ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.02 No.04 (2024)

IMPACT OF BULLISH AND BEARISH TRENDS ON INVESTOR SENTIMENT IN STOCK MARKET: A STUDY FROM PAKISTAN

Rimsha Abbas
MPhil Business Administration scholar, Department of Management Sciences, University of Gujrat, Gujrat, Pakistan. Email: abbasrimsha71@gmail.com.
Dr. Muhammad Bilal Ijaz
Lecturer, Department of Management Sciences, University of Gujrat, Gujrat, Pakistan. Email: bilal.ijaz@uog.edu.pk. (**Corresponding Author**)
Awais Javeed
Lecturer, Department of Management Sciences, University of Gujrat, Gujrat, Pakistan. Email: awaisjaveed42@gmail.com.

ABSTRACT
This study systematically examines the impact of bullish and bearish market trends on investor sentiment, focusing on the dynamic and evolving case of Pakistan's stock market. Investors' decision-making processes are influenced by a myriad of factors. The primary objective is to unravel the criteria investors rely on when deciding to enter or exit the market during different phases. By leveraging prospect theory as the theoretical foundation, this research explores how varying levels of perceived gains or losses influence risk appetite during contrasting market trends. Ultimately, this research contributes to a deeper understanding of market psychology and decision-making, offering valuable implications for enhancing market stability and investor confidence. The study has been carried out by using data of 30 listed companies of Pakistan Stock Exchange, the daily data of the trading volume and stock turnover was obtained from 2016 to 2022. It was hypothesized that there is a negative relationship between the bullish and bearish trends and the investor's sentiments. The data analysis which has been conducted with the help of descriptive statistics, correlation analysis, regression analysis and Granger causality. Granger causality analysis states that there is a positive relationship between the bullish trends and the investor's sentiments and there is also a positive relationship between bearish trends and the investor's sentiments. The findings of the study hold significant implications for the individual and institutional investors as they can alter the decisions and behaviors of the investors with respect to the given information. The findings of this study offer multiple recommendations for improving the investor's decision making during the bearish and bullish trends.

Keywords: Bullish trends, bearish trends, investor sentiments, investor behavior, Pakistan Stock Exchange (PSX), Investor's decision making.

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.02 No.04 (2024)

Introduction:

The investor sentiments are defined as the overall perception and attitude of the investors towards a specific market, asset or investment. The investor sentiments can be positive which shows purchase willingness and it can be negative showing tendency to sell and pessimism. A significant role is being played by the investor sentiments in shaping the asset prices and market trends (Li et al., 2023). A bullish trend is referred as a market condition where the prices of assets are increasing or they are expected to rise which are driven by a belief of investor optimism in the prospect of the future (Vaidya, 2019). A bearish trend is referred to a market condition where the prices of assets are declining or anticipated to decrease and it is mainly driven by investor pessimism and a belief in unfavorable projects prospects (Pino, 2022).

Furthermore, P H and Rishad (2020) in their study examined the impact of irrational sentiments of investors with regards to the stock market volatility. They used a sentiment index derived from the market-related implicit indices and findings of their research indicated that the irrational sentiments of the investors significantly contribute to the excess volatility of the market. It has also been highlighted with the findings of the study that the asymmetrical aspects of an inefficient market can lead to returns and volatility. The study offered valuable insights to the portfolio managers and retail investors for the optimization of their portfolios. Furthermore, Heinz et al. (2021) in their study explored the use of Japanese candlestick charts with focus on Bearish engulfing and Bullish engulfing patterns for the determination and prediction of price bottoms and tops in the S&P 500 index. It has been indicated by the research that the bearish engulfing patterns shows strong short-term forecasting capabilities when considering high and open criteria but not the close criterion. Similarly, Bullish Engulfing patterns show strong forecasting power using Open and Low criteria but not the Close criterion. Likewise, Jalal et al (2020) in their study examined herding behavior in cryptocurrencies and major stocks using quantile regression from 2015 to 2018. It confirms herding in cryptocurrencies during bullish and high volatility periods due to overexcitement and high-volume trading. Major cryptocurrencies influence herding in sub-major cryptocurrencies, but not vice versa. No herding effect is observed between cryptocurrencies and the equity market.

Haryanto et al (2020) in their study explored the behavioral biases, the disposition effect, and herding in the bitcoin market using Mt. Gox data from 2011-13. It reveals a reverse disposition effect during bullish periods and a positive disposition effect during bearish periods. Herding is observed in both bullish and bearish periods, with evidence from a return dispersion model. Moreover, herding aligns with the market trend, increasing when bitcoin price rises in bullish periods and decreases in bearish periods. Narsa et al (2020) investigated the impact of financial and non-financial performance information on the intention to invest in bearish and bullish market conditions. Through a factorial experiment of 2x2x2, the research reveals that participants are more inclined to invest when a company's financial performance indicates an upward net income trend and when its corporate social responsibility is strong. Additionally, a bullish market condition, regardless of specific information, leads to a stronger intention to invest. These findings highlight the significance of momentum in influencing investor behavior and utilizing provided company information.

