



The Impact of Russia-Ukraine War on Cryptocurrency Market

Ali Junaid Malik

MS Scholar, Arid Agriculture University Rawalpindi

alijunaidzahidmalik@gmail.com

Dr. Anum Shafique

Lecturer, Arid Agriculture University Rawalpindi

An_shafique@yahoo.com

Dr. Irfan Ullah Munir

Assistant Director, PMAS-Arid Agriculture University

dr.irfan@uaar.com.pk

***Corresponding Author**

ABSTRACT

The major focus of this research study is to understand the impact of the Russia-Ukraine crises or war on three major Crypto currencies like Bitcoin, Binance coin and Ethereum. This study also provides insight about the reaction of the Crypto market during the ongoing war situation and how the Cryptocurrencies react during the war crises, either bitcoin, ethereum, and the binance coin have the positive impact or the negative impact during the war, or the war has no impact on Cryptocurrencies. The relationship between these cryptocurrencies are also examined during this research. The major findings show that the ARCH effect exist in the Binance coin, Bitcoin, and the Ethereum market series. The research study used the GARCH methodology for analysis of results. For Bitcoin and Binance coin there is no direct impact in it, and factor of volatility exist in it. For Ethereum there is no direct impact of war, and factor of volatility does not exist in it. The research gives valuable insights to investors and policy makers.

Keywords: Russia-Ukraine war, Stock returns, Bitcoin, Binance coin, Ethereum, GARCH

INTRODUCTION

Cryptocurrencies have attracted the attention of more investors, researchers, and professionals as it lacks central control authority (Yatie, 2022). Our intention is to calculate the abnormal returns during the catastrophic event of the Russia Ukraine war that happened on 24th February 2022, and see its impact on major cryptocurrencies like Bitcoin, Binance coin and Ethereum due to high Market Capitalization. According to Barguelli et al., (2022) during the International Military Conflict, as America imposed sanctions on Russia, many countries moved toward Cryptocurrencies as alternative tool for investment. The Russia-Ukraine war leads to Catastrophic Casualties of Military persons and creates the negative impact globally (Boubaker et al., 2022).

Russia-Ukraine war on 2022 enhanced problematic tensions between two countries. During the war either the investor invests in the cryptocurrency market or not, we demonstrate the impact of war on Cryptocurrency market, whether it gives benefit to investor or losses in the Crypto market. According to Theiri et al., (2022) several studies have been published on impact of past Ukraine-Russia conflict before the most recent crises in 2022. Very little academic research has been made on 2022 Russia Ukraine crises, a lot of attention is given to the impact of current Russia Ukraine conflict. We see the impact of war on major cryptocurrencies due to high market capitalization like bitcoin, Ethereum, and binance coin.

Limited studies have been conducted to find out the impact of Russia Ukraine war on cryptocurrencies that creates gap in body of knowledge. Due to this military conflict between two countries there is huge decline in the financial markets. Yousaf et al., (2022) determine the impact of Russia Ukraine war on clean market, conventional market and metal market. According to Oosterlink et al., (2022) they studied the impact of war on bitcoin and precious industrial metal. Our study concludes the impact of Russia Ukraine war on Cryptocurrencies like Bitcoin, Binance coin, and Ethereum. Therefore, to fill the Gap we see the impact whether it gives positive returns or negative abnormal returns during the war phenomenon or not and which policy option is better for investor to invest. The Objective of the research is to investigate the Impact of Russia-Ukraine war on Bitcoin, Binance coin, and Ethereum.

According to Yatie, (2022) it is the international military conflict between two countries and the world will face serious repercussions on financial markets. Due to the unprecedented western sanctions on Russia imposed by the America, many countries like China, Japan, and the Venezuela moved toward the Cryptocurrency market as alternative tool for investment (Antonopoulos et al., 2019). As the restrictions imposed on financial markets, the investors moved toward crypto market, as it has no physical existence, the Ukraine and Russia government diverted their attention toward cryptocurrency, and the importance of market uplifted during War period.

