Impact of Bullish and Bearish Market on Investor Sentiment

Yasir Mehmood[1] and Waqas Hanif[2]

[1]Department of Management Sciences,
Iqra University Islamabad, Pakistan

[2]Department of Management Sciences,
COMSATS Institute of Information and Technology Islamabad, Pakistan

ABSTRACT: This paper measures the investor's sentiment in stock market. There are two indicators to measure investor sentiment either directly or indirectly, Closing price of stocks and traded volume as proxy variables (indirect method) were used for analyses. This study finds the connection between investor's sentiments, which depends upon the bullish and bearish market trends. After analysis, it is concluded that bullish and bearish trends in the stock market are appropriate measures for measuring the investor's sentiments as per results shown in this study.

KEYWORDS: Stock Price, Trading Volume, Causality and Regression.

1 INTRODUCTION

Several financial models and theories explain and present frame work and show the act of individual to maximize the utility through their own preferences and constraints, over the last three decades many psychologists and researchers studied the macro and micro behavior of different investors through the contribution of such behavioral finance models. There has been lacking of empirical evidence to confine sentiment to measure explicit sentiment.

The late 1990s Internet bubble pushed the prices upward and then downward, is known as period of extraordinary investor sentiment. Dramatic changes in the prices of security occurred due to the various stock market crashes in different period of time. Standard Finance model unanswered these sudden changes in the security prices. In these models, security traded in financial market is influenced by rational investor. Researchers working on alternative model to investor sentiments to support traditional financial model. Investor sentiment means expectation about future price of security, which is not augmented by fundamental Shleifer (1991).

Black (1986) found that sentiments unable the security to trade at its fundamental values. De Long et al (1990) assert that sentiment and sentiment free investor competition set the security price in the stock market. But firm with long earning history, tangible assets, and stable dividend are less affected by the investor sentiments. This paper used Granger causality analysis to identity the investor sentiments over the Bullish and Bearish market. We argue that Bullish and Bearish market provide a roadmap to decision makers, because Wall Street old saying is that trend is friend of investor.

The organization of paper is as follows. Next section briefly reviews the literature on investor sentiment and Bullish/Bearish Market. Theoretical framework includes in the third section. Fourth section contains the Descriptive statistics. Finally we discuss the managerial implication and conclusion of this study.

2 LITERATURE REVIEW

Before taking the descriptive point of view, the main aim of this paper is that how an individual investor makes his investment decision in the financial market. The investment decision behavior and psychology are based on review of existing study which has already conducted through different methodologies.

Prospect theory says that during Bullish period, the investor remains risk averse while the attitude of investor in bearish period remains risk seeker. It means Investor psychology play vital role in upward & downward movement of security prices traded in the financial market. Investor sentiment shows the trend of speculation in near future and drives the relative need of speculation (Baker and Wurgler, 2004). Investor sentiment is investor's expectation on future market with systematic deviation (Rao and Lee, 2003), which could be bullish or bearish trends in stock market (Avery and Chevalier, 1999).

Daniel et al (2002) considered sentiment as an ingredient of systematic risk which increases the systematic risk. Two difficulties arise in investor sentiment research, come to the choosing and quantifying of investor sentiment. It covers direct sentiment and indirect sentiment in light of quality and acquiring method. Direct sentiment is partial investors' expectation on the future market, and the research result is known as investor confidence index, The Yale Stock Market Confidence Index has drawn up by Shiller is one of them. Indirect sentiment refers to the economic variables that could affect investors' price assessing and expectation on market, for instance, closed-end fund discounts could function as the proxy variable of investor sentiment (Lee, Shleifer, Thaler, 1991). Direct sentiment and indirect sentiment proxy are correlated; Levels and changes of investor sentiments are strongly correlated with contemporaneous market returns (Brown and Cliff, 2004). But indirect approach is less biased measure of sentiment by Schmeling (2007). Clarke and Statman (1998) asserted that during bullish and bearish market there is no relationship of forecasted sentiment by newsletter editors and returns. Schemling and Verma (2007) study revealed that individual sentiments become negatively correlated with returns and these are narrowly related with noise and fundamental trading Individual investors are more affected by sentiments than institutional investors by (Hsu et al. 2005).