The index movement trends, i.e., growth/decline, are described by the twin concepts of bull and bear regimes from Pagan and Sossounov (2003). According to Cooper et al. (2004), which illustrates the relative index level, or high/low, as opposed to bull and bear regimes, we re-distinguish up and down states in a supplemental conditional test. Findings deviate from those based on the bull/bear test, as would be expected. However, we find that sentiment investors typically have a greater impact on stock returns during up markets than during

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.02 No.04 (2024)

down ones, indicating a different way in which investor sentiment influences stock returns conditionally and bolstering the need for conditional tests.

2. LITERATURE REVIEW

The behavioral finance explains that the decision-making done by the investors is commonly influenced by emotions, cognitive biases, and psychological factors instead of the individual rational considerations. The research paradigm states that the bearish and bullish market trends can result in distinct psychological responses among the class of investors which can influence the subsequent actions and sentiments (Kapoor & Prosad, 2017).

2.1 Bearish trends of market, investor sentiment and stock turnover

Yadav & Chakraborty (2022) in their study explained the relationship between market returns and the investor sentiment with reference to the Indian stock market. With the help of firm proxies and insights from market, the importance of the sentiments on the stock market returns have been highlighted in this regard. Iqbal et al (2023) in their research analyzed the relationship between stock returns and investor sentiments. The findings of the study support all five sentiment proxies consistent with the literature and the relevance of these proxies have been highlighted by the stock market dynamics. Kumari (2019) in his study investigated the impact of stock market liquidity and investor sentiment by collecting evidence from the emerging economies. It has been indicated by the findings of the study that bullish sentiments links with higher liquidity and reveals the role of sentiment in the protection of liquidity through herding behavior and psychological biases.

Meier (2018) in their study analyzed the confidence of investors in the stock market and the research objective was to create an aggregate measure of the confidence of investors and leveraged a formal overconfidence for the examination of the risk-taking behavior and trading activity in the stock market. Results indicate that elevated investor confidence is linked to heightened trading, especially for smaller stocks, followed by corrections. Li et al (2021) in their study analyzed the investor sentiment in the stock market with respect to the application of the BERT technique. It has been revealed that the experiments reveal a significant impact of online investor sentiment on stock yield. The BERT model achieves an accuracy of 97.35% for sentiment analysis, crossing the SVM and LSTM methods. Chue et al (2019) in their research performed the aggregate investment sentiment analysis along with the synchronicity of the stock returns. The findings reveal that during periods of elevated investor sentiment, individual stock returns show higher synchronicity with the broader market.

Khan & Ahmad (2018) in their study measured the investor sentiment and its lead-lag relationship along with the bi-directional relationship with the returns. The findings of the study indicated a major role of the investor sentiments in Pakistani dynamics and the findings have provided strong evidence of the irrational investor behavior in this regard. The stock returns can deviate from the fundamental settings due to irrational investor behavior in this case. Kampanje (2021) in his study analyzed the trading volume validation in context of the Malawi Stock Exchange. The focus of the study is towards the measurement of investor confidence by the analysis of the trading volumes on the Malawi Stock Exchange. The findings of the study reveal significant underreporting of the trading volumes in the specific years which raises concerns regarding the widespread nature of the issue. Due to inaccurate reporting, different implications of fiscal policies and tax collection can occur in this regard.

Royit, Jose & Varghese (2023) in their study analyzed the dynamic link between excessive volatility and noisy trader mood in the Indian financial market, notably during the COVID-19. The research presented here comes to the conclusion that high volatility in the Indian financial market, notably during the COVID-19 epidemic, has a dynamic link with noisy trader sentiment is present. This shows that understanding market movements may depend much on mood. Debata et al (2021) in their research examined how investor sentiment on the local and international levels affects stock market liquidity in a developing economy that is

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.02 No.04 (2024)

driven by orders. The study's findings show that stock market liquidity is highly impacted by investor mood. This implies that alterations in investor attitude may result in modifications to the liquidity circumstances of the market. The study comes to the conclusion that in an order-driven emerging market, stock market liquidity is highly impacted by both local and global investor sentiment. Even when local opinion is taken into account, global sentiment still has an impact on liquidity dynamics. Muzindutsi et al (2023) in their research determined how investor attitude affects the returns on residential real estate. The results of the study show that shifts in investor mood have a big influence on the risk premium of real estate returns. Conclusion of the research is conditional volatility and housing property returns are greatly impacted by investor attitude. The values of small and medium-sized homes are positively impacted, while the huge housing market category is unaffected.

2.2 Bullish trends of market, investor sentiment and stock turnover

Chakraborty & Subramaniam (2020) in their study explained the asymmetric relationship between the investor sentiment with respect to the volatility and stock returns by collecting evidence from India. The findings of the study have indicated that the extreme quantiles of investor sentiment influence the returns of the stocks on asymmetrical basis. When the sentiments are low, they result in the fear-driven selling and reduced returns and in contrast and high sentiments results in lower future returns. Kim et al (2019) in their study analyzed the stock returns and the investor sentiments with respect to the analyst recommendation changes in the KOSPI stock market Results of the research indicate that the upgrades have a stronger impact on investor sentiment compared to downgrades, suggesting that reports of analysts provide meaningful trading signals for uninformed investors.