Empirical literature

Portfolio Theory

Harry Markowitz presented the theory of the portfolio choice in 1952. The main crux of the theory is “Don’t put all eggs in one basket”. The Modern Portfolio is an investing strategy that minimizes risk and maximizes returns. Portfolio diversification theory shows that to what extent the investors are risk averse and go to path were they can avoid risk as much as possible. If the investor wants to invest in the Cryptocurrency market during the war period, he has the option to invest in different portfolios to reduce risk factor, the investor has different options to invest in bitcoin, binance coin and ethereum, because if the lose occurred in one portfolio, and that lose will covered by the other security, so the investor invest in different portfolio dynamics. If the crypto market does not give maximum results or does not fulfill the satisfaction level of the investor, then the investor moves toward the other market like Forex, and the stock market to invest in that particular market.

According to Bampinas et al. (2024) they studied the cryptocurrency and cross-market linkages on stock market due to pandemic and war affects. They examine the changes in dependence between cryptocurrency market and six stock markets. By adopting Gaussian correlation approach they find limited diversification and safe haven properties in both cryptocurrency markets due to covid-19 period. The research study finds that the dependency level between UK and US stock markets increases considerably due to high uncertainty and falling in prices level. The findings of the research study are useful for investors to understand the differences in asymmetric connectedness between markets during pandemic events.

According to Kumar et al. (2023) they basically examine the linkages between NFTs and DeFi assets before and during the Ukraine-Russia conflict using the TVP-VAR framework. They basically observe the high level of spillover effect in the pre-conflict period during military confrontation. Additionally, the research study indicates that stronger receiving and transmitting spillover is observed in full sample period due to Russia-Ukraine military conflict. Meanwhile, chain-link, Bancor, BAT, Bitcoin, Digi byte, and XRP are net transmitters(receivers) of return spillovers. Chain-link and BAT are consistent transmitters(receivers) of volatility innovations. The research study indulges that cryptocurrencies play an important role in the absorption of the volatility shock coming from NFTs and DeFi assets. The research findings give valuable insights for policymakers and investors.

According to Zeng et al. (2024) the research study investigates the dynamic time-frequency relationship between Bitcoin(BTC) and 15 major agricultural commodity markets during covid-19 and Russia-Ukraine 2022 war periods. The research study determines the TVP-VAR based joint extended connectedness approach and wavelet coherence method. The results of the research study indicate that sudden outbreak of two crises leads to increase in high volatility between BTC and agricultural commodity markets. Although the entire sample period, bitcoin remained a net transmitter of volatility. The research study used the TVP-VAR approach that gives by Diebold and Yilmaz (2012). The result study finds that the

total volatility correlation between agricultural markets and BTC increased after the outbreak of covid-19 and increased after Russia-Ukraine war in 2022. Overall the research study indicates that policy makers should understand the relationship between BTC volatility and agricultural markets in order to develop robust policy. In addition, policy makers can develop credible crises management policies to address periods of high market stress during war period.

According to Dong et al, (2022) the cryptocurrency financial market is still prevailing and playing the fundamental dynamics in elaborating the market efficiency. They basically determine the similarities and the performance anomaly in crypto currency market, and also determines how the liquidity effects the crypto currency market efficiency. They found the result that we achieve the higher anomalous return if we decrease the crypto currency liquidity while the cryptocurrency market will be preventing from obtaining high efficiency. Loi (2018) determines the liquidity level at various cryptocurrency indicators and finds that the liquidity differs among numerous factors, it is less in bitcoin that for stock markets. He basically determines the time series data to evaluate the liquidity of the bitcoin. The results show that the change in the bitcoin exchanges depends on the liquidity of the bitcoin. Furthermore, results indicate that the stocks are more liquid than the bitcoin. He basically determines the five liquidities measures of bitcoin exchanges among the various stocks of the liquidities, however the results show that the liquidity of bitcoin relies on the choice of the bitcoin.

According to Theiri et al., (2022) they basically determine the impact of Ukraine-Russia war on the behavior of liquidity on the bitcoin and the ethereum, and investigate either the war has permanent or temporary effect on the liquidity of the cryptocurrency, he used the event study on the bitcoin and the ethereum and the linear regression model was applied to analyze the effects. Braunies et al., (2022) investigate the liquidity of the major cryptocurrency markets name Bitcoin, Ethereum and Ripple, they find that the volatility in the equity market is uncorrelated to the studied cryptocurrency market. The results further indicate that it spread positive trading volume and precautionary measures.

