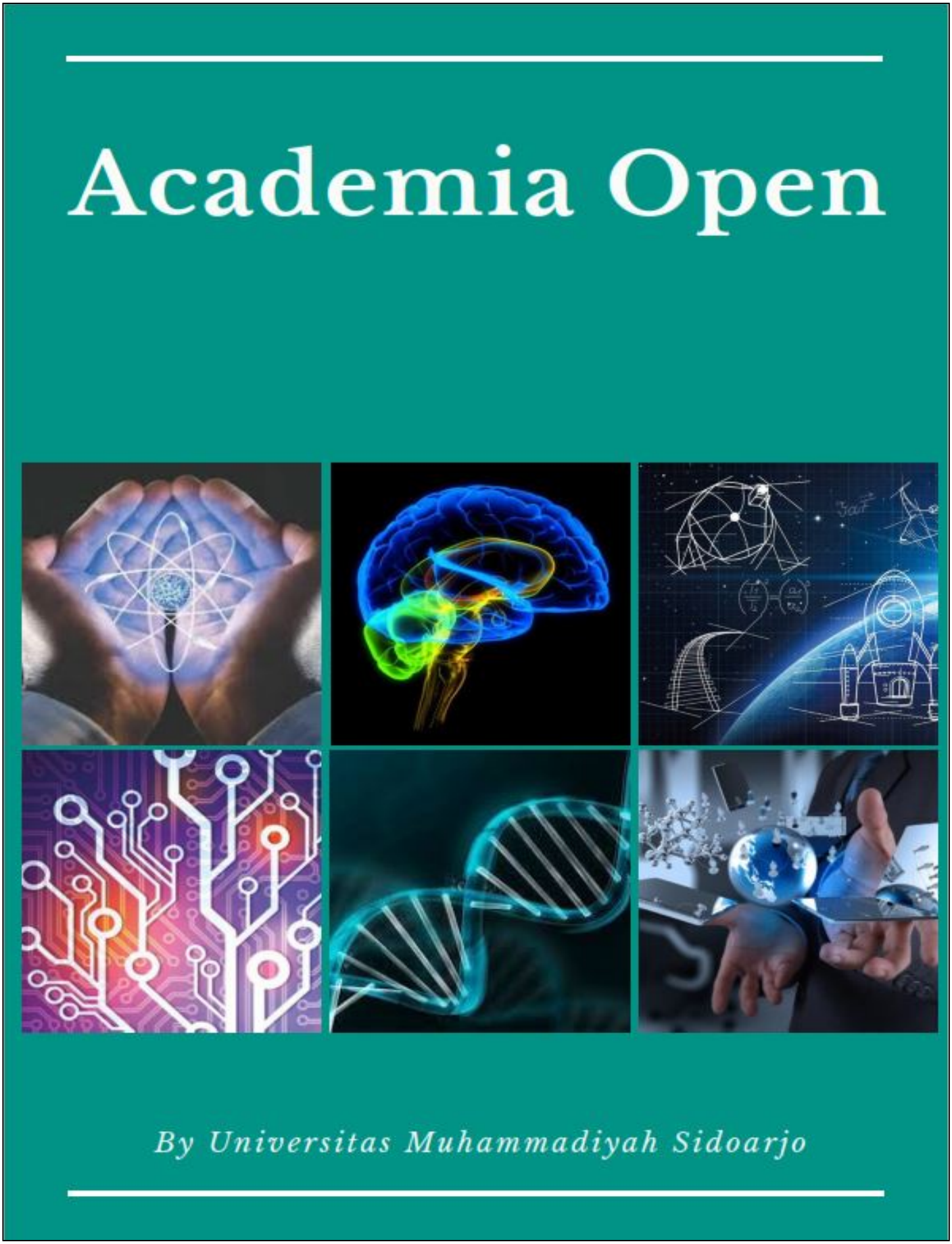
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Bitcoin Movements Correlate with Shifts in Global Financial Market Indices