Pandey & Sehgal (2019) in their study performed the investor sentiment analysis and its role in the asset pricing using an empirical study done in India. The findings of the study have indicated that the newly proposed composite sentiment index outperforms the existing sentiment indices terms of explaining the market dynamics. With the experimentation of the sentiment indices and introducing a sentiment-based factor, the study has understood the market anomalies and asset pricing in India. Wang et al (2022) investigates the influence of sentiment from an online message forum on stock returns. The findings underscore the causal link between social media sentiment and stock returns, emphasizing the potential for market manipulation via online platforms. Zhao et al (2019) in their study explained how the CSI 300 Index in mainland China relates to investor sentiment as it is presented in actual articles from reliable stock WeChat public accounts. The results of the study show that the CSI 300 Index volume values are more quickly impacted by investor mood than company prices are. This shows that shifts in emotion trigger a greater influx of trade activity right away. The analysis comes to the conclusion that the CSI 300 Index on the Chinese mainland is significantly impacted by investor mood as represented in original articles from reliable stock WeChat public accounts. Compared to stock prices, the effect on volume values is more noticeable right away.

Investigating how firm-specific news mood impacts stock liquidity in the China stock market is the main goal of this study. The results of the study imply that stock liquidity on the Chinese stock market is highly impacted by firm-specific news sentiment. Positive news stimulates trade while lowering transaction costs and price effect. The study comes to the conclusion that the stock liquidity in the China stock market is significantly impacted by firm-specific news mood. Pessimistic equities have a higher predictive influence on stock returns than optimistic stocks, which enhance trading volume while lowering price impact and transaction costs (Liu et al., 2023). Chen et al (2021) study's main goal is to examine the connection between investor mood and IPO underpricing in the context of Chinese A-share listed stocks. The study comes to the conclusion that the Chinese A-share listed stock

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.02 No.04 (2024)

market's IPO underpricing is significantly influenced by investor mood. Higher levels of underpricing are encouraged by optimistic investor mood.

Medhioub et al (2022) study's main goal is to investigate how the COVID-19 epidemic has affected stock market herding in the MENA (Middle East and North Africa) area. The study comes to the conclusion that investor mood and the COVID-19 epidemic have a major influence on herding behavior in MENA stock markets. Abo El-ata et al (2023) study's main goal is to determine whether investor sentiment has an impact on the volatility of the Egyptian exchange. The study's findings show a substantial inverse association between stock market volatility on the Egyptian exchange and investor mood. According to the study's findings, there is a substantial inverse association between stock market volatility on the Egyptian exchange and investor mood.

2.3 Bearish trends of market, investor sentiment and trading volume

Sun et al (2021) in their research focuses on how cryptocurrency market sentiment, linked to limited asset support compared to stocks, is tackled. Results confirm the proxy's effectiveness in capturing cryptocurrency sentiment, adding to our grasp of sentiment's role in this market's dynamics. Ji & Han (2022) examines varied social media sentiments about financial assets shaped by trading preferences, unlike content-focused research. It explores how investor profiles affect sentiment across diverse asset types, using comprehensive social media data. Structural topic modeling reveals diverse discussions on financial events, indicating varying beliefs among investors with distinct profiles, influencing topics. This approach highlights efficient sentiment extraction by considering investor diversity across dimensions.

Bouteska et al (2022) in their research delves into the effect of investor sentiment on Bitcoin returns. By examining the link between the sentiment index and Bitcoin returns through vector autoregressive analysis, findings underscore its efficacy as a short-term predictor for cryptocurrency market returns. Notably, during the COVID-19 pandemic, sentiment played a significant role in Bitcoin returns. The suggested sentiment index has the capability to generate surplus returns and carries policy implications, emphasizing its potential to improve investment choices. Hadad & Kedar-Levy (2022) in their research examined the conditional return volatilities of both bonds and stocks using six sentiment indicators derived from the Tel Aviv Stock Exchange. This research pioneers the measurement of bond conditional volatility tied to sentiment among retail investors, within a market structure that deviates from the prevalent OTC platforms.

Microblogging platforms such as Twitter provide investors in stock markets with valuable insights. Liquidity, a vital aspect guiding traders' choices, holds significance for both academics and financial practitioners. This research focuses on market liquidity, probing the influence of the widely utilized Twitter microblogging service on liquidity and trading expenses. By scrutinizing sentiment gleaned from Twitter in conjunction with diverse liquidity metrics, the study investigates the correlation between liquidity and investor sentiments. Analysis of the S&P 500 Index indicates a restrained effect of investor sentiment on the index spread, unveiling valuable perspectives on liquidity dynamics (Guijarro et al., 2019). This study's goal is to investigate the connections between investor attention (measured through searches on Google Trends and Wikipedia) and investor sentiment (measured using a Reddit sentiment proxy) and cryptocurrency returns, exchange volume, and volatility on the one hand, and on the other. The study comes to the conclusion that the volatility and volume of cryptocurrency exchanges are significantly and consistently correlated with investor interest, as assessed by search searches (Ghiasvand, 2018).