Zhong et al., (2021) depicts that the liquidity of the crypto currencies is hugely independent on other financial market and the stock markets such as the leading and bond markets, and particularly they found that the results are positively link or related to the volatility of the cryptocurrency market. They basically determine the currency and the bond market and its independency on the volatility of the crypto market.

According to Akhtaruzzaman et al., (2022) determine the impact of pandemic or Covid influence, and how the systematic risk is increased between the cryptocurrency market. They basically determine the risk factor during the pandemic and how the cryptocurrency market will fluctuate during the Covid pandemic. They basically develop the conditional value at risk model to evaluate the volatility effect among the crypto currency market. Their study determines the systematic vulnerability among different cryptocurrencies and investors make

decisions during the crises and the non crises period, and basically what would be the strategy of the investors during the pandemic and how the investors could make better decisions during the risk factors. Previous literature during the war period indicates the spill over on the cryptocurrency market like bitcoin and the Ethereum. They determine that the risk factor on investigating the effect on covid, should be manage according to the investors policies, and the unsystematic risk should be controlled by increasing the systematic risk among cryptocurrency market, and should be controlled during the policies of the Covid 19 pandemic. They basically found that the interconnectedness among the cryptocurrencies should increase during the pandemic, and has the positive and the non-positive impact on the cryptocurrencies market, so the risk factor should be determining during the covid 19 pandemic.

Corbet et al., (2021) basically determine the liquidity on cryptocurrencies market after and before the Covid 19 outbreak. They basically investigate the factor of the liquidity increased on the start parameters day of the pandemic in the entire world health organization. Moreover, they found the non-negative results between the volatility level and the cryptocurrency market, and the prices of the various stocks increased during the pandemic, and how these markets not only effect the cryptocurrency market but also the entire globe of the financial market effected by it.

According to the Smales, (2019) he studied the attributes of the time varying in the bitcoin liquidity and reacts the asymmetrical behavior to the up and down of the market movements, he used the bid ask spread to calculate the liquidity of bitcoin and compared it to that of the stock and the gold prices. He investigates that the returns of the bitcoin are more volatile than the other assets like gold. The returns that he has calculated is not correlated with that of the other assets. The research in the crypto finance determines that the property of the bitcoin is safe haven during the correlation with other assets in the period of the war stress.

Barguelli et al., (2022) basically contributes the literature and link the war of Russia and the Ukraine to the cryptocurrencies financial market, and determines the reaction of the cryptocurrency market to the international military conflict. They basically determine the impact of the war period on the cryptocurrencies like bitcoin, Ethereum, ripple, Luna and Solana, and determines whether the war has positive or the negative abnormal returns, and they used event research methodology during the war period, and they used the 2022 abnormal returns during the Russia attack on Ukraine. Their findings indicate that the except for Binance coin their cryptocurrencies are negatively related. Their findings for the binance coin is positive and reported positive abnormal returns, they basically see the impact of Ukraine-Russia crises February 2022 on the cryptocurrency market, and evaluate the result that all crypto market have negative cumulative abnormal returns and the only case is binance coin which gives positive returns and the investors invested in the binance coin as it is the largest platform exchange of trading. In the year 2018 when the western countries put sanctions on the Russia the North Korea has used cryptocurrencies for their financial system, Venezuela community faces the

opportunities of the cryptocurrency to handle the country financial and the economic constraints by the western sanctions on various countries (Antonopoulos et al., 2019).

RESEARCH METHODOLOGY

This research study attempted to investigate the returns among the Cryptocurrencies market like bitcoin, ethereum, and binance coin. This study is uni-directional that is, it shall attempt to find out the impact of the Ukraine-Russia war on the Cryptocurrency market. The nature of the study should be explanatory. The underlying study has used the time series data and daily average closing prices of three Cryptocurrency market or financial market like (Bitcoin, Ethereum, and Binance Coin). The data for these three cryptocurrencies market bitcoin, ethereum, and binance coin was obtained from the investing.com. Also the daily average closing prices of the cryptocurrency market has used for calculating the returns of three major financial markets like Bitcoin, Ethereum, and Binance coin. The Duration of the data has been November 09, 2017 to January 01, 2023.