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Abstract

General background: The increasing integration of digital technologies has transformed global financial systems, with cryptocurrencies, especially Bitcoin, emerging as prominent financial instruments. **Specific background:** Amid widespread adoption by institutions and individuals, Bitcoin has garnered attention for its potential to influence traditional financial markets, particularly during periods of global uncertainty such as the COVID-19 pandemic. **Knowledge gap:** While much has been discussed about the theoretical influence of cryptocurrencies, empirical evidence on their actual impact on global financial indices remains inconclusive. **Aims:** This study investigates the effect of Bitcoin trading volume and the COVID-19 pandemic on a composite index comprising advanced (S&P 500), emerging (KLSE), and developing (DZ) market indices from July 2018 to December 2022. **Results:** Using a fixed-effects panel data model, the findings reveal that past market performance significantly predicts current performance, while Bitcoin trading volume and the pandemic show no statistically significant impact. **Novelty:** The study uniquely combines market classifications and utilizes a composite index to empirically isolate the influence of Bitcoin across diverse economies. **Implications:** These results suggest that, despite Bitcoin's rising prominence, its direct influence on global financial markets may be limited in the short term, underscoring the need for continued investigation as regulatory frameworks and adoption rates evo

Highlight :

- **Minimal Impact:** Bitcoin trading volume and the COVID-19 pandemic had no statistically significant effect on global financial market indices (2018–2022).
- **Strong Market Correlation:** Global financial indices showed strong interdependence, reflecting synchronized market behavior.
- **Future Outlook:** Despite current findings, evolving crypto regulations and technologies may alter their financial market influence.

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Introduction

Technological advancements and the accompanying innovations have radically changed the way financial and non-financial institutions operate. Recent years have witnessed significant developments in the scope and types of technologies used, significantly impacting the information and communications technology (ICT) sector. This development has particularly impacted financial and banking institutions and financial markets, particularly in the areas of payments and money transfers through advanced payment and transfer systems, in addition to the emergence of digital currencies. Among the recent innovations that have emerged in recent years are "cryptocurrencies," currencies that do not have a physical presence (i.e., intangible), created using modern technologies such as blockchain to protect them from hacking and piracy. These currencies, such as Bitcoin and Ethereum, have revolutionized the world of business, trade, economics, and financial markets, becoming a means of payment and investment [1]. They have also sparked controversy about their impact on the traditional financial system. These technologies are expected to continue to evolve, leading to even greater changes in the way businesses and financial transactions are conducted globally, with increased reliance on digital and decentralized solutions in the future. Recent developments indicate that cryptocurrencies are playing a more prominent role in the global economy [2]. This shift reflects several key factors, including the increasing adoption of cryptocurrencies by major institutions and global companies as a means of payment and investment, as well as the evolution of financial regulations that support their use. For example, major companies such as Tesla and Mastercard have announced plans to integrate cryptocurrencies into their financial operations, enhancing their legitimacy and acceptance in traditional markets [3].

The growing awareness of the importance of cryptocurrencies as an alternative financial asset has also led to increased demand for them, especially in light of global economic volatility and high inflation rates in some countries. This shift has made cryptocurrencies, especially Bitcoin, an attractive tool for investors seeking to diversify their investment portfolios and hedge against economic risks [4].

In addition, the period (2023-2024) has witnessed significant technical developments in the field of cryptocurrencies, such as improvements in blockchain technologies and increased transaction speed and efficiency, making them more attractive for everyday use. The proliferation of cryptocurrency-based financial applications has also led to increased adoption by individuals and institutions alike [5].

Ultimately, these developments indicate that cryptocurrencies have become an integral part of the global financial system, with their impact on financial markets expected to increase in the coming years [6], [7]. However, this field still faces challenges, such as significant price fluctuations and the need for clearer regulations to ensure financial stability.

Research Problem

With the growing global spread of decentralized cryptocurrencies and the increasing number of their users, significant challenges have emerged related to the significant price fluctuations of these currencies, especially Bitcoin, the most popular and powerful cryptocurrency. Bitcoin has experienced sharp price fluctuations since its initial release, which in turn has significantly impacted traders, both individuals and institutions, especially with the adoption of this currency by many global companies. The research problem can be summarized in the following question:

What is the impact of Bitcoin trading volume on global financial market indicators?