2.4 Bullish trends of market, investor sentiment and trading volume

Rahman et al (2022) investigates how investor sentiment affects the stock market, using proxies such as the Consumer Confidence Index (CCI) and trading volume. Conducted over a 2-year period in the Pakistan Stock Market, the research analyzes monthly data for KSE-100

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.02 No.04 (2024)

stocks from November 2017 to November 2019, excluding certain stocks. The results show a positive relationship between changes in CCI, trading volume, and stock returns, highlighting the impact of investor sentiment on market actions and stock prices. Gui et al (2022). Examined the investor sentiment's significance in stock trading, especially among Chinese retail investors dominating the market. It contrasts emotional responses of Chinese retail investors and U.S. institutional investors. Focusing on China's GEM market (similar to Nasdaq), it utilizes the ERNIE model for sentiment analysis, finding a connection between investor sentiment index and GEM Index returns.

Investor sentiment plays a vital role in trading, influencing stock market dynamics. The study examines investor sentiment's effect on stock returns using innovative proxies in Pakistan. Analyzing data of 49 firms from 2012-2019, the Generalized Least Squares model confirms sentiment proxies' hypotheses, aligning with literature on developed and developing economies (Bowden & Gemayel, 2022). Current sentiment detection relies on securities exchange data but lacks objectivity and timeliness. This study examines investor sentiment in online social media's impact on the stock market, finding a positive correlation between sentiment, dynamics, and stock market earnings. It highlights the need to manage market fluctuations driven by online sentiment (Iqbal et al., 2023). Bi (2022) in their research studies the spillover between stock and bond markets, considering investor sentiment. Analyzing Tel-Aviv Stock Exchange data during COVID-19, it uses the EGARCH (1,1) model to examine stock returns, volatility, and sentiment's influence on corporate bond volatility, with varied impacts over time.

The purpose of this study done by Yadav & Chakraborty (2023) is to systematically review the literature on the impact of investor sentiment on stock return and to categorize and analyze the 107 studies that were chosen based on a number of factors, such as the year of publication, the journal of publication, the country where the sample data was collected, the type of study, the methods used, and the number of citations. The study comes to the conclusion that there is still interest in the link between investor attitude and stock returns, but there isn't a lot of agreement about it in the literature, and it seems to change depending on the situation.

2.5 Theoretical framework

The theoretical framework of this study takes insights from Behavioral Finance, Prospect Theory and Market Psychology. The theories help in the collective illumination of the influence of investor sentiments, emotional biases and risk perceptions with respect to the decision-making in the financial markets. This theoretical amalgamation guides the study's exploration of how these elements shape investor sentiments and behaviors in uncertain market environments. With the reference of this study, the research variables are categorized as follows:

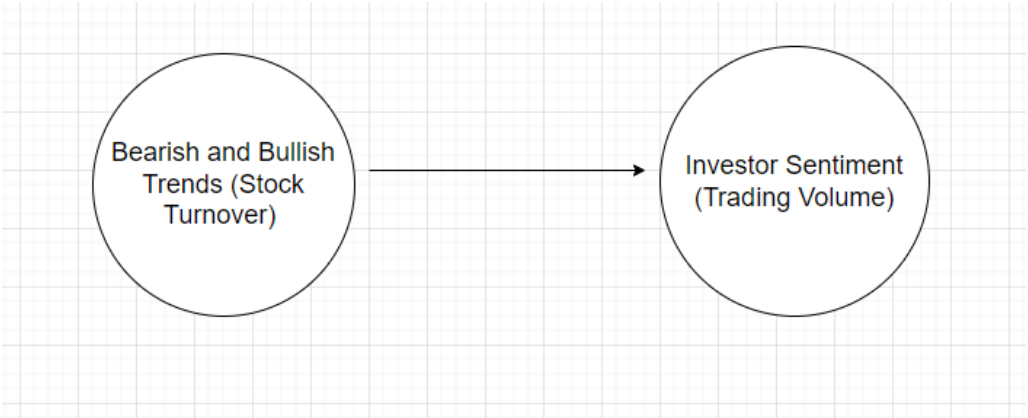

FIGURE 1: CONCEPTUAL FRAMEWORK

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.02 No.04 (2024)

2.6 Research hypothesis

Based on the concepts of behavioural finance, market psychology and prospect theory, the research hypotheses of this study have been designed as follows:

$H0_1$: Bullish trend have no significant impact on investor sentiments.
HA_1: Bullish trend have significant impact on investor sentiments.
$H0_2$: Bearish trend have no significant impact on investor sentiments.
HA_2: Bearish trend have significant impact on investor sentiments.

3. RESEARCH METHODOLOGY

The objective of this study is to determine the impact of bullish and bearish trends on the sentiments of the investors in the context of Pakistan Stock Exchange (PSX). The methodology combines quantitative and qualitative methodologies. While qualitative insights explore the fundamental causes of investor behavior, quantitative data allows the statistical examination of patterns and correlations. The combination of these strategies broadens and deepens the study's findings (Snyder, 2019). A seven-year time frame as its intermediate duration time horizon. The period of the study consists from **2016 to 2022** in this regard and this time period makes it easier to see market patterns, investor attitudes, and how they interact as a whole, giving us a sense of both short-term swings and longer-term market cycles. A sample of 30 companies listed on PSX was selected and the associated variables were drawn.

