

Cryptocurrency Market Contagion: Market Uncertainty, Complexity, And Dynamic Portfolios

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Abstract

Bitcoin is the most recognized and well-known cryptocurrency and there is a durable influence of market vagueness, complication, and dynamic portfolios on the cryptocurrency market contagion. Comprehensive discussion about the market uncertainty, complexity, and dynamic portfolios in the context of cryptocurrency market contagion. Moreover, it has been detected that these factors have a huge influence on the cryptocurrency market. In this study, investigators can gather data with the assistance of the primary data assortment procedure. Therefore, this data assortment technique examines the composed data statistically. Moreover, the analytical SPSS software tool supports the investigators to examine the composed info numerically. Constructed on the analytical SPSS software tool, investigators can investigate the statistical data. Therefore, “descriptive statistics, “ANOVA”, “model summary”, and regression” examinations are emphasized in this segment. The “Correlation” assessment is also highlighted to recognize the association among variables. It has been renowned that high volatility, market fluctuations, complexities, uncertainty, and dynamic portfolios have a durable impact on the cryptocurrency markets. The

influence of market uncertainty on the cryptocurrency market contagion has been highlighted.

Keywords: Cryptocurrency market contagion, market uncertainty, complexity, dynamic portfolios, regulatory crackdowns, etc.

Introduction

The contagion result happens as soon as the deterioration in the worth of one cryptocurrency feasts to supplementary cryptocurrencies or digital possessions, subsequent in harm to self-assurance in the complete crypto market. As per the comment of AL-MANSOUR, (2020), investors may be frightened and vend off their properties, intensifying the undesirable trend. Additionally, numerous factors, including regulatory crackdowns, complexities, market uncertainty, dynamic portfolios, and market processes, are the major underlying causes of cryptocurrency market contagion. In addition, it can affect and result in a decline in the case of the utilization of the definite cryptocurrency. Moreover, market manipulation and uncertainty in the market also subsidize the crypto contamination (Antony,2020). Furthermore, coordinated acquisition or sale of a specific cryptocurrency by numerous dealers or monsters may result in an unexpected price alteration that results in the answer transversely to the market.

It has been seen that these are the major influence factors that cause crypto market contagion including hacking occurrences. As per the notion of Bansal (2020), the stress period and the market failures following the stablecoins, crypto-focused hedge assets, and crypto relations, sequentially elevated thoughtful apprehensions approximately market honesty and operator protection. Moreover, with increasing and profound relations with the essential financial system, there could also be apprehensions about systemic risk and economic steadiness in the coming years. Figure 1 showing the boom and bust of Bitcoin from 2015 to 2023 (Asafo-Adjei et al. 2022).

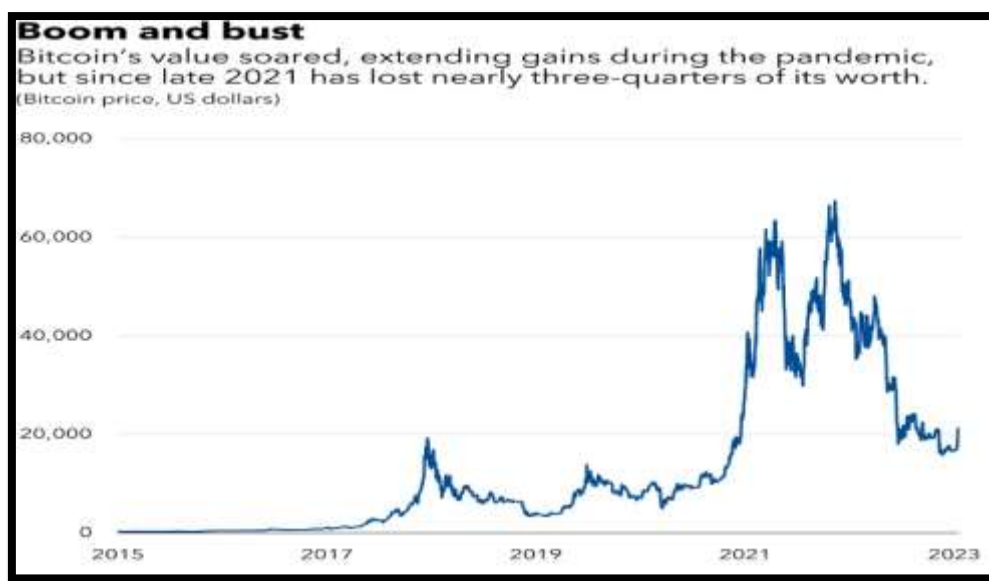


Figure 1: The Boom and bust of Bitcoin from 2015 to 2023

Crypto possessions, as well as stable coins, are not the major risks to the worldwide monetary system, however, some developing markets and emerging financial prudence are previously substantially pretentious. Moreover, different countries are suffering from cryptoization in different patterns. The development of cryptocurrencies' values showed a type of effervesce and a clatter in the year 2017 (Eaton, 2019). In addition to this, bitcoin is the most documented and well-known cryptocurrency and there is a strong influence of market ambiguity, involvedness, and dynamic portfolios on the cryptocurrency market contagion (Pallathadka et al., 2022).

Subsequently, the construction of Bitcoin which is known as the first cryptocurrency constructed in the year 2009 has augmented its worth exponentially, however in the year 2019 it has reached near the value of 260 billion USD. Bitcoin itself was accountable for around 55% of that financing due to its emerging importance in the market of cryptocurrency (Lucarelli & Borrotti, 2020).

In this segment of the research study, the goal of the research study is emphasized and the major influential factors and underlying areas of the research topic have been highlighted. Furthermore, research questions also play a noteworthy part in this segment.