Research Importance

The importance of the research stems from its addressing a contemporary topic that has a significant impact on the future of international financial and commercial transactions, as well as its impact on various sectors of the economy. Cryptocurrencies, especially Bitcoin, have gained increasing attention due to their high market value and their lack of correlation to a specific currency or commodity, making them unique. This research aims to shed light on the impact of Bitcoin, which has a high market value compared to other cryptocurrencies, on the indicators of some global financial markets. It also seeks to provide a comprehensive understanding of how this currency affects financial markets, contributing to a better understanding of the role of cryptocurrencies in the global financial system.

Research Objectives

Based on the problem and importance of the research, the research objectives can be summarized as follows:

1. Clarifying concepts related to cryptocurrencies: Explaining the basic concepts related to cryptocurrencies, especially Bitcoin, without compromising on technical and technological complexities.

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2. Simplifying the workings of the cryptocurrency system: Explaining the mechanism of the cryptocurrency system and how it is traded, including the use of blockchain technology and the methods used to protect these currencies from hacking and piracy.

3. Analyzing the impact of Bitcoin on financial markets: Studying the impact of Bitcoin trading volume on global financial market indicators, and understanding how these markets react to significant fluctuations in cryptocurrency prices.

4. Providing a future vision: Anticipating the future of cryptocurrencies and their potential impact on the global financial system, with a focus on the challenges and opportunities they face.

These objectives contribute to a deeper understanding of the role of cryptocurrencies, particularly Bitcoin, in the global economy and how they may impact financial markets and their participants.

Research Hypotheses:

To answer the research problem, the following two main hypotheses were formulated:

1. Hypothesis 1: There is no significant impact of Bitcoin trading volume on global financial market indicators during the period (2018-2022).

2. Hypothesis 2: There is no significant impact of the COVID-19 pandemic on global financial market indicators.

Previous Studies:

Many Arab and foreign studies have addressed the topic of cryptocurrencies and their impact on financial markets and economic policies. For example,[8] analyzed the impact of virtual currencies on crises in financial markets, indicating that these currencies can impact financial stability during periods of crisis. On the other hand, focused on the legal aspects of virtual currencies in Islamic jurisprudence, analyzing the provisions for their trading and use in the economy.

In the same context, [9] presented a study aimed at understanding the roles and functions of central banks in managing the money supply in light of the spread of digital currencies, and identifying the best scenario for issuing digital currencies. Some international experiences in this field were presented, and the study concluded that having a sophisticated electronic payments system could be the basis for issuing centralized digital currencies, which enhances financial stability and inclusion. The study also indicated that digital currencies issued by central banks represent a digital alternative to paper money and proposed three scenarios for issuing digital currencies: indirect retail, direct retail, and wholesale [10], [11]. Also analyzed the economic characteristics of Bitcoin, emphasizing its role as an alternative financial asset and its impact on economic policies. Meanwhile, [12] aimed to define and clarify the concepts associated with cryptocurrencies, focusing on Bitcoin, explaining how it works, and comparing its characteristics and functions with traditional money. The study also explored the possibility of cryptocurrencies serving as an alternative to traditional money [13], [14]. The study concluded that cryptocurrencies, especially Bitcoin, have been able to overcome the problems that previously hindered the emergence of similar currencies, and that their use is steadily increasing. However, the instability of their exchange rate against other currencies makes it difficult for them to replace traditional money. In foreign studies, the impact of cryptocurrencies on the formation of efficient investment portfolios using a modern portfolio theory methodology [15], [16]. An investment portfolio was created that included diverse assets such as foreign currencies, commodities, stocks, and exchange-traded funds (ETFs), as well as three types of cryptocurrencies: Bitcoin, Ripple, and Litecoin. The results showed that adding cryptocurrencies to a portfolio increases its effectiveness by reducing standard deviation (risk) and providing more diverse allocation options for investors. The study concluded that the optimal allocation to cryptocurrencies in a portfolio ranges from 5% to 10%, depending on the investor's risk tolerance. Also demonstrated that Bitcoin futures can be a useful tool for investors, despite their significant price volatility [17], [18]. Additionally, emphasized the importance of understanding the risks of cryptocurrency trading, providing a comprehensive survey of cryptocurrency trading and associated risk management. This study aimed to analyze cryptocurrency trading operations across available trading platforms, focusing on risk management and trading indicators [19]. The study provided a comprehensive survey of cryptocurrency trading by analyzing 146 research papers covering various aspects such as cryptocurrency trading systems, volatility forecasting, asset portfolio construction, and more [20]. The study concluded that this survey will be useful to both financial researchers and traders, helping them understand issues related to cryptocurrency trading and risk management, as well as improving the management of returns resulting from price volatility [21].