3.1 Variable definition

The associated variables for the purpose of data collection are given as follows:

Sr. No.	Variable Name	Measurement and Type
1	Stock Turnover	Independent Variable and it is measured by taking the ratio of total shares traded and the total shares outstanding during the period of research.
2	Trading Volume	Dependent Variable and it measured with the help of the frequency of shares traded during a specific research period.

TABLE 1: RESEARCH VARIABLES

3.2 Analytical strategy

In the case of this study, the use of descriptive statistics, correlation analysis and regression analysis along with Granger causality has been performed with respect to the defined research methodology. The regression model has been given as follows:

$$Y_{\text{Trading Volume}} = \alpha + \beta_{\text{Stock Turnover}} X_{\text{Stock Turnover}}$$

The trading volume is the dependent variable and the stock turnover is the independent variable in this regard. The data analysis will be performed using E-VIEWS based on the collected data.

4. RESULTS AND DISCUSSION

This study has been conducted in order to determine the impact of the bullish and bearish trends on the investor sentiment in the case of Pakistan Stock Exchange. Based on the research parameters, the data analysis has been carried out as follows and results presented thereof:

4.1. Descriptive statistics

The descriptive statistics of this study have been identified as follows:

Descriptive Statistics		
	Stock	Trading

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.02 No.04 (2024)

	Turnover	Volume
Mean	6.742	12.172
Median	5.001	12.534
Maximum	15.42	18.573
Minimum	0	3.912
Standard Deviation	0.233	2.393
Skewness	32.543	-0.529
Kurtosis	1471.98	2.880
Probability	0.000	0.000
Sum	1245.802	6276.676
Sum Square Deviations	2802.901	2953.033
Observations	51574	51574

TABLE 2: DESCRIPTIVE STATISTICS

The descriptive statistics provide valuable insights related to the stock turnover and the trading volume in this regard and a narrow range is being exhibited with values ranging from 0 to 15.43 which an average value of 6.741 and indicated a significant turnover. The low standard deviation shows that the data points are closely centered with the mean of the data. The trading volume on the other hand shows a wider range from 3.9120 to 18.5724 and a significantly higher mean of 12.1720 and implies a substantial trading activity in this regard. The larger standard deviation of 2.3930 indicates greater variability in trading volume, reflecting a broader spectrum of values.

4.2 Correlation analysis

The Pearson coefficient of correlation analysis of this study has been identified as follows:

Correlation Analysis		
Correlation Degree/Probability	Stock Turnover	Trading Volume
Stock Turnover	1.000000	
Trading Volume	0.145305 (**p=0.00000**)	1.000000

TABLE 3: CORRELATION ANALYSIS

The Pearson correlation coefficient has been computed in this case for the research variables of Trading Volume and the Stock Turnover and it indicates a positive correlation of 0.145 which indicates that with an increase in the stock turnover, the trading volume increases. The significance is less than 0.001 which shows low probability of this correlation in terms of random occurrence. This level of statistical significance shows a meaningful and robust relationship relevant to the two variables. It is important to note that the strength of correlation is relatively modest with a coefficient 0.145 which indicates that there is a correlation between the variables but it is a weak one. Other factors likely contribute to trading volume, and Stock Turnover alone does not explain a large portion of the variability in trading volume.

4.3 Regression analysis

The regression analysis of this study has been identified as follows:

Regression Analysis				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
STOCK_TURNOVER	1.491460	0.044722	33.34976	0.0000
C	12.13602	0.010482	1157.764	0.0000
R-squared	0.71114	Mean dependent var		12.17205
Adjusted R-squared	0.65095	S.D. dependent var		2.393053

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.02 No.04 (2024)

S.E. of regression	2.367679	Akaike info criterion	4.561736
Sum squared resid	289068.3	Schwarz criterion	4.562079
Log likelihood	-117615.5	Hannan-Quinn criter.	4.561843
F-statistic	1112.207	Durbin-Watson stat	0.598458
Prob(F-statistic)	0.000000		

TABLE 4: REGRESSION ANALYSIS

The model summary of this research indicates that trading volume has only explained 70% of the variation in the dependent variable of the trading volume which is indicating a strong relationship. The adjusted R-square has remained at 65% in this regard. The approximate standard error of estimate has been reported at 0.236 and it has been explained by the model that the trading volume has a limited power of influencing the stock turnover in the research conditions and the F-statistic shows that the model significantly explains the variance and with a p-value less than 0.01 it is highly significant. In terms of coefficients, the constant term is highly significant with a t value of 1157.76 and the coefficient for the trading volume is 12.13 and it is also statistically significant in this regard. It reflects that with one unit change in the trading volume, the stock turnover will be positively changed by 1.49 units keeping all other factors constant.