Aim

The major and significant aim of the research study is to highlight the market uncertainty, complexity, and dynamic portfolios in the context of cryptocurrency market contagion

Research Objectives

RO 1: To highlight the influence of market uncertainty on the cryptocurrency market contagion

RO 2: To estimate the role of the complexity of the market on the financial contagion concerning cryptocurrency

RO 3: To measure the impact of dynamic portfolios in the contagion market of cryptocurrency

RO 4: To determine the regulatory crackdowns and their adverse events' effect on crypto contagion.

Research Questions

RQ1: What is the influence of market uncertainty on the cryptocurrency market contagion?

RQ2: What is the role of the complexity of the market on the financial contagion concerning cryptocurrency?

RQ3: What is the impact of dynamic portfolios in the contagion market of cryptocurrency?

RQ4: What are the regulatory crackdowns and their adverse events' effect on crypto contagion?

Hypothesis

H 1: There is a strong connection between market uncertainty on the cryptocurrency market contagion

H 2: There is a positive interrelationship between the complexity of the market and the contagion of cryptocurrency

H 3: There is a significant interrelatedness between dynamic portfolios in the contagion market of cryptocurrency

H 4: There is a remarkable relationship between regulatory crackdowns and their adverse events' effect on crypto contagion

Cryptocurrencies are digital coinages that can be cast off through retail acquisitions and in the light of financial assets, however, the currency is a bit controversial as this is associated with any kind of tangible assets (Yip et al. 2020).

Literature Review

Critically analyze the influence of market uncertainty and complexity on the cryptocurrency market contagion

A high level of market uncertainty reduces the predictable value of the inflowing worth of the foreign market, resulting in a negative consequence on the widespread margin of spreads. Moreover, market uncertainty significantly impacts cryptocurrency marketing trends as it depresses the collateral rate. In the financial crisis, the investors in the market of cryptocurrency entail a higher rate of reappearance on their

investment through developed risk perks (Tavana et al. 2020). The contagion consequence is a significant tool to detect the certainty that the financial assets are due to some kind of exciting proceedings. This is the influence of the contagion that helps to highlight the status of the cryptocurrency market. It has been seen that this market knowledgeable growing amalgamation between the chief cryptocurrencies after the crisis of December 2017 (Brasil & Egger, 2019). Figure 2 containing the the data regarding Cryptocurrency market competence in short and longstanding prospects throughout the COVID-19 pandemic (Wang et al. 2023).

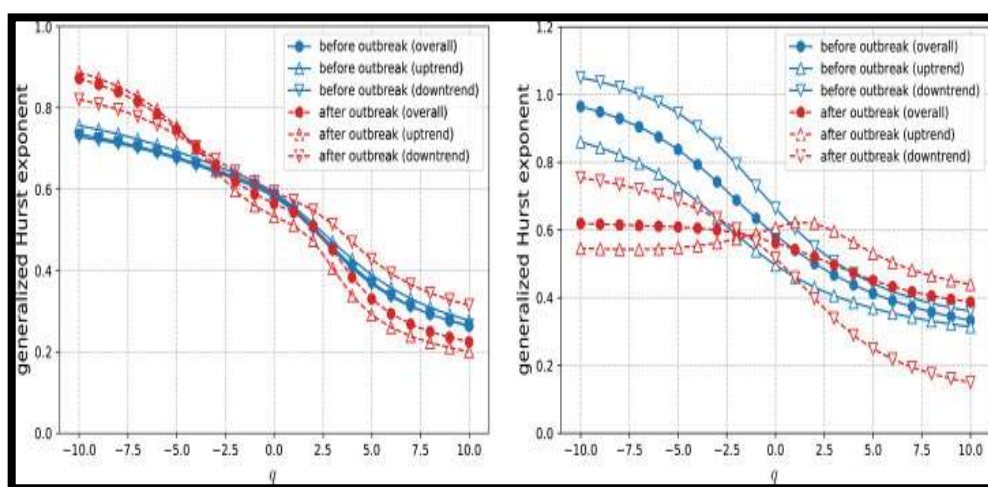


Figure 2: Cryptocurrency market competence in short and longstanding prospects throughout the COVID-19 pandemic.

The above figures shed light on the cryptocurrency market due to the influence of market uncertainty in the times of COVID-19. Additionally, in raising portfolios, there is a major risk to deliberate capitalizing in numerous cryptocurrencies. It has been seen that there is a high opportunity for diversification using cryptocurrencies. As per the comment of Antonakakis et al. (2019), there is a major influence of market uncertainty on the cryptocurrency market contagion as this impacts the rates of diversification. In addition to this, cryptocurrencies frequently illustrate dissimilar topographies from conventional possessions due to the exclusive blockchain technology, there is increasing interest in the influence of COVID-19 on cryptocurrency marketplaces. Moreover, higher market uncertainty is not unavoidably related to the difficult returns which proposes that investors in these cryptocurrencies are not ambiguity opposed (Singh, 2021).

Stages of uncertainty have been adjacent to the supreme standards; however high uncertainty is not continuously related to high risk. In the times of the crisis of COVID-19, market uncertainty amplified while risk was reduced. The contagion consequence happens when the weakening in the value of one cryptocurrency blowouts to supplementary cryptocurrencies or digital possessions, resulting in damage to self-assurance in the complete market (Sharma & Sarma, 2022). Investors of the cryptocurrency market panic and discharge their possessions, intensifying the undesirable trend.

In current years, cryptocurrencies have been in the limelight of consideration in monetary markets across the globe. Bitcoin is regarded as the first currency and is still the most prevalent digital currency. There are other replacements including Ethereum and Ripple which have increased pace in the year 2017. Moreover, the market financing of all other digital currencies is associated with the financing of Bitcoin (Shah et al. 2021). Augmented interest in cryptocurrencies breaks mainly upon the detail that their submissions can control future growth in many significant features of real economic action. Unambiguously, augmented interest in cryptocurrencies breaks mainly upon the fact that their submissions have the probability to control future expansions in numerous significant features of real economic movement (Sharma & Kumar, 2019).