On the other hand, indicated a positive relationship between liquidity volatility and returns in the cryptocurrency market, indicating that investors consider the time variability of liquidity a risk factor that requires compensation with higher returns [22], [23]. also demonstrated that cryptocurrency markets have become an integral part of the global financial system, with their increasing interconnectedness with traditional financial markets. This study aimed to determine whether the cryptocurrency market continues to maintain its independence from traditional financial markets, or it has become interconnected with them. The interrelationships between the cryptocurrency market (represented by Bitcoin and Ethereum) and traditional financial markets (stock indices, Forex, and

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commodities) were analyzed over the period from January 2017 to October 2022. The results showed that the price dynamics of Bitcoin and Ethereum have ceased to be completely independent since the COVID-19 crisis in March 2020, becoming more closely linked to the dynamics of traditional financial markets, particularly in 2022, when a strong correlation was observed between Bitcoin, Ethereum, and US technology stocks during the market downturn.

Previous literature indicates that cryptocurrencies, particularly Bitcoin, are playing an increasingly important role in the global economy. Furthermore, studies suggest that cryptocurrencies can enhance the effectiveness of investment portfolios by reducing risk and providing more diversified allocation options. However, this field still faces challenges, such as significant price volatility and the need for clearer regulations to ensure financial stability [24].

From the above, we conclude that previous studies have focused on various aspects, such as:

- Clarifying the concepts associated with cryptocurrencies and their working mechanisms.

- The role of central banks in managing the money supply in light of the spread of digital currencies.

- Analyzing the relationship between cryptocurrencies and monetary variables.

- The impact of cryptocurrencies on the formation of effective investment portfolios.

In the current study, the focus is on the impact of cryptocurrencies (especially Bitcoin) on global financial market indicators, without delving into the details of the money supply or other monetary variables. This approach aims to provide a deeper understanding of how financial markets react to significant fluctuations in cryptocurrency prices, especially in light of recent developments such as the COVID-19 pandemic and the increased adoption of cryptocurrencies by global companies.

The Origin and Concept of Cryptocurrencies:

Cryptocurrencies emerged as a response to financial and banking crises, particularly the global financial crisis that erupted in 2008. These crises contributed to the strengthening of the shadow banking system, as repurchase agreements (Repos) used by banks through mortgages were the seed for the emergence of the first cryptocurrency, Bitcoin. Bitcoin was developed in a context of market economies at risk of collapse or near-collapse. Its developers exploited the financial crisis to promote an electronically tradable currency that would limit unwanted government intervention and avoid the monetary policies of central banks, which were deemed ineffective at the time.

The policies pursued by several major central banks and their liquidity management tools filled the void left by market participants, prompting some to seek methods of exchanging value outside the control of central banks .

The emergence of digital currencies has attracted the interest of central banks and private financial institutions, as this technology offers an opportunity to improve the efficiency, flexibility, and accessibility of systems that facilitate monetary and financial transactions. However, current private versions of these currencies face significant problems. One possible application of this system is the issuance of a central bank digital currency (CBDC), which provides global electronic access 24/7, is denominated in the national currency, and offers interest on the central bank's balance sheet.