Danial et al (2002) explained the term noise trader means irrational investor behavior. Lee et al. (1991) asserted that noise traders temporarily affect the security prices. Baker and Stein (2004) found that noise trader trade more when market is bullish. They buy the security which leads to increase its demand and at last security prices move up by Banker and Wurgler (2006). Fisher and Statman (2000) found that Short-horizon market returns can be examined and predicted through a variety of technical variables. Brown and Cliff (2004) found that sentiment affected the stock returns for shorter period of time. While sentiment has little predictive power for near-term future stock returns (Brown and Cliff, 2004). (Neal and Wheatley, 1998; Fisher and Statman 2000), all together agree about the usefulness of adopting sentiment indices. Clarke and Statman (1998), Brown and Cliff (2004) offered a less confident assessment of the capability of such indices to forecast market prices.

Moreover, Simon and Wiggins (2001) expend the investor sentimental analysis to the futures market and found significant results. Recently Chinese scholars have not agreed on closed-end fund discounts (Jin et al.; Zhang and Zhang, 2002), and have deviate on the empirical work of relationship between stock market return and direct investor sentiment (Rao and Liu, 2003). Their empirical study shows that Chinese stock market still need to be improved regarding investor sentiments. For necessary statistics significant results, the sample range is not too short, which means the empirical conclusion is statistically acceptable.

THEORETICAL FRAME WORK
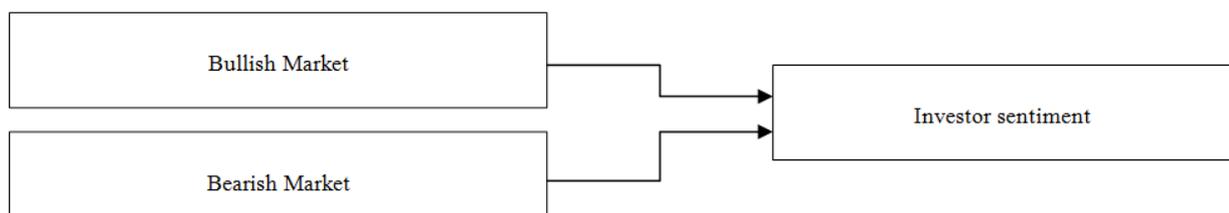
INVESTOR SENTIMENT

We consider trading volume as a proxy variable to measure investor sentiment. Hsu et al (2008) found that financial market trading volume influenced the sentiments of individual investor. Cochrane (2002) found that prices of security trades in stock markets are positively linked with the trading Volume. There are other proxies as well which used to measure investor sentiment index.

From last few decades the most debatable issue in behavior finance that how investor sentiment affect on stock price and normally a question arises that how to measure investor sentiment and their quantitative effect. So, give the answer of this question trough bottom up approach which bases on investor psychology and explain that how investor over/under react on past return. The purpose of this research work is to offer new cumulative approaching to check investor sentiment through bullish or bearish trend in stock market.

3   METHODOLOGY

Karachi Stock Exchange is the oldest stock exchange in Asia and today, it is the most popular stock exchange in the world in terms of number of transactions handled through its electronic trading system. KSE have smoothed the progress of growth of the Pakistani corporate sector through competent heave stage of capitalization. The 100KSE Index in Pakistan mostly admired and Benchmark Index in stock market with 652 listed companies with $32.50 million market capitalization in KSE.

Trading volume means the number of shares which traded during a definite time period. When volume is high it show that major changes in stock price which significantly generate some important news in stock market for the attraction of investor and financial institution.