4.4 Granger causality analysis

The appropriate statistic used for the Granger causality is the F-statistic and have been computed below:

Pairwise Granger Causality Tests			
Null Hypothesis:	Observations	F-Statistic	Prob.
STOCK_TURNOVER does not Granger Cause TRADING_VOLUME_LOGGED TRADING_VOLUME_LOGGED does not Granger Cause STOCK_TURNOVER	51574	13.9946 56.2100	0.000000 0.000000

TABLE 5: GRANGER CAUSALITY

In this case, a pairwise Granger causality test has been conducted on a sample of data consisting 51574 observations and with a lag of 2 periods and the associated null hypothesis has been tested. The null hypothesis suggests that the stock turnover in this study don't result in Granger causality in other variable of trading volume in this regard. However, the null hypothesis has been rejected given the F-statistic of 13.99 and a p-value of less than 0.05 which indicate that the stock turnover does result in Graner causality in the variable of trading volume in this case. Hence, the final conclusion that can be drawn with the help of Granger Causality is that the bullish trend has significant impact on the investor behavior positively (rejecting H_{01}) and bearish trend also have significant impact on the investor sentiment on positive basis (rejecting H_{02}). This rejection of the null hypothesis shows the importance of the significant relationship between stock turnover and Granger causality in trading volume, revealing a significant link between the two variables. These findings suggest that changes in stock turnover could majorly effect trading volume dynamics, warranting further investigation into the baseline mechanisms which are driving the relationship. This discovery may have important implications for market analysts and investors seeking to better understand and predict market behavior.

4.5 Discussion on results

Based on the calculated results of the study, now one can validate the hypotheses of the study in this regard. It was initially hypothesized in this study that:

H_{01}: Bullish trend have no significant impact on investor sentiments.

H_{A1}: Bullish trend have significant impact on investor sentiments.

H_{02}: Bearish trend have no significant impact on investor sentiments.

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.02 No.04 (2024)

H_{A2}: Bearish trend have significant impact on investor sentiments.

The null hypotheses of the case suggests that the trading volume (investor sentiment) and stock turnover (bullish and bearish trends) have a significant impact and counter argument has been suggested by the alternative hypothesis H_{A1} and H_{A2}. It has been indicated by the descriptive statistics that the trading volume and stock turnover have different features as stock turnover has a narrow range with a significant mean which suggests a significant turnover. On contrary, the trading volume has a wider range and a significant higher mean that shows a major trading activity. The implication given by this information is that there can be a possible relationship between stock turnover and the trading volume in this regard. The correlation coefficient in this case suggests a positive yet weak correlation between the stock turnover and the trading volume. It indicates that on average basis, the trading volume tends to increase on the basis of stock turnover. The regression analysis shows that stock turnover is explaining 70% variation in the trading volume and the coefficient of the case is statistically significant. It also shows there is a relationship between trading volume and stock turnover, although the strength of the relationship is strong. The Granger causality test, with an F-statistic of 13.99 and a p-value less than 0.05, suggests that stock turnover does Granger-cause variations in trading volume. It intends that stock turned possess predictive power for the trading volume in this regard. Concisely, on the basis of given data and statistical analysis, the rejection of the null hypothesis (H_0) is proven. A significant relationship appeared between among trading volume and stock turnover. Hence data and presented analysis supported the alternative hypotheses HA1 and H_{A2} and rejects the null hypotheses H_{01} and H_{02}.

5. CONCLUSION AND RECOMMENDATIONS

5.1 Theoretical and practical application of the study

The theoretical application of this study contributes to the current understanding regarding the investor behavior and financial markets in this regard. With the examination of the relationship between stock turnover and trading volume, it has been shown that how market participants respond to the changing conditions. The positive correlation of the study indicates that the investors can be more active during the times of increased turnover which is attributable to different market conditions. This finding aligns with theories that propose investor sentiment and market activity are interconnected. The researchers in economics and finance can utilize these findings for the refinement of existing theories and models which can enhance the ability for the prediction of market trends and investor behavior. This study has its importance for the investors on practical grounds, financial analysts and policymakers. Financial analysts can incorporate these insights into their market analyses, providing clients with a deeper understanding of market dynamics. This knowledge can be used by the policymakers for the design of regulations that can help in the promotion of market stability during the period of heightened market activity. Hence, this research has practical implications that can benefit both individual investors and those responsible for managing the financial markets.

5.2. Future Recommendations

Since there is a positive correlation between the variables of the study, the investors should consider monitoring the trading volume as an indicator of the investor sentiment. The increased trading volume can signal changing market dynamics and could prompt investors to adjust their strategies accordingly. The investors and financial professionals should make the integration of the risk management practices into their strategies specifically during the periods of high stock turnover and trading volume. The new investors should be educated regarding the significance of the trading volume and its link with the stock turnover. The policymakers should consider the implications of stock turnover and trading volume for the

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.02 No.04 (2024)

market regulation purposes. The robust and adaptable regulatory frameworks can help in the maintenance of market activity during the times of increased market activity.

5.3 Research limitations

This research, while providing valuable insights into the relationship between trading volume and stock turnover, has few limitations that should be considered. The study has identified a correlation between the variables but it cannot help in establishing causation. The other unobserved factors can include the both variables and the research cannot determine the causality direction. The analysis done in this study is dependent on the historical and not capturing real time dynamics of the market. The financial markets are extremely dynamics and volatile and sudden market shifts can impact the trading volume and the stock turnover in the ways that the historical data is unable to predict in this regard.