Risks of Cryptocurrencies:

Unlike traditional fiat currencies, cryptocurrencies are considered risky. One of the most controversial issues related to them is the asymmetric return magnitude, with an unbalanced relationship between positive and negative returns across different cryptocurrencies. Cryptocurrencies have experienced multiple periods of extreme price volatility during their rapid growth. Since the onset of the COVID-19 pandemic, evidence suggests that cryptocurrencies have assumed a new role as a potential safe haven during periods of financial market panic. This has been compounded by the difficulties in assessing risks associated with international issues such as COVID-19 and geopolitical pressures. Cryptocurrency market liquidity has also increased significantly in conjunction with the World Health Organization's declaration of a global pandemic. Cryptocurrencies have been used as a store of value to protect funds from financial losses during the pandemic-induced panic [4]. There are several risks associated with cryptocurrencies that negatively impact economies, prompting some countries to ban their use. The future money supply of these currencies is fixed and does not rely on strong economic fundamentals that reflect actual market demand. Rather, it relies on mathematical estimates using complex algorithms. This leads to their prices rising in proportion to actual demand, especially with the spread of speculation in foreign exchange markets to achieve quick returns. Furthermore, weak control over the money supply increases the risks of using these currencies as an alternative to local currencies, as well as tax evasion problems due to the lack of clear, verifiable records of the volume of transactions and their parties. Furthermore, large fluctuations in their prices can lead to significant losses for individuals, creating instability in economic transactions conducted through these currencies and leading to the emergence of black markets due to a shortage in supply compared to the increasing demand in global markets. In a study , which examined the historical uncertainty index from 2014 to 2021, focusing on major

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events such as the COVID-19 pandemic, cyberattacks, and their impact on cryptocurrency trading, and political elections, the study found that the impact of this index was limited compared to other indices, and that these events did not cause significant fluctuations in cryptocurrency prices, as these currencies were considered a safe haven for many investors during that period. Due to their speculative nature, cryptocurrencies attract individual investors who interpret available information differently than large institutional investors [25].

Studies such as , indicate a positive relationship between liquidity volatility and returns in the cryptocurrency market in general. This means that investors view changes in liquidity as a risk factor that requires compensation with higher returns. In the case of Bitcoin, the largest cryptocurrency by trading volume, this relationship varies over time. The study found that the relationship between liquidity volatility and returns is weaker, but still positive, compared to other cryptocurrencies studied.

Bitcoin:

Bitcoin was created in 2009 by an individual or group under the name "Satoshi Nakamoto," using blockchain technology that facilitated financial inclusion and the movement of money without intermediaries. Bitcoin is a decentralized virtual currency, managed across a global computer network and not subject to the control of any central bank. It allows for quick and easy money transfers, enhancing the efficiency of international trade at a low cost. It also eliminates intermediaries, reducing costs and increasing speed. Furthermore, blockchain technology is used to securely and transparently record transactions, with strong encryption that prevents forgery. However, Bitcoin faces significant risks, most notably sharp price fluctuations. Financial crises, such as the COVID-19 pandemic, may increase its volatility, and its anonymous nature may encourage tax evasion and money laundering. In the future, with the development of financial technology, Bitcoin may become more stable and effective, especially with improved digital cash systems to predict and address crises. However, volatility and regulatory restrictions will remain a major challenge. Bitcoin's Impact on Global Financial Markets:

Bitcoin's impact on global financial markets is multifaceted and variable, and its main effects can be summarized in the following points:

1. Price Volatility: The Bitcoin market is susceptible to significant price fluctuations, which can have a broad impact on global financial markets, especially if Bitcoin trading volume is high. These fluctuations can impact stock indices and other currencies, either through a sharp rise or fall in Bitcoin prices.

2. Attention and Psychological Impact: Bitcoin receives significant attention from investors, the media, and the public, which can influence the attitudes and behavior of financial market participants. Bitcoin's volatility can have a psychological impact on investors, potentially leading them to alter their investment strategies .

3. Technical Innovation: Bitcoin is part of blockchain technology, a technological revolution that is spurring development and innovation across many industries. The success or failure of Bitcoin and the adoption of this technology can impact financial markets and global trade in general.

4. Regulation and Legislation: The development and use of Bitcoin may impact legislation and regulations in various countries. This could lead to new legal and regulatory measures related to cryptocurrency trading and financial markets .

