed by a brief tenure in print media as a journalist. Currently, he serves as an Associate Professor in the Department of Business Management at Stanley College of Engineering & Technology for Women in Hyderabad. Holding an FDP from the prestigious Indian Institute of Management, Kozhikode, Mr. Kumar has also contributed as a Subject Expert on the JNTU Ratification Interview Panel. With extensive experience spanning over 20 years in both teaching and industry, he is known for his dynamic teaching style that seamlessly integrates theory with practical application.

An accomplished author, Mr. Kumar has authored a textbook titled 'Financial Management Problems and Solutions' (2019), co-authored 'Managerial Economics and Financial Analysis' (2002), and edited five other books. His scholarly contributions include over 20 national and international research publications, along with two patents to his credit.