Impact of dynamic portfolios and regulatory crackdowns in the contagion market of Cryptocurrency

There is a significant interrelatedness between dynamic portfolios and regulatory crackdowns in the contagion market of cryptocurrency. In addition to this, it has been seen that a share of tech businesses distress Bitcoin for a short period, while, it has an insulated influence on both the companies of fossil fuel and clean energy. Moreover, Bitcoin, even though susceptible to assumption, is extensively being utilized as a substitute to sanction currency, while, blockchain skill in overall, strength very well disturbs both central banking and commercial ascendancy. Furthermore, there are some insinuations of blockchain expertise on corporate domination. In addition, financial policy considerations and suggestions have been impactful (Özen & Ersoy, 2019)

In addition to this, captivating a quick position in the value of Bitcoin successfully hedges danger originally expected in numerous financial markets. Bitcoin in portfolio

modification approaches critically decreases the general risk of speculation. However, assumption in the markets of cryptocurrency is encouraging to ages of high volatility and indecision against the effectiveness of the applicable portfolio divergence approaches. As per the analysis of Leković (2019), even though the markets of cryptocurrency deliver countless potentials to develop financial incomes, the accidental loss of currency is still substantial. Beforehand, reveal the plan that defends the values of the portfolio. Moreover, the contagion consequence happens in case of a deterioration in the value of spreads of cryptocurrency or digital possessions, subsequent in a cost of self-assurance in the complete market (Madaan & Singh, 2019). Figure 4 showing the impact of dynamic portfolios and regulatory crackdowns on crypto market (Khilar & Singh, 2020).

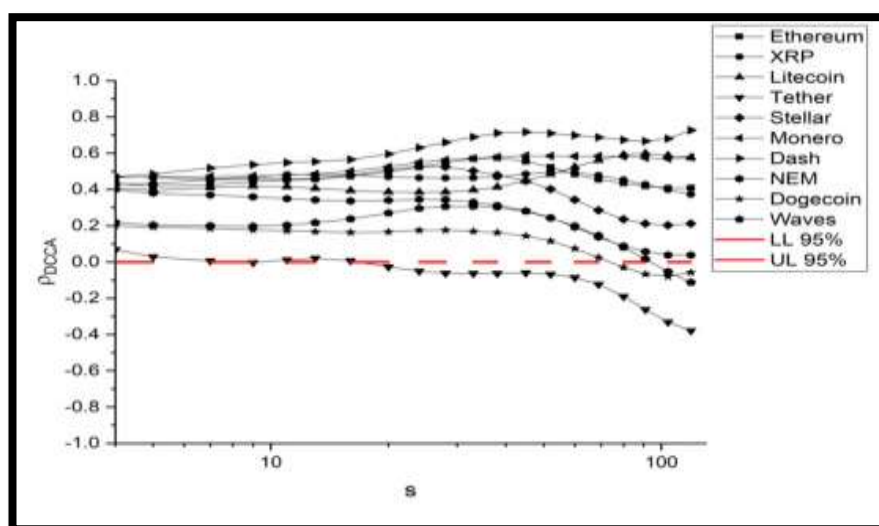


Figure 4: Impact of dynamic portfolios and regulatory crackdowns on crypto market

There is a huge influential impact of dynamic portfolios and regulatory crackdowns in the contagion market of Cryptocurrency. In addition to this, the market of crypto contagion involves undesirable events that trigger a chain response, consequential in the recession. Moreover, unexpected happening such as the crisis of COVID-19 crisis have supported the cryptocurrency market by applying models of data on behalf of the crisis periods (Khan et al. 2021).

Different innovative models have impacted the cryptocurrency market and started participating in the year 2018 due to the volatility inside the market condensed. As per the statement of Jain et al. (2020), the cryptocurrency market

is extremely consistent and the contagion supported throughout the crisis. Total connectedness transversely cryptocurrencies display huge active variability, however, the opportunities for augmented connectedness have improved over time. The gradation of connectedness rests on the indecision in the market of cryptocurrency. It has been seen that the majority of cryptocurrencies are regionalized digital money enlightened from the sovereign administration, banking organizations, and centralized establishments. Financial rule policy indecision is destructively and suggestively related to the instability of cryptocurrencies (Hidajat,2019).

In addition to this, an upsurge in ambiguity will eventually weaken the volatility. Additionally, it suggests that fast variations in the indecision of financial directive policy reinforce the crypto market. As highlighted by Bansal (2020), crypto values can be melodramatically exaggerated by major proceedings, such as connections or coins deafening. It can also descend with advanced interest rates, increasing price rises, and other macroeconomic factors that can disturb how self-assured individuals feel participating in their currency in perilous alternative possessions.

Methodology

In this study, investigators are permitted to gather key informational data with the assistance of the primary data assortment procedure. Therefore, this data-gathering technique examines the composed data statistically. In addition to this, SPSS analytical software supports the investigators to examine the composed statistics numerically (Sileyew,2019). In the same context, in this research study, investigators are permitted to collect key informational data in context with the research topic with the support of 13 survey questionnaires. Furthermore, in this research study, 13 survey questions have been developed among which 3 are demographic factor baes and 10 are descriptive and relevant to the research topic to analyze the perspectives of the respondents about the research study (Li et al., 2022).

Additionally, different measuring scales are tested to draw authentic and reliable research outcomes including “descriptive statistics”, “model summary”, “ANOVA test”, “coefficient test”, and “correlation test”. The relationship between the variables related to the research study is highlighted and by the implication of the quantitative data assortment techniques, biased research outcomes have been abolished (Kafle,2019). In addition to this, the important factor

of this data-gathering techniques and approach helps to support the objectivity and subjectivity. Hypothesis testing is a significant part of this research study which aids to treasure the association between the variable quantities. Therefore, these approaches include numeric data, foremost for accurate and objective consequences, and diminishing bias and partiality.