However, it should be noted that the impact of Bitcoin on global financial markets is still a subject of debate and analysis, as market events and changes can lead to diverse and unpredictable outcomes. These outcomes vary depending on the nature of the markets and economies they affect.

Research Model

To achieve the study objective of examining the impact of Bitcoin trading on financial market performance, the study variables were selected as follows:

Bitcoin trading was expressed through total trading volume (BTCVOL).

Market performance was expressed through the values of three financial market indices:

- The S&P 500 Index: represents a developed financial market.

- The KLSE Index: represents the Malaysian financial markets index, representing an emerging financial market.

- The DZ Index: represents the Algerian financial market index, representing a developing financial market.

These indicators were combined into a single index (S-index).

A dummy variable (covid) was also introduced to represent the COVID-19 pandemic, with a value of 1 during the

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pandemic and 0 before and after its end.

The study covered the period from July 2018 to the end of 2022, using monthly data.

Based on the above, the standard model can be formulated as follows:

Where:

- S-index is the composite index of financial market performance.

- btvol is the total Bitcoin trading volume.

- covid is the dummy variable for the COVID-19 pandemic.

- e represents variables that were not considered, either due to their inability to be measured or because they are outside the scope of the study, such as macroeconomic variables.

Statistical Methods Used:

To achieve the study objectives, three types of statistical methods were used:

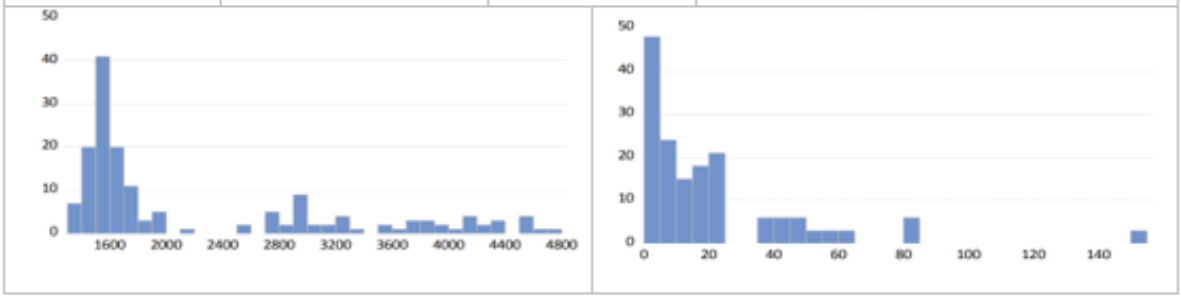
- Descriptive indicators, such as the arithmetic mean, standard deviation, and skewness coefficient, to describe the data and analyze its distribution.

- Cross-sectional unit tests: This aims to identify the appropriate regression model and measure the degree of correlation between cross-sectional units (financial market indicators).

- Regression analysis: A comparison was made between the pooled and fixed effects models to determine the most appropriate model.

As shown in Figure 1, the descriptive statistics of both Bitcoin trading volume and market performance variables reveal high volatility and non-normal distribution.

Bitcoin trading volume		Market performance	
mean	index	mean	index
21.73981	Mean	2235.090	Mean
12.67500	median	1660.807	median
154.1500	Maximum	4766.180	Maximum
1.820000	Minimum	1350.890	Minimum
27.38266	Standard Deviation	1000.929	StandardDeviation
2.598773	Skewness	1.098508	Skewness
11.50929	Kurtosis	2.748306	Kurtosis
671.1022	Jarque-Bera Test	33.00906	Jarque-Bera Test
0.000000	P-value	0.000000	P-value



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Figure 1. *Descriptive study of market performance and Bitcoin trading volume (S-index)*

Descriptive Study of Market Performance

- Figure (1) shows the presence of volatility in financial market indicators. The arithmetic mean was approximately 2,235 points, while the standard deviation was 1,000.929 points, indicating significant data dispersion.

- The positive skewness coefficient (1.098508) indicates that most values are greater than the arithmetic mean, confirming the relatively high performance of the financial markets in the study sample.

- The lack of a normal distribution for the variable, as the probability value of the Jarque-Bera test was less than the significance level (0.05), which means accepting the alternative hypothesis indicating a lack of normal distribution.