Variables of the Study

Stock Returns

Daily closing prices were obtained for the cryptocurrencies market i.e. Bitcoin, Ethereum, and the Binance coin. Further, the returns were calculated from these closing prices. The formula for the return calculation is as follow:

Formula

$$R_t = \ln \text{ range [closing prices of stock/ opening prices of stock] } \quad (1)$$

If R_t the returns stock at time t , \ln range determines the closing and opening prices of the stock or daily market index of the market returns.

Model Specification and Estimation

The study aims to investigate the impact of the Ukraine-Russia war on the cryptocurrency market selected for the purpose of the study. For this purpose, GRJ-GARCH Methodology was used.

Measurement of Daily Market Returns (Mean Equation)

The mean equation used for the purpose of the study is as follows:

$$R_t = \mu + R - 1(\text{war}) + \epsilon_t \quad (2)$$

For the purpose of data analysis Eviews 10 has been used. The following procedure has been adopted to test the above described model on the data collected for the purpose of this study. The data from the data file is imported to the Eviews and is tested for volatility. In a time, series data, the component root experiment is being used to examine the stationarity. Unless the data is horizontal the mean as well as discrepancy are continuous. In such a regression model, the Breusch- Godfrey habitual regression LM exam is a measure of autocorrelation throughout the mistakes. It renders use of residuals from either the system becoming regarded in a logistic regression, but from those was deduced an exam stat. There's no serial connection of every attempt up in p , the hypothesis is.

ARCH (1,0)

Return equation was estimated through OLS. The next step was to check the ARCH Effect within the series selected for the purpose of the study. Each series was tested for ARCH test. The ARCH Test was executed through the heteroscedasticity test.

GARCH (1,1)

Finally, GARCH method was applied to find out the impact of Ukraine-Russia war on the Cryptocurrency market, and determine either it gives positive returns or negative during the war.

Results and Discussions

Table 1: Descriptive Statistics

	BITRETURNS	BNBRET	ETHRET
Mean	0.000450	0.002560	0.000704
Median	0.000720	0.001220	0.001296
Maximum	0.203359	0.530574	0.230772
Minimum	-0.497278	-0.581158	-0.589639
Std. Dev.	0.040839	0.060065	0.052537
Skewness	-0.997303	0.233837	-1.009627
Kurtosis	16.86868	18.72782	13.93618
Jarque-Bera Probability	15370.12 0.000000	19383.69 0.000000	9682.913 0.000000
Sum	0.846255	4.810672	1.323690
Sum Sq. Dev.	3.132152	6.775489	5.183495
Observations	1879	1879	1879

Interpretation: -

The Descriptive statistics table presents daily returns of three major cryptocurrencies like Bitcoin, Binance coin, and Ethereum based on 1879 observations. The mean returns of Bitcoin (0.000450) and Ethereum (0.000704) are relatively low compared to Binance coin (0.002560). The median return for bitcoin (0.000720) is slighter higher than its mean, indicating a slight skew in return distribution. Ethereum median (0.001296) is higher than its mean, while Binance coin shows a median lower than its mean, suggesting a positive skewness. The lower average returns indicate increased uncertainty in crypto market during the war, as investors possibly sought safe assets. Binance coin shows highest return relatively better performance during this period. The highest single day return was 53.06%(BNB), followed by Ethereum (23.08%) and Bitcoin (20.34%). The most extreme negative return was -58.92%(ETH), followed by Binance coin (-58.12%) and Bitcoin (-49.73%). The extreme return fluctuations suggest heightened volatility in financial markets during geopolitical crises. The Bitcoin has lowest standard

deviation (0.040839), implying relatively lower volatility compared to Binance coin (0.060065) and Ethereum (0.052537). Bitcoin often considered a bench mark cryptocurrency, showed lower relative volatility. Binance coin has highest risk reflecting speculative trading during the war. Bitcoin (-0.997303) and Ethereum (-1.009627) have negative skewness, indicating extreme negative returns. The Binance coin (0.233837) has positive skewness, suggesting relatively small positive returns. The negative skewness for Bitcoin and Ethereum suggests that large negative shocks were more, and Binance coin shows positive skewness and could imply resilience or speculation-driven price spikes. The Jarque-Bera test values are extremely high, with probabilities of 0.000000, confirming that returns are not normally distributed.

Unit Root Test

Table 2: Unit Root Test for(Bitcoin).