REFERENCES

1. Abo El-ata, G. M. S. E. D., Kerdawy, A., Ahmed, M. M., & Shabana, M. M. M. (2023). The mediating role of stock market liquidity on the relationship between Investor sentiment and Stock market volatility: An Applied study on Listed Companies in Egyptian stock Exchange 4(2), 289-332.
2. Akçay, S. (2022). Investor sentiment and oil prices in the United States: Evidence from a time-varying causality test. Energy Research Letters, 3(2), 32633.
3. Al-Nasseri, A., Ali, F. M., & Tucker, A. (2021). Investor sentiment and the dispersion of stock returns: Evidence based on the social network of investors. International Review of Financial Analysis, 78(1), 101910.
4. Antoniou, C. D. J. A., & Subrahmanyam, A. (2010). Sentiment and momentum. Working paper. United States: University of California, 1–54. Anusakumar, S. V., & Ali, R. (2017).
5. Ali, A., & Gurun, U. G. (2009). Investor sentiment, accruals anomaly, and accruals management. Journal of Accounting, Auditing & Finance, 24(3), 415–431.
6. Bouteska, A., Mefteh-Wali, S., & Dang, T. (2022). Predictive power of investor sentiment for Bitcoin returns: Evidence from COVID-19 pandemic. Technological Forecasting and Social Change, 184, 121999.
7. Bowden, J., & Gemayel, R. (2022). Sentiment and trading decisions in an ambiguous environment: a study on cryptocurrency traders. Journal of International Financial Markets, Institutions and Money, 80, 101622.
8. Bi, J. (2022). Stock Market Prediction Based on Financial News Text Mining and Investor Sentiment Recognition. Mathematical Problems in Engineering, 2022.
9. Baur, D.G., 2012. Financial contagion and the real economy. J. Bank. Finance 36 (10), 2680–2692.
10. Chakraborty, M., & Subramaniam, S. (2020). Asymmetric relationship of investor sentiment with stock return and volatility: evidence from India. Review of Behavioral Finance, 12(4), 435-454.
11. Chen, B., Liu, J., & Zhu, B. (2021, October). The Impact of Investor Sentiment on IPO Underpricing. In 2021 International Conference on Public Relations and Social Sciences (ICPRSS 2021) (pp. 1235-1242). Atlantis Press.
12. Chue, T. K., Gul, F. A., & Mian, G. M. (2019). Aggregate investor sentiment and stock return synchronicity. Journal of Banking & Finance, 108, 105628.
13. Debata, B., Dash, S. R., & Mahakud, J. (2021). Stock market liquidity: Implication of local and global investor sentiment. Journal of Public Affairs, 21(3), e2231.
14. Ghiasvand, A. (2018). Investigating cryptocurrencies: return, exchange volume and volatility with investor's attention and investor sentiment: an empirical analysis.
15. Gong, X., Zhang, W., Wang, J., & Wang, C. (2022). Investor sentiment and stock volatility: New evidence. International Review of Financial Analysis, 80, 102028.

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.02 No.04 (2024)

16. Gui, J., Pu, J., Naktnasukanjn, N., Yu, X., Mu, L., & Pan, H. (2022). Measuring investor sentiment of China's growth enterprises market with ERNIE. Procedia Computer Science, 202, 1-8.
17. Guijarro, F., Moya-Clemente, I., & Saleemi, J. (2019). Liquidity risk and investors' mood: Linking the financial market liquidity to sentiment analysis through Twitter in the S&P500 index. Sustainability, 11(24), 7048.
18. Hadad, E., & Kedar-Levy, H. (2022). The Impact of Retail Investors Sentiment on Conditional Volatility of Stocks and Bonds. arXiv preprint arXiv:2208.01538.
19. Haryanto, S., Subroto, A., & Ulpah, M. (2020). Disposition effect and herding behavior in the cryptocurrency market. Journal of Industrial and Business Economics, 47, 115-132.
20. Heinz, A., Jamaloodeen, M. I., Saxena, A., & Pollacia, L. (2021). Bullish and Bearish Engulfing Japanese Candlestick patterns: A statistical analysis on the S&P 500 index. The Quarterly Review of Economics and Finance, 79, 221–244.
21. Iqbal, N., Gul, F., & Mubarik, F. (2023). Investor Sentiments and Stock Returns: A Study on Noise Traders. Journal of Positive School Psychology, 7(1), 53-64.
22. Jalal, R. U. D., Sargiacomo, M., Sahar, N. U., & Fayyaz, U. E. R. (2020). Herding behavior and cryptocurrency: Market asymmetries, inter-dependency and intra-dependency. The Journal of Asian Finance, Economics and Business, 7(7), 27-34.
23. Ji, R., & Han, Q. (2022). Understanding heterogeneity of investor sentiment on social media: A structural topic modeling approach. Frontiers in Artificial Intelligence, 5, 884699.
24. Kampanje, B. P. (2021). Validating Trading Volumes on Malawi Stock Exchange. Mergers, Acquisitions & Disposals Journal, 2(1).
25. Kapoor, S., & Prosad, J. M. (2017). Behavioural Finance: A Review. Procedia Computer Science, 122, 50–54.
26. Khan, M. A., & Ahmad, E. (2018). Measurement of investor sentiment and its bi-directional contemporaneous and lead–lag relationship with returns: Evidence from Pakistan. Sustainability, 11(1), 94.
27. Kim, K., Ryu, D., & Yang, H. (2019). Investor sentiment, stock returns, and analyst recommendation changes: The KOSPI stock market. Investment Analysts Journal, 48(2), 89-101.
28. Kumari, J. (2019). Investor sentiment and stock market liquidity: Evidence from an emerging economy. Journal of Behavioral and Experimental Finance, 23, 166-180.
29. Li, M., Li, W., Wang, F., Jia, X., & Rui, G. (2021). Applying BERT to analyze investor sentiment in stock market. Neural Computing and Applications, 33, 4663-4676.
30. Li, S., Hoque, H., & Liu, J. (2023). Investor sentiment and firm capital structure. Journal of Corporate Finance, 80, 102426–102426.
31. Liu, J., Wu, K., & Zhou, M. (2023). News tone, investor sentiment, and liquidity premium. International Review of Economics & Finance, 84, 167-181.
32. Medhioub, I., Chaffai, M., & Farzanegan, M. (2022, August). Did Investor Sentiment and Herding Behavior in the MENA Region Change During Covid-19?. Economic Research Forum (ERF).
33. Meier, C. (2018). Aggregate investor confidence in the stock market. Journal of Behavioral Finance, 19(4), 421-433.
34. Muzindutsi, P. F., Apau, R., Muguto, L., & Muguto, H. T. (2023). The Impact of Investor Sentiment on Housing Prices and the Property Stock Index Volatility in South Africa. Real Estate Management and Valuation, 31(2), 1-17.