Finding and Analysis

Demographic Analysis

Gender

What is your gender?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	30	54.5	54.5	54.5
	Male	16	29.1	29.1	83.6
	Prefer not to say	9	16.4	16.4	100.0
	Total	55	100.0	100.0	

Table 1: Gender (Source: IBM SPSS)

The above highlights the rate of frequency of the respondents who participated in the survey by their gender groups. There was the involvement of male, female, and other gender groups to reduce the biases of the responses (Antony,2020). There were 30 females, 16 males, and 9 other gender groups who preferred not to disclose their gender. According to this response rate, investigators are accomplished in understanding the degree of the answers on this particular research topic.

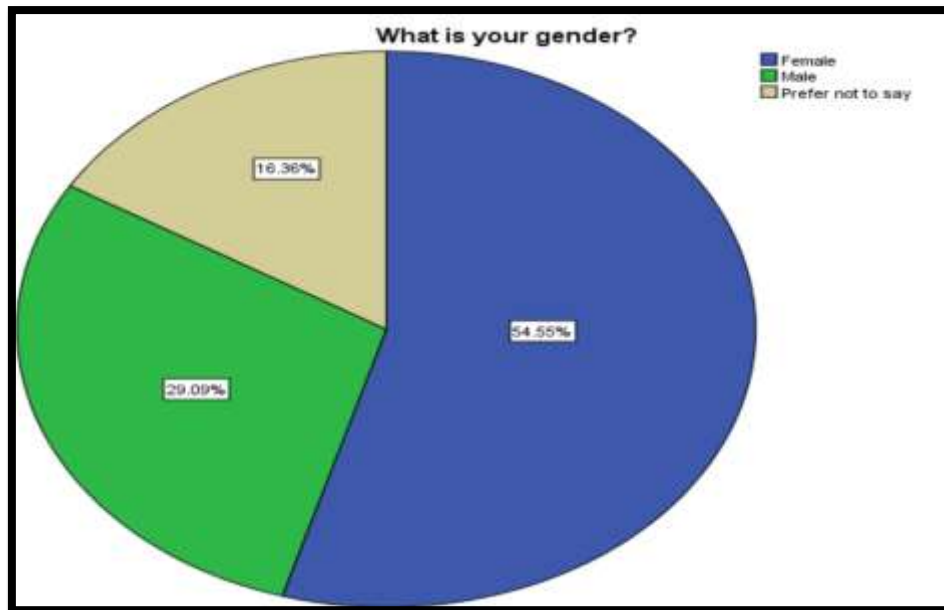


Figure 5: Gender (Source: IBM SPSS)

The above-mentioned figure highlights the rate of percentage of the participants about their gender group. There were 54.55% females, 29.09% males, and 16.36% others involved in the survey.

Age Group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20 to 35 years	3	5.5	5.5	5.5
	35 to 50 years	9	16.4	16.4	21.8
	50 to 65 years	23	41.8	41.8	63.6
	Above 65 years	20	36.4	36.4	100.0
Total		55	100.0	100.0	

Table 2: Age Group (Source: IBM SPSS)

The above-depicted figure highlights the age group of the respondents who participated in the survey. The most frequent was the age group of 55 to 65 having a frequency of 23, however, the least frequent was the age group of 25 to 35 having a frequency of only 3 among 55 respondents who participated in the survey.

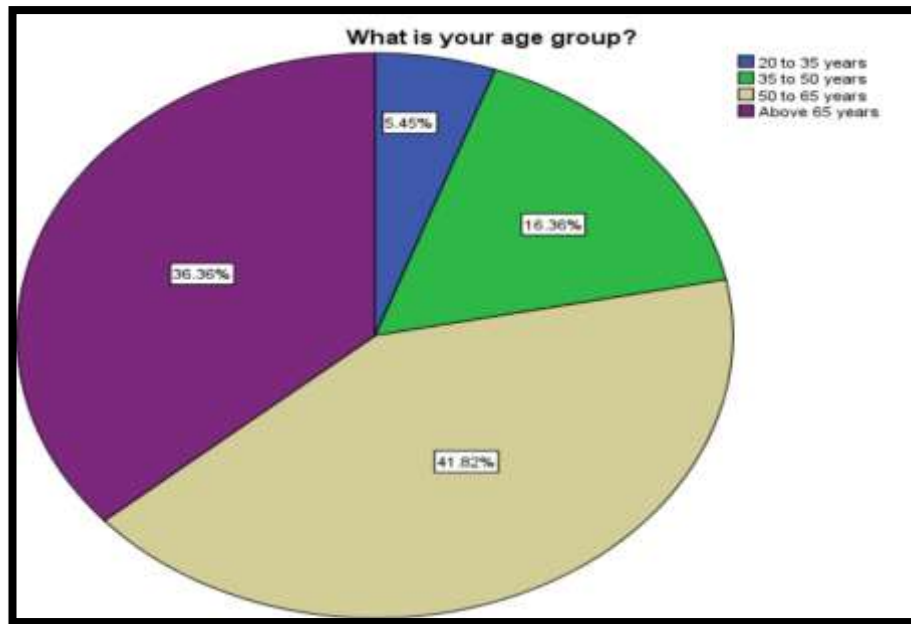


Figure 6: Age Group (Source: IBM SPSS)

The above-expressed figure highlights the rate of percentage of participants about the age groups. 41.82% of individuals are between 50 to 65 years of age and they were the most frequent. On the other hand, there were 5.45% of individuals between 20 to 35 years of age and they were the least frequent. According to this response rate, investigators are accomplished in understanding the degree of the answers on this particular research topic.