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-45.66513	0.0001

Unit Root for (Ethereum)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-29.63143	0.0000

Unit Root Test for (Binance coin)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-28.58380	0.0000

Interpretation: -

The Augmented Dicky-Fuller (ADF) test is used to check whether a time series is stationary. A stationary series means that past shocks do not have a permanent effect on the data, where as non-stationary series suggests long term persistence of shocks. The ADF t-statistics for Bitcoin is -45.66513, and p-value is 0.0001(significant at 1%). The war caused extreme fluctuations in Bitcoins prices, but bitcoin returns are stationary these shocks did not have a long-term impact on BTCs price dynamics. The ADF test for Ethereum is -29.63143, and p-value is

0.00000(significant at 1%). Ethereum returns are also stationary means no unit root. The Ethereum also experienced high volatility during the war but did not retain long term memory of these shocks. The ADF test for Binance coin is -28.58380 and p-value is 0.0000(significant at 1%), and Binance coin returns are stationary (no unit root). The Binance coin behavior mirrors Bitcoin and Ethereum meaning war-driven shocks did not have long term structural impact. All three cryptocurrencies exhibit stationarity, meaning that the war-driven shocks did not lead to a permanent change in price dynamics.

LM Test

Breusch-Godfrey Serial Correlation LM Test:

Table 3: LM Test for (Bitcoin).

F-statistic	3.230202	Prob. F(2,1873)	0.0398
Obs*R-squared	6.451947	Prob. Chi-Square(2)	0.0397

LM Test for (Binance coin).

F-statistic	4.331278	Prob. F(2,1874)	0.0133
Obs*R-squared	8.641103	Prob. Chi-Square(2)	0.0133

LM Test for (Ethereum)

F-statistic	4.128143	Prob. F(3,1873)	0.0063
Obs*R-squared	12.33592	Prob. Chi-Square(3)	0.0063

Interpretation:

The LM test is used to detect serial correlation(autocorrelation) in the residuals of a regression model. If autocorrelation is present, it suggests that past shocks influence future values, which is critical when analyzing market volatility during Russia-Ukraine war. Since the p-value for Bitcoin is below 0.05, we reject the null hypothesis of no serial correlation, meaning that Bitcoin returns exhibit serial correlation. This suggests that past shocks continue to impact future price movements. The P-value for Binance coin is below 0.05, and indicates significant serial correlation, meaning that past Binance coin returns influence future movements. This suggests that price movements during the war created a lasting effect on BNBs return patterns. The Ethereum shows the strongest evidence of serial correlation (smallest p-values). This means that past Ethereum price movements, especially during the war, had a lasting effect on future returns. All three

cryptocurrencies show significant serial correlation, meaning past war-driven shocks had a lasting effect on their returns.

Heteroscedasticity Test:

1. For Binance Coin:

Table 4: Heteroscedasticity: ARCH Test

F-statistic	116.9039	Prob. F(1,1875)	0.0000
Obs*R-squared	110.1603	Prob. Chi-Square(1)	0.0000

2. For Bitcoin:

Heteroscedasticity: ARCH Test

F-statistic	8.734160	Prob. F(1,1875)	0.0032
Obs*R-squared	8.702936	Prob. Chi-Square(1)	0.0032

For Ethereum

Heteroscedasticity: ARCH Test

F-statistic	13.37472	Prob. F(1,1875)	0.0003
Obs*R-squared	13.29416	Prob. Chi-Square(1)	0.0003

Interpretation: -

As the P-value is less than 0.05, it suggests that the ARCH effect exists in the Binance coin crypto market series. Further, it shows that further analysis can be executed in order to check the volatility. As the P-value is less than 0.05, it suggests that the ARCH effect exists in the Bitcoin crypto market return series. Further, it shows that further analysis can be executed in order to check the volatility. As the P-value is less than 0.05, it suggests that the ARCH effect exists in the Ethereum crypto market return series. Further, it shows that further analysis can be executed in order to check the volatility. The ARCH test is used to detect heteroscedasticity meaning whether volatility is time dependent. If significant ARCH effects are present, past volatility influences future volatility, which is crucial in financial markets during war period. The Bitcoin exhibits significant lower heteroscedasticity compared to overall market. The Ethereum shows stronger ARCH effects, than bitcoin, meaning its volatility was more persistent. The overall p-values indicate strong ARCH effects, meaning past volatility influences future volatility. All cryptocurrencies exhibit significant ARCH effects. Ethereum was the most affected, followed by binance coin and bitcoin.