- From an economic perspective, this indicates that financial markets have been exposed to numerous shocks, most notably the COVID-19 pandemic.

Descriptive Study of Bitcoin Trading Volume:

- The arithmetic mean of trading volume was $21.73 million, while the standard deviation was $27.38 million, indicating significant data volatility.

- The positive skewness coefficient (2.598773) indicates that the distribution is asymmetric, with extreme values on the right side.

- The high kurtosis coefficient (11.50929) indicates a sharp peak in the distribution, confirming the presence of sharp fluctuations in trading volume.

- The absence of a normal distribution for the variable, as the probability value of the Jarque-Bera test was less than the significance level (0.05), which means accepting the alternative hypothesis indicating the absence of a normal distribution.

Cross-sectional correlation test:

The cross-sectional correlation test aims to determine the extent of correlation between cross-sectional units (financial market indicators). The following table shows the results of this test:

Table 1 illustrates the outcomes of the cross-sectional correlation test using the logarithmic values of market indicators, confirming strong interdependence among the indices.

Statistical test	Mean	**(d.f.)**	**P-value (Prob.)**
Breusch-Pagan LM	52.47613	3	0.0000
Pesaran scaled LM	20.19855	-	0.0000
Bias-corrected scaled LM	20.17024	-	0.0000

Table 1. *Results of the cross-sectional correlation test for the financial market performance variable using the logarithmic formula*

Reference: Eviews 12 outputs

The table shows that the p-values for all tests were 0.0000, which is less than the significance level of 0.05. This indicates a strong correlation between the cross-sectional units (financial market indices).

Economic Interpretation: From an economic perspective, this correlation reflects the transfer of capital between financial markets, especially those invested in securities. This occurs through capital movements between developed and emerging financial markets, which leads to correlation between the movements of these market indices.

Statistical Recommendation: Given the correlation between the cross-sectional units, it is necessary to consider applying cross-section weights when conducting regression to ensure the accuracy of the results.

Results of Applying the Regression Model

To study the cross-sectional effect (rather than the time effect), a fixed-effects model was used. The following are the estimation results:

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As shown in Table 2, the fixed-effects model estimation highlights that past market performance significantly affects current performance, while Bitcoin volume and COVID-19 show no significant impact.

variable	treatment	Std. Error	t- valu	P- Valu
LOGSINDEX (-1)	0.971299	0.024240	40.06943	0.0000
LOGBTVOL	-0.002112	0.002273	-3.662260	0.1386
DCOVID	-0.004815	0.005071	-0.949500	0.3439
C	0.234662	0.187706	1.250160	0.2131
	Effects Specification			
Cross-section fixed (dummy variables)				
Weighted Statistics				
(Root MSE)	0.038109			
(R-squared)	0.987671			
(Mean dependent var)	9.405550			
(Adjusted R-squared)	0.987268			
(S.D. dependent var)	3.498001			
(S.E. of regression)	0.038849			
(Sum squared resid)	0.230917			
F (F-statistic)	2451.296			
F (Prob(F-statistic))	0.000000			
Durbin-Watson	2.122927			

Table 2. *Estimation Results Using the Fixed-Effects Model*

Reference: Eviews 12 outputs

The impact coefficient was 0.97, with a p-value less than 0.05. This means that a 1% increase in the index in the previous month leads to an increase in the current index by 0.97 points, reflecting an upward trend in the performance of financial market indices in the study sample. On the other hand, Bitcoin trading volume (LOGBTVOL) showed a slightly negative impact, with an impact coefficient of -0.0081, but this effect was not statistically significant, with a p-value of 0.1386 (greater than 0.05). This suggests that a 1% increase in Bitcoin trading volume could lead to a 0.0081% decrease in the index value, but this effect is not statistically confirmed.

As for the impact of the COVID-19 pandemic (DCOVID), the model showed a slightly negative impact, with an impact coefficient of -0.0048, but this effect was also not statistically significant, with a p-value of 0.3439 (greater than 0.05). This can be explained by the fact that the impact of the pandemic is more pronounced on a daily basis and less pronounced on a monthly or annual basis.