Marital Status

What is your Material Status?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Married	21	38.2	38.2	38.2
	Unmarried	34	61.8	61.8	100.0
	Total	55	100.0	100.0	

Table 3: Marital Status (Source: IBM SPSS)

Table 3 sheds light on the rate of response of the respondents who participated in the survey by their marital status. There were 21 married and 34 unmarried individuals involved in the survey.

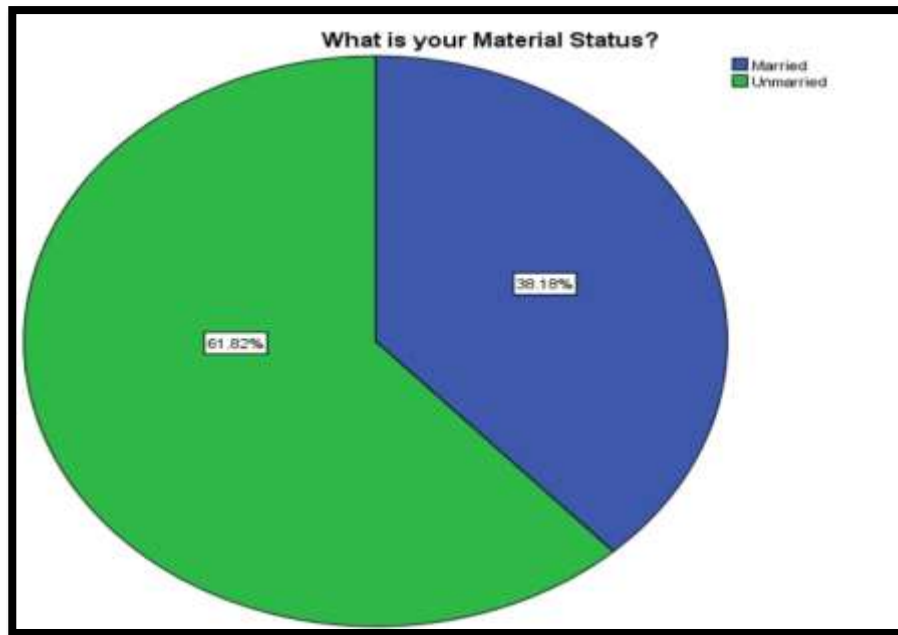


Figure 7: Marital Status (Source: IBM SPSS)

Figure 7 highlights the level of percentage of the individuals involved in the survey based on their marital status. In addition to this, there were approximately 68.12% unmarried respondents, and on the other side, there were 38.18% married people. According to this response rate, investigators are accomplished in understanding the degree of the answers on this particular research topic.

Statistical Analysis

Descriptive Analysis

Descriptive Statistics									
	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
DV	55	5.00	9.00	7.4909	1.06931	-1.390	.322	1.008	.634
IV1	55	4.00	10.00	8.1273	1.50376	-.971	.322	.349	.634
IV2	55	5.00	9.00	7.4545	1.37192	-.661	.322	-.709	.634
IV3	55	6.00	10.00	8.3818	1.04511	-.734	.322	-.314	.634
IV4	55	4.00	10.00	7.4909	1.64286	-.763	.322	-.404	.634
Valid N (listwise)	55								

Table 4: Descriptive analysis of different variables (Source: IBM SPSS).

Table 4 assistances in categorizing different measuring scales which include “the mean”, “standard deviation”, skewness, and kurtosis” score values of the dependent and independent variables of the research topic. In addition to this, the score value of the mean of DV is 7.4, however, its SD score value is 1.06. Furthermore, the mean score value of IV1 and IV 2 are 8.1 and 7.4, on the other hand, their SD values are 1.50 and 1.37 respectively. Contrary the mean score values of IV3 and IV4 are 8.3 and 7.4, on the other side, their SD values are 1.04 and 1.64 respectively. Moreover, the score values of skewness and kurtosis help to designate the spread and elevation of normal distributional score values (Sileyew,2019). Skewness is cast-off to signify the straight pull on the informational data and Kurtosis is implicated to treasure the peak's elevation.

Hypothesis 1

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.109 ^a	.012	-.007	1.07296	1.916

a. Predictors: (Constant), IV1

b. Dependent Variable: DV

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.729	1	.729	.633	.130 ^b
	Residual	61.016	53	1.151		
	Total	61.745	54			

a. Dependent Variable: DV

b. Predictors: (Constant), IV1

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.119	.802		10.120	.000
	IV1	-.077	.097	-.109	-.796	.130

a. Dependent Variable: DV

Table 5: Linear regression analysis (Source: IBM SPSS).

Table 6 highlights the score values of the regression examination of the first hypothesis. Moreover, it is highlighted in the “ANOVA” table, that the significance score of the IV is 0.13, which is approximately equal to the normal distributional values of significance. As per the comment of Muijs (2022), the

score values of significance generally include 0.10, 0.05, and 0.01. Moreover, the Durbin Watson value and t values of IV 1 are 1.91 and 10.12 respectively. Therefore, it is stated that there is a strong connecting link between the first independent variables and the dependent variable.

Hypothesis 2

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.072 ^a	.005	-.014	1.07653	1.987

a. Predictors: (Constant), IV2

b. Dependent Variable: DV

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.323	1	.323	.278	.550 ^b
	Residual	61.423	53	1.159		
	Total	61.745	54			

a. Dependent Variable: DV

b. Predictors: (Constant), IV2

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.071	.809		8.739	.000
	IV2	.056	.107	.072	.528	.550

a. Dependent Variable: DV

Table 6: Linear regression analysis for Hypothesis 2 (Source: IBM SPSS).