GARCH

1. (For Bitcoin):

Table 1: Mean Equation

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.001947	0.001363	1.428009	0.1533
BITRETURNS(-1)	-0.073431	0.037328	-1.967196	0.0492
DUMMY	-2.22E-05	0.003006	-0.007397	0.9941

Variance Equation				
C	0.000139	2.76E-05	5.020849	0.0000
RESID(-1)^2	0.092924	0.013983	6.645399	0.0000
GARCH(-1)	0.837856	0.024681	33.94748	0.0000
DUMMY	-0.000102	2.87E-05	-3.560259	0.0004

Interpretation:

The mean equation of Table 1, shows that there is no direct impact on Bitcoin returns, as P value is greater than 0.05, and the variance equation shows the volatility, and the factor of volatility exist in the bitcoin returns, as P- value is less than 0.05, the beta co-efficient of GARCH (-1) shows 83% volatility exist in series. The coefficients of bitcoin returns indicate that past returns have a negative and statistically significant effect on current returns. The Dummy variable has almost zero coefficient and an extremely high p-value. The constant term in the variance equation represents the baseline level of volatility. Residuals indicates that shocks significantly increases volatility in the market.

(For Binance Coin)

Table 2: Mean Equation

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.001797	0.001416	1.269115	0.2044
BNBRETURNS(-1)	-0.037428	0.038919	-0.961698	0.3362
DUMMY	0.003465	0.003194	1.084975	0.2779

Variance Equation				
C	0.000123	2.57E-05	4.794521	0.0000
RESID(-1)^2	0.207719	0.015186	13.67851	0.0000
GARCH(-1)	0.794201	0.015225	52.16348	0.0000
DUMMY	-0.000151	4.24E-05	-3.552445	0.0004

Interpretation: - The mean equation of table 2, shows that there is no direct impact on Binance coin returns, as P- value is greater than 0.05, and the variance equation shows the volatility, and the factor of volatility exist in the binance coin series, as P- value is less than 0.05, the beta co-efficient of GARCH (-1). The mean equation models BNB's daily returns, incorporating lagged returns and the war dummy variable. The constant c suggests that average daily return of BNB is 0.18%, but is not statistically significant. The BNBRETURNS (-1) or lagged return is 0.037428, this suggests that BNB returns do not strongly follow a predictable pattern based on past values. The war dummy variable has a positive coefficient (0.003465), indicating that during the Russia-Ukraine war, BNB returns were higher than usual. This suggests that some investors have turned BNB, during the crises, but it did not cause major price shift. Overall the Binance coin returns were not significantly impacted by the war. The Binance coin initially saw volatility spikes, but over time volatility declined significantly due to geo-political risk. The Binance coin remained stable making less risky option during uncertainty.

(For Ethereum)

Table 3: Mean Equation:

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	0.003343	0.001589	2.104202	0.0354
ETHRET(-1)	-0.048496	0.038765	-1.251024	0.2109
DUMMY	-0.000908	0.004051	-0.224228	0.8226
Variance Equation				
C	0.000160	3.40E-05	4.699203	0.0000
RESID(-1)^2	0.128854	0.011449	11.25434	0.0000
GARCH(-1)	0.832305	0.016257	51.19737	0.0000
DUMMY	-0.000111	6.45E-05	-1.727436	0.0841

Interpretation:

The mean equation of Table 3, shows that there is no direct impact on Ethereum returns, as P-value is greater than 0.05, and the variance equation shows that there is no volatility exist as p- value is greater than 0.05. The constant value suggests that the average daily returns of ethereum is 0.33%, which is statistically significant at 5% level. This indicates a small but positive return of Ethereum. ETHRET (-1) indicates the coefficient is negative but not statistically significant. This suggests that past returns of Ethereum is not significantly impact current returns. In variance equation the constant represents the baseline level of volatility in Ethereum returns. The RESID (-1) ^-2 captures the impact of past shocks on current volatility. The GARCH (-1) represents the persistence of volatility over time. The coefficient of 0.832 suggests that volatility is highly persistent. The dummy variable represents

negative coefficients and factor of volatility reduced during the Russia-Ukraine war and effect is not strongly significant.