ISSN E: 3006-1466
ISSN P: 3006-1458
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
CJSSR
CONTEMPORARY JOURNAL OF SOCIAL SCIENCE REVIEW
Vol.02 No.04 (2024)

35. Avramov, D., & Chordia, T. (2006). Momentum and Investor Sentiment: Evidence from Asian Stock Markets. Capital Markets Review, 25(1), 26–42.
36. Narsa, I. M., Narsa, N. P. D. R. H., & Prananjaya, K. P. (2020). An experimental study of the effect of financial and non-financial information on intention to invest in the bearish and bullish market. International Journal of Innovation, Creativity and Change, 11(11), 421-439.
37. P H, H., & Rishad, A. (2020). An empirical examination of investor sentiment and stock market volatility: evidence from India. Financial Innovation, 6(1).
38. Pandey, P., & Sehgal, S. (2019). Investor sentiment and its role in asset pricing: An empirical study for India. IIMB Management Review, 31(2), 127-144.
39. Pino, I. (2022). Bear markets vs. bull markets: The best time to invest. Fortune Recommends. https://fortune.com/recommends/investing/bear-vs-bull-market.
40. Pan, L., Tang, Y., Xu, J., 2016. Speculative trading and stock returns. Rev. Financ. 20 (5), 1835–1865.
41. Pagan, A.R., Sossounov, K.A., 2003. A simple framework of analysing bull and bear markets. J. Appl. Econ. 18 (1), 23–46.
42. Rahman, S., Kazmi, S. A. R., & Ramzan, M. (2022). Investors Sentiment and Stock Return; Evidence from Pakistan Stock Exchange (PSX).
43. Royit, A., Jose, B., & Varghese, J. (2023). Beware of Extreme Investor Sentiments! Indian Evidence on the Performance of Neuro-specific Options Volatility Trading Strategies on the Facets of COVID-19. Journal of Emerging Market Finance, 09726527231165820.
44. Snyder, H. (2019). Literature Review as a Research methodology: an Overview and Guidelines. Journal of Business Research, 104(1), 333–339. Science direct.
45. Sun, Y., Kong, X., Chen, T., Su, H., Zeng, X., & Shen, Y. (2021). Measuring Investor Sentiment of Cryptocurrency Market–Using Textual Analytics on Chain Node. Procedia Computer Science, 187, 542-548.
46. Vaidya, D. (2019). Bull Market (Definition, Examples) | What is the Meaning of Bull Market? WallStreetMojo.
47. Wang, W., Su, C., & Duxbury, D. (2022). The conditional impact of investor sentiment in global stock markets: A two-channel examination. Journal of Banking & Finance, 138, 106458.
48. Yadav, A., & Chakraborty, A. (2022). Investor Sentiment and Stock Market Returns: Evidence from the Indian Market. PURUSHARTHA-A journal of Management, Ethics and Spirituality, 15(1), 79-93.
49. Yadav, Y., & Naik, P. K. (2023). Investors' Irrational Sentiment and Stock Market Returns: A Quantile Regression Approach Using Indian Data. Business Perspectives and Research, 22785337231165870.
50. Yong, S. H. I., Tang, Y. R., Cui, L. X., & Wen, L. O. N. G. (2018). a text mining based study of investor sentiment and its influence on stock returns. Economic Computation & Economic Cybernetics Studies & Research, 52(1).
51. Zhao, H., Wang, D., Wang, M., He, X., & Jin, J. (2019). Mining the Impact of Investor Sentiment on Stock Market from WeChat.