Table 6 highlights the "ANOVA" table, that the significance score of the IV2 is 0.55, which is approximately equal to the normal distributional values of significance. In addition to this, the gradation of numerical significance normally differs reliant on the significance level (Kafle,2019). A value greater than 0.05 is measured as most significant however smaller than 0.01 is regarded as extremely statistically substantial.

Hypothesis 3

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.061 ^a	.004	-.015	1.07734	1.947

a. Predictors: (Constant), IV3

b. Dependent Variable: DV

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.231	1	.231	.199	.547 ^b
	Residual	61.514	53	1.161		
	Total	61.745	54			

a. Dependent Variable: DV

b. Predictors: (Constant), IV3

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.966	1.185		5.880	.000
	IV3	.063	.140	.061	.446	.547

a. Dependent Variable: DV

Table 7: Linear regression analysis for Hypothesis 3 (Source: IBM SPSS).

Table 7 highlights the "ANOVA" table, that the significance score of the IV3 is 0.54, which is approximately equal to the normal distributional values of significance. A value greater than 0.05 is measured as most significant however smaller than 0.01 is regarded as extremely statistically substantial (Sileyew, 2019). Therefore, it is stated that there is a significant relationship between the third independent variable and the dependent variable.

Hypothesis 4

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.261 ^a	.068	.050	1.04199	1.855

a. Predictors: (Constant), IV4

b. Dependent Variable: DV

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.201	1	4.201	3.870	.054 ^b
	Residual	57.544	53	1.086		
	Total	61.745	54			

a. Dependent Variable: DV

b. Predictors: (Constant), IV4

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.219	.662		9.400	.000
	IV4	.170	.086	.261	1.967	.054

a. Dependent Variable: DV

Table 8: Linear regression analysis for Hypothesis 3 (Source: IBM SPSS).

Table 6 highlights the score values of the regression examination of the first hypothesis. Moreover, it is highlighted in the "ANOVA" table, that the significance score of the IV2 is 0.05, which is approximately equal to the normal distributional values of significance. As per the observation of Georg & Mallery, (2021), the score values of significance generally include 0.10, 0.05, and 0.01. A value greater than 0.05 is measured as most significant however smaller than 0.01 is regarded as extremely statistically substantial. Moreover, the Durbin Watson value and t values of IV 2 are 1.85 and 9.4 respectively. Therefore, it is stated that there is a strong connecting link between the fourth independent variable and the dependent variable.

Correlation Test

		Correlations					
		V1	DV	IV1	IV2	IV3	IV4
V1	Pearson Correlation	. ^a	. ^a	. ^a	. ^a	. ^a	. ^a
	Sig. (2-tailed)	.	.	.	.	.	.
	N	0	0	0	0	0	0
DV	Pearson Correlation	. ^a	1	-.109	.072	.061	.261
	Sig. (2-tailed)	.		.430	.600	.657	.054
	N	0	55	55	55	55	55
IV1	Pearson Correlation	. ^a	-.109	1	-.118	.086	.079
	Sig. (2-tailed)	.	.430		.390	.531	.566
	N	0	55	55	55	55	55
IV2	Pearson Correlation	. ^a	.072	-.118	1	-.046	.088
	Sig. (2-tailed)	.	.600	.390		.740	.522
	N	0	55	55	55	55	55
IV3	Pearson Correlation	. ^a	.061	.086	-.046	1	.105
	Sig. (2-tailed)	.	.657	.531	.740		.448
	N	0	55	55	55	55	55
IV4	Pearson Correlation	. ^a	.261	.079	.088	.105	1
	Sig. (2-tailed)	.	.054	.566	.522	.448	
	N	0	55	55	55	55	55

a. Cannot be computed because at least one of the variables is constant.

Table 9: Correlation test between a dependent variable and independent variables (Source: IBM SPSS).

Table 9, the “significance value” of IV1 and IV2 is 0.1 and 0.11 which comes under the normal distributional significant value which signifies, that the first and second independent are correlated with each other (Georg & Mallery, 2021). The level of correlation between the independent and dependent variables helps to understand the association between the variables and aids in smooth hypothesis testing. Moreover, the score values of significance of IV 3 and IV4 are also less than the average of the normal distribution value which signifies a strong connection between the variables.

Discussion

Inclusive discussion about the market uncertainty, complexity, and dynamic portfolios in the context of cryptocurrency market contagion. In addition to this, it has been observed that there is a huge influence of these factors on the cryptocurrency market. These are the crucial concepts of this speculation procedure; examination of developing stock markets has shown that there is an influential reach in the assumption that Bitcoin establishes a real diversifier even inside a portfolio that previously comprised merchandise like gold or oil. In addition to this, the Bitcoin market has been somewhat flattering more well-organized over the recent period (Madaan & Singh, 2019). Expounding on the high price instability in the cryptocurrency

market default dispersed in return for the fixed supply, which virtually suggests a highly prone to short-term value variations. It has been noted that high volatility, market fluctuations, complexities, uncertainty, and dynamic portfolios have a strong influence on the cryptocurrency markets. In this research study, the investigator deployed the primary quantitative data methods to gather the data information which has resulted in accurate research outcomes. More authentic and statistical information has been described about the research topic. Analytical software tool IBM SPSS has been implicated in analyzing the gathered data from primary sources. Contrarily, different types of numerical examinations are emphasized within this research study to examine the composed data mathematically (Singh, 2021).

It has been noted that the dynamic overall connectedness transversely numerous cryptocurrencies display huge dynamic variability fluctuating between 25% and 75%. Specifically, the time of the high level of market uncertainty corresponds to the augmented market indecision that is related to the stages of extremely volatile values (Antonakakis et al. 2019). Moreover, contempt to the aspect that Bitcoin still inspires the emerging market of cryptocurrency, however in recent times, it has been noted that Ethereum has turned out to be the top most spreading cryptocurrency. In the same context, the market of cryptocurrency progressively grows more multifaceted unique features and potentials characteristic in the knowledge of cryptocurrency. Furthermore, a basic claim absorbed on bivariate portfolios is suggestive of possible prevarication chances using ratios of the dynamic hedge (Tavana et al. 2020).