CONCLUSION

The major focus of this research is to find the impact of Russia-Ukraine war on the major Cryptocurrencies like Bitcoin, Ethereum, and Binance coin. This research also provides deep insight to check the volatility and impact of War on the Cryptocurrencies, either the Russia-Ukraine war has impact on the crypto market or not. The relation among three Cryptocurrencies (bitcoin, Binance coin, Ethereum) due to high market capitalization are checked during the war period. We finally concluded that the ARCH effect exist in the Binance coin market series, as P value is less than 0.05, and ARCH effect exist in the Bitcoin coin market series, as P value is less than 0.05, and also ARCH effect exist in the Ethereum market series.

During the war period like Russia-Ukraine, as cryptocurrency is the alternative tool for investing as a safe haven, as it is decentralized in nature, and no physical existence. The title of my research study is impact of war on three cryptocurrencies like Bitcoin, Ethereum, and Binance coin. During the war period should investors invest in it or not, either it has direct impact or not, according to our results, the investors should invest in the Ethereum as it has no direct impact due to war and factor of volatility does not exist in ethereum market. So investors and policy makers should choose ethereum for investment during war period as it is safe haven tool. During the war periods investors should look that market to invest where the factor of lose is insignificant. As crypto market is best tool for investment during war period, but investors and policy makers invest in that market where investors does not face tremendous lose in it. The research study gives value able insights by investing in the crypto market during the Russia-Ukraine war period. So investors invest in that market where they gain benefit from investing in it.

For the future researchers it is recommended to expand the sample and conduct cross-market analysis using advanced techniques. Investors and policy makers may benefit from this study in terms of policy making and investment decisions respectively. Investors can use this research to avoid risk before investing in the Crypto markets. Researchers also used this study for exploring the same areas in other Cryptocurrencies of the world.

REFERENCES

- Ahmed, A., Batool, S., & Haq, A. U. (2025). To Measure the Effects of Omnichannel Management Capabilities on Positive WOM Engagement and Equity. *Wah Academia Journal of Social Sciences*, 4(1), 1265-1285.
- Akhtaruzzaman, M., Boubaker, S., Nguyen, D. K., & Rahman, M. R. (2022). Systemic risk-sharing framework of cryptocurrencies in the COVID-19 crises. *Finance research letters*, 102787.
- Antonopolous, P., Nunes, P. D. R., & Cottle, D. (2019). Circumventing sanctions: Venezuela's turn to cryptocurrencies. *Venezuela in Focus: Economic*,

- Political and Social Issues*, 71-103.
- Antonopoulos, P., Nunes, P. D. R., & Cottle, D. (2019). Circumventing sanctions: Venezuela's turn to cryptocurrencies. *Venezuela in Focus: Economic, Political and Social Issues*, 71-103.
- Arooj, A., Iqbal, S., & Khan, M. L. (2025). Psychological Wellbeing, Life Satisfaction and Hopelessness in Delayed Marriages. *Pakistan Languages and Humanities Review*, 9(3), 65-79.
- Bampinas, G., & Panagiotidis, T. (2024). How would the war and the pandemic affect the stock and cryptocurrency cross-market linkages? *Research in International Business and Finance*, 70, 102272.
- Barguellig, A. (2022). War and Cryptocurrency markets: An Empirical Investigation.
- Barguellig, A. (2022). War and Cryptocurrency markets: An Empirical Investigation.
- Boubaker, S., Goodell, J. W., Pandey, D. K., & Kumari, V. (2022). Heterogeneous impacts of wars on global equity markets: Evidence from the invasion of Ukraine. *Finance Research Letters*, 48, 102934.
- Brauneis, A., Mestel, R., Riordan, R., & Theissen, E. (2022). Bitcoin unchained: Determinants of cryptocurrency exchange liquidity. *Journal of Empirical Finance*, 69, 106-122.
- Corbet, S., Hou, Y., Hu, Y., Larkin, C., & Lucey, B. Les Oxley. 2021. Cryptocurrency liquidity and volatility interrelationships during the COVID-19 pandemic. *Finance Research Letters*, 102137.
- Dong, B., Jiang, L., Liu, J., & Zhu, Y. (2022). Liquidity in the cryptocurrency market and commonalities across anomalies. *International Review of Financial Analysis*, 81, 102097.
- Farooq, M., Saeed, M., Ali, W., & Javid, R. (2020). Online buying and customer satisfaction in the era of transformative marketing. *City University Research Journal*, 10(2), 274-288.
- Huang, S. H., Hsu, W. K., Le, T. N. N., & Huynh, N. T. (2025). The selection model of international air express for high-tech manufacturers in airfreight of sample products: the fuzzy best-worst method. *Asia Pacific Journal of Marketing and Logistics*.
- Kanwal, M. (2025). Advancements in Nutraceuticals and Peptide Therapeutics: A Comprehensive Review. *Multidisciplinary Surgical Research Annals*, 3(3), 1208-1221.
- Khan, S., & Haq, E. U. (2025). The role of pedagogical strategies in teaching management science to hospitality management students. *Journal of Political Stability Archive*, 3(1), 805-826.
- Kumar, S., Patel, R., Iqbal, N., & Gubareva, M. (2023). Interconnectivity among cryptocurrencies, NFTs, and DeFi: evidence from the Russia-Ukraine conflict. *The North American Journal of Economics and Finance*, 68, 101983.
- Loi, H. (2018). The liquidity of bitcoin. *International Journal of Economics and Finance*, 10(1), 13-22.
- Masih, S., Saher, S., & Raju, V. (2021). Consequences of self-defeating humor on