In terms of the explanatory power of the model, the coefficient of determination (R-squared) was 0.9876, meaning that 98.76% of the changes in financial market performance indicators can be explained by the independent variables used in the model. Additionally, the Durbin-Watson test showed a value of 2.1229, which is close to 2, indicating the absence of autocorrelation in the model. Therefore, the alternative hypothesis of no autocorrelation is accepted.

Impact at the Cross-Sectional Level:

Table (3) shows the cross-sectional impact of Bitcoin trading volume on financial market performance for each cross-sectional unit (the financial markets studied):

Sectional unit	Effect
DZ (Algerian market)	-0.002711
S&P 500 (American market)	-0.014581
KLSE (Malaysian market)	-0.017292

Table 3. *Impact Results at the Cross-Sectional Level*

Reference: Eviews 12 outputs

- Weak Negative Impact: Bitcoin trading volume has a weak negative impact on the performance of financial markets, with this impact being more pronounced in the US and Malaysian markets compared to the Algerian

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market.

- Difference in Impact: The difference in the strength of the impact between markets can be attributed to factors such as market size, degree of development, and reliance on cryptocurrencies.

- Weak Impact in the Algerian Market: The weak impact in the Algerian market may be due to the limited volume of Bitcoin trading compared to other markets, or to other factors such as financial regulations and monetary policies.

Hypothesis Testing

The study's hypotheses were tested based on the results of Table (2):

- Hypothesis 1: There is no significant impact of Bitcoin trading volume on the financial market indicators of the study sample. - Corresponding p-value: 0.1386 (greater than 0.05).

Result: The null hypothesis is accepted, i.e., there is no significant impact of Bitcoin trading volume on the financial market indicators studied.

- Hypothesis 2: There is no significant impact of the COVID-19 pandemic on the financial market indicators of the study sample. Corresponding p-value: 0.3439 (greater than 0.05).

Result: The null hypothesis is accepted, i.e., there is no significant impact of the COVID-19 pandemic on the studied financial market indicators.

Results

The results showed that Bitcoin trading volume has a slight but insignificant negative impact on global financial markets. Bitcoin's success has increased interest in digital assets in general, encouraging many investors and companies to explore and invest in financial technology and other digital currencies. Bitcoin has become an alternative financial asset and a speculative tool, used by investors as part of their investment strategies. Its use as a payment method in the e-commerce sector has also increased due to its secure, fast, and cost-effective nature. However, increased demand for Bitcoin could lead to volatility in other currency markets, such as the US dollar and the euro.

On the other hand, the study showed no significant impact of the COVID-19 pandemic on the studied financial market indicators. While the pandemic has disrupted the global economy and impacted traditional sectors, it has ushered in a new financial era based on cryptocurrencies. Central banks and private institutions around the world continued to explore the potential of cryptocurrencies, especially with the growth in digital purchases and transactions during the pandemic. Many investors viewed digital payments as an effective way to mitigate the risks of the virus' spread, and major companies' interest in cryptocurrencies, especially Bitcoin, increased. Tesla announced a $1.5 billion investment in Bitcoin during the pandemic, and major financial institutions such as Mastercard also showed increased interest in cryptocurrencies. As a result, the positive impact of Bitcoin offset the negative impact of the pandemic, and the pandemic had no significant impact on the studied financial market indicators.

Recommendations

Bitcoin investors are advised to research and learn about the technology behind it, understand how it works, and the risks associated with it. They should also understand encryption, security, and portfolio control to make informed investment decisions. It is also recommended to diversify your investment portfolio to reduce risk, as one should not rely solely on Bitcoin, but rather look for other investment opportunities such as stocks, bonds, or real estate, as diversification helps mitigate the potential negative effects of Bitcoin price fluctuations. Additionally, investors should establish an appropriate risk management strategy, allocate a certain percentage of capital to invest in Bitcoin, set acceptable loss limits, and use tools such as stop-loss to limit risk. They should also avoid untrusted websites and projects and keep their wallet keys secure to avoid fraud and scams.

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