Conclusion

This research is based on the analysis of the market uncertainty, complexity, and dynamic portfolios in the context of cryptocurrency market contagion. Moreover, the aspect of the contagion of the cryptocurrency market has been deliberated in this research study. The research objectives have been developed along with the research questions have been answered. In addition to this, the underlying factors of the research topic and its significance in the development of a better and clearer view of the contagion of the cryptocurrency market.

Moreover, the influence of market uncertainty on the cryptocurrency market contagion has been highlighted. In addition to this, the role of the complexity of the market on the

financial contagion concerning cryptocurrency has been discussed in a detailed manner. Furthermore, there is a huge impact of dynamic portfolios in the contagion market of cryptocurrency. Additionally, there is a significant impact of regulatory crackdowns and their adverse events' effect on crypto contagion. Investigation of the interrelationships transversely dissimilar cryptocurrencies is significant to improve comprehension of the broad spectrum of submissions that originates with the afresh presented blockchain technologies and it is majorly influenced by the financial policy, corporate ascendancy, and risk administration. The methodology which has been adopted in this study is primarily quantitative methods with the help of SPSS analytical software.

References

- AL-MANSOUR, B. Y. (2020). Cryptocurrency market: Behavioral finance perspective. *The Journal of Asian Finance, Economics and Business (JAFEB)*, 7(12), 159-168. https://www.academia.edu/download/65086303/2020_Cryptocurrency_market.pdf
- Antony, A. (2020). Behavioral finance and portfolio management: Review of theory and literature. *Journal of Public Affairs*, 20(2), e1996. https://www.researchgate.net/profile/Anu-Antony-7/publication/334765342_Behavioral_finance_and_portfolio_management_Review_of_theory_and_literature/links/5d53bcd192851c93b62e684c/Behavioral-finance-and-portfolio-management-Review-of-theory-and-literature.pdf
- Bansal, T. (2020). Behavioral finance and COVID-19: Cognitive errors that determine the financial future. Available at SSRN 3595749. https://www.zbw.eu/econis-archiv/bitstream/11159/434090/1/EBP076422844_0.pdf
- Hidajat, T. (2019). Behavioral biases in Bitcoin trading. *Fokus Ekonomi: Jurnal Ilmiah Ekonomi*, 14(2), 337-354. <http://ejournal.stiepena.ac.id/index.php/fe/article/viewFile/240/214>
- Jain, J., Walia, N., & Gupta, S. (2020). Evaluation of behavioral biases affecting investment decision-making of individual equity investors by fuzzy analytic hierarchy process. *Review of Behavioral Finance*, 12(3), 297-314. https://www.researchgate.net/profile/Anu-Antony-7/publication/334765342_Behavioral_finance_and_portfolio_management_Review_of_theory_and_literature/links/5d53bcd192851c93b62e684c/Behavioral-finance-and-portfolio-management-Review-of-theory-and-literature.pdf
- Khan, I., Afeef, M., Jan, S., & Ihsan, A. (2021). The impact of heuristic biases on investors' investment decision in Pakistan stock market: the moderating role of long term

- orientation. *Qualitative Research in Financial Markets*, 13(2), 252-274.
https://www.researchgate.net/profile/Imran-Khan-288/publication/349675781_The_impact_of_heuristic_biases_on_investors_investment_decision_in_Pakistan_stock_market_moderating_role_of_long_term_orientation/links/6045eda692851c077f2492cc/The-impact-of-heuristic-biases-on-investors-investment-decision-in-Pakistan-stock-market-moderating-role-of-long-term-orientation.pdf
- Khilar, R. P., & Singh, S. (2020). Role of emotional bias on investment decision from a behavioral finance perspective. *International Journal of Scientific & Technology Research*, 9(3), 3457-3460.
<https://www.academia.edu/download/94891817/Role-Of-Emotional-Bias-On-Investment-Decision-From-Behavioural-Finance-Perspective.pdf>
- Leković, M. (2020). Cognitive biases as an integral part of behavioral finance. *Economic Themes*, 58(1), 75-96.
<https://sciendocom/downloadpdf/journals/ethemes/58/1/article-p75.pdf>
- Madaan, G., & Singh, S. (2019). An analysis of behavioral biases in investment decision-making. *International Journal of Financial Research*, 10(4), 55-67.
<https://www.academia.edu/download/84194078/9807.pdf>
- Özen, E., & Ersoy, G. (2019). The impact of financial literacy on cognitive biases of individual investors. In *Contemporary Issues in Behavioral Finance* (pp. 77-95). Emerald Publishing Limited.
<https://sciendocom/downloadpdf/journals/ethemes/58/1/article-p75.pdf>
- Shah, S. F., Alshurideh, M. T., Al-Dmour, A., & Al-Dmour, R. (2021). Understanding the influences of cognitive biases on financial decision-making during normal and COVID-19 pandemic situations in the United Arab Emirates. The effect of coronavirus disease (COVID-19) on business intelligence, 257-274.
https://www.academia.edu/download/66190745/Springer_Book_Chapter.pdf
- Sharma, A., & Kumar, A. (2019). A review paper on behavioral finance: a study of emerging trends. *Qualitative Research in Financial Markets*, 12(2), 137-157.
<http://ejournal.stiepena.ac.id/index.php/fe/article/viewFile/240/214>
- Sharma, D. J., & Sarma, N. N. (2022). Behavioural Finance—A study on its Bases and paradigms. *International Journal of Scientific Research and Management (IJSRM)*, 10(03), 3157-3170.
<https://ijsrm.net/index.php/ijsrm/article/download/3798/2552>