- employee commitment via emotional dissonance. *International Journal of Business and Administrative Studies*, 7(4), 77.
- Naseer, M., Rehan, M. S., & Shah, S. M. A. (2024). Exploring the Determinants of Career Satisfaction Among Employees: Evidence from Pakistan's Pharmaceutical Sector. *Journal of Political Stability Archive*, 2(4), 207-225.
- Oosterlink, K., Reyns, A., & Szafarz, A. (2022). Gold, Bitcoin, and Portfolio Diversification: Lessons from the Ukrainian War. *Working Papers CEB*, 22.
- Rana, A. M., & Ahmed, A. M. (2022). A Propose Sustainable Mechanism For Academia And Industry Linkages: Perspective Of Transfer Of Innovation And Technology. *Journal of Positive School Psychology*, 6(8), 10012-10026.
- Shabbir, T., Chandio, A. S., Uddin, S. S., & Ali, A. (2021). The impact of one unit on Sindh's political future after its abolition. *International Journal of Humanities and Innovation (IJHI)*, 4(4), 140-148.
- Smales, L. A. (2019). Bitcoin as a safe haven: Is it even worth considering?. *Finance Research Letters*, 30, 385-393.
- Theiri, S., Nekhili, R., & Sultan, J. (2022). Cryptocurrency liquidity during the Russia–Ukraine war: the case of Bitcoin and Ethereum. *The Journal of Risk Finance*, (ahead-of-print).
- Theiri, S., Nekhili, R., & Sultan, J. (2022). Cryptocurrency liquidity during the Russia–Ukraine war: the case of Bitcoin and Ethereum. *The Journal of Risk Finance*, (ahead-of-print).
- un Nisa, S. (2025). THE NEW WORLD ORDER: BRICS AND THE PERSPECTIVE OF PAKISTAN. *Policy Journal of Social Science Review*, 3(6), 107-113.
- Yatie, A. (2022). Failure of Gold, Bitcoin and Ethereum as safe havens during the Ukraine-Russia war. *Bitcoin and Ethereum as safe havens during the Ukraine-Russia war (March 23, 2022)*.
- Yatie, A. (2022). Failure of Gold, Bitcoin and Ethereum as safe havens during the Ukraine-Russia war. *Bitcoin and Ethereum as safe havens during the Ukraine-Russia war (March 23, 2022)*.
- Yousaf, I., Riaz, Y., & Goodell, J. W. (2022). Energy cryptocurrencies: Assessing connectedness with other asset classes. *Finance Research Letters*, 103389.
- Zeng, H., Ahmed, A. D., & Lu, R. (2024). The Bitcoin-agricultural commodities nexus: Fresh insight from COVID-19 and 2022 Russia–Ukraine war. *Australian Journal of Agricultural and Resource Economics*, 68(3), 653-677.
- Zhong, W., & Jiang, T. (2021). Can internet finance alleviate the exclusiveness of traditional finance? evidence from Chinese P2P lending markets. *Finance Research Letters*, 40, 101731.