- Singh, B. (2021). A bibliometric analysis of behavioral finance and behavioral accounting. *American Business Review*, 24(2), 10. https://www.researchgate.net/profile/Anu-Antony-7/publication/334765342_Behavioral_finance_and_portfolio_management_Review_of_theory_and_literature/links/5d53bcd192851c93b62e684c/Behavioral-finance-and-portfolio-management-Review-of-theory-and-literature.pdf
- Antonakakis, N., Chatziantoniou, I., & Gabauer, D. (2019). Cryptocurrency market contagion: Market uncertainty, market complexity, and dynamic portfolios. *Journal of International Financial Markets, Institutions and Money*, 61, 37-51. <https://www.sciencedirect.com/science/article/pii/S1042443118303469>
- Wang, X., Li, J., Ren, X., Bu, R. & Jawadi, F., 2023. Economic policy uncertainty and dynamic correlations in energy markets: Assessment and solutions. *Energy Economics*, 117, p.106475. <https://www.sciencedirect.com/science/article/pii/S0140988322006041>
- Brasil, V.C. & Eggers, J.P., 2019. Product and innovation portfolio management. In *Oxford research encyclopedia of business and management*. <https://oxfordre.com/business/display/10.1093/acrefore/9780190224851.001.0001/acrefore-9780190224851-e-28?rskey=SiirDd>
- Tavana, M., Khosrojerdi, G., Mina, H., & Rahman, A. (2020). A new dynamic two-stage mathematical programming model under uncertainty for project evaluation and selection. *Computers & Industrial Engineering*, 149, 106795. <https://www.sciencedirect.com/science/article/pii/S0360835220305039>
- Yip, P. S., Brooks, R., Do, H. X., & Nguyen, D. K. (2020). Dynamic volatility spillover effects between oil and agricultural products. *International Review of Financial Analysis*, 69, 101465. <https://www.sciencedirect.com/science/article/pii/S0360835220305039>
- Lucarelli, G., & Borrotti, M. (2020). A deep Q-learning portfolio management framework for the cryptocurrency market. *Neural Computing and Applications*, 32, 17229-17244. <https://www.sciencedirect.com/science/article/pii/S0360544221022106>
- Eaton, M. J., Yurek, S., Haider, Z., Martin, J., Johnson, F. A., Udell, B. J., ... & Kwon, C. (2019). Spatial conservation planning under uncertainty: adapting to climate change risks using modern portfolio theory. *Ecological Applications*, 29(7), e01962.

<https://esajournals.onlinelibrary.wiley.com/doi/abs/10.1002/eap.1962>

- Asafo-Adjei, E., Frimpong, S., Owusu Junior, P., Adam, A. M., Boateng, E., & Ofori Abosompim, R. (2022). Multi-frequency information flows between global commodities and uncertainties: evidence from COVID-19 pandemic. *Complexity*, 2022, 1-32.
<https://www.hindawi.com/journals/complexity/2022/6499876/>
- Kafle, S. C. (2019). Correlation and regression analysis using SPSS. *Management, Technology & Social Sciences*, 126.
<https://journal.oxfordcollege.edu.np/file/1681898552journal-1.pdf#page=126>
- Sileyew, K. J. (2019). Research design and methodology. *Cyberspace*, 1-12.
<https://books.google.com/books?hl=en&lr=&id=eqf8DwAAQBAJ&oi=fnd&pg=PA27&dq=+primary+quantitative+method++SPSS&ots=cKV27Y9bT8&sig=n91TI-SenVH-iRWx06YxZNjN3p0>
- George, D., & Mallery, P. (2021). *IBM SPSS statistics 27 step by step: A simple guide and reference*. Routledge.
- Muijs, D. (2022). *Doing Quantitative Research in Education with IBM SPSS Statistics*. *Doing Quantitative Research in Education with IBM SPSS Statistics*, 1-100.
<https://www.torrossa.com/it/resources/an/5282317>
- Pallathadka, H., Tongkachok, K., Arbune, P. S., & Ray, S. (2022). Cryptocurrency and Bitcoin: Future Works, Opportunities, and Challenges. *ECS Transactions*, 107(1), 16313.
- Li, Y. Z., Yu, Y. H., Gao, W. S., Ray, S., & Dong, W. T. (2022). The Impact of COVID-19 on UK and World Financial Markets. *Jundishapur Journal of Microbiology*, 373-399.

Appendix 1: Questionnaires

Survey Link: <https://docs.google.com/forms/d/14ptoa-UtHkbbilOvYQoorf5zbcnur8laPNcC1R2-pTQ/edit#responses>

What is your gender?

Male

Female

Prefer not to say

What is your age group?

20 to 35 years

35 to 50 years

50 to 65 years

Above 65 years

What is your Material Status?

Married

Unmarried

Cryptocurrency has been the talk across the countries and the financial markets

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

Digital currencies are tradable assets that have gained much importance in recent years

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

Market uncertainty significantly influences the cryptocurrency market contagion

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

Uncertainty in the crypto market indices hurts the Bitcoin market

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

Digital currencies and cryptocurrencies can be effortlessly utilized and moved across global borders

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

The higher level of complexity of the market highlights the status of the cryptocurrency market

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

Dynamic portfolios enable investors and traders to manage risk effectively

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

Dynamic portfolios help to reduce the impact of sudden price fluctuations and minimize overall portfolio risk

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

Regulatory crackdowns and their adverse events' effect on crypto market contagion

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree

The global nature of the cryptocurrency industry presents regulatory challenges that transcend geographical boundaries.

Strongly Disagree

Disagree

Neutral

Agree

Strongly Agree