We took the data for the years of 2005 to 2011 of Karachi Stock Exchange index. We used trading volume as a proxy variable to measure investor sentiments. Bullish and Bearish Trend found by the prices index of KSE 100. We used Granger Causality Analysis and SPSS test to find out the relationship between Bullish & Bearish Market and Investor Sentiment. Chosen the data period from 2005 to 2011 because during this period Pakistan stock markets have undergone no considerable policy changes characterized and the departure of private foreign capital flows due to big question small answer terrorism, inflexible exchange rates, weak economic growth, credit market crisis in the United States and spiky fell in Asian market. Stock market has affected by many ways such as the volatility of index and degree of volume which trades in market. Returns are lightening through the log difference movement in the price index, using the closing price to calculate the stock continuously-compounded return.

GRANGER CAUSALITY

The purpose of Granger causality investigate the usefulness of past information volatility and improve the forecasting of trading volume and deployed to estimate the short run relationship among all variables. In this research work study test that whether trading volume cause on stock price or stock prices cause on trading volume and how much their result effect on investor sentiment and decision making.

4   RESULTS

IMPULSE RESPONSE FUNCTION

The purpose of variance decomposition is to approximate the movement of n-step proportion and forecast the variable error variance in VAR system which mostly trait itself shock due to the existence of other variable in system, equally the impulse response of variable shows by impulse response function in VAR system currently through its own shocks or another variable.

We are using trading volume as a proxy variable for investigating the investor sentiments which will depends on the closing price of the shares which are traded daily bases on the floor of stock exchange. When the price of the stock going to be increase, and market is closed at high price it is considered the bullishness of market and inversely it is considered as a bearish trend.

When we take a graphical portray of our seven years closing prices as a variable with their respective daily dates the following fig #1 shows bullish and bearish trends in different time intervals within our sample period.

Figure 1 Bullish and bearish trends in the sample period of January, 2005 to June, 2011.

It's a phenomenon that the stock market never follows a stable pattern in the long run. Fluctuations are occurring continuously so we divide our sample period in to two segments bullish and bearish trend and these trends occurs more than a time in our sample period which can be seen in the following figures.
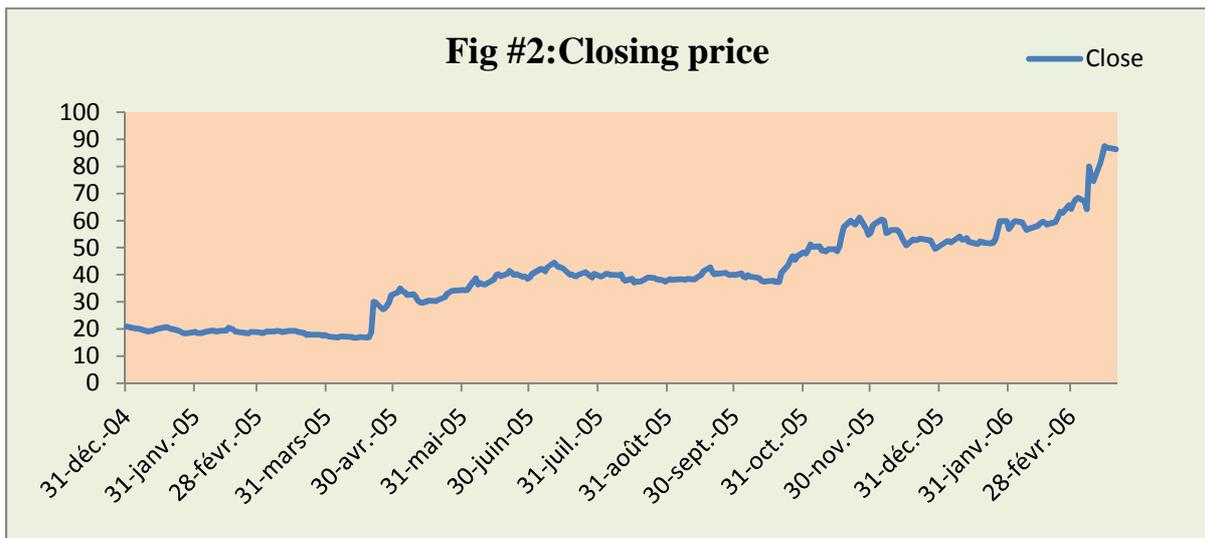

Figure 2 The bullish trend form December 31, 2004 to March 20, 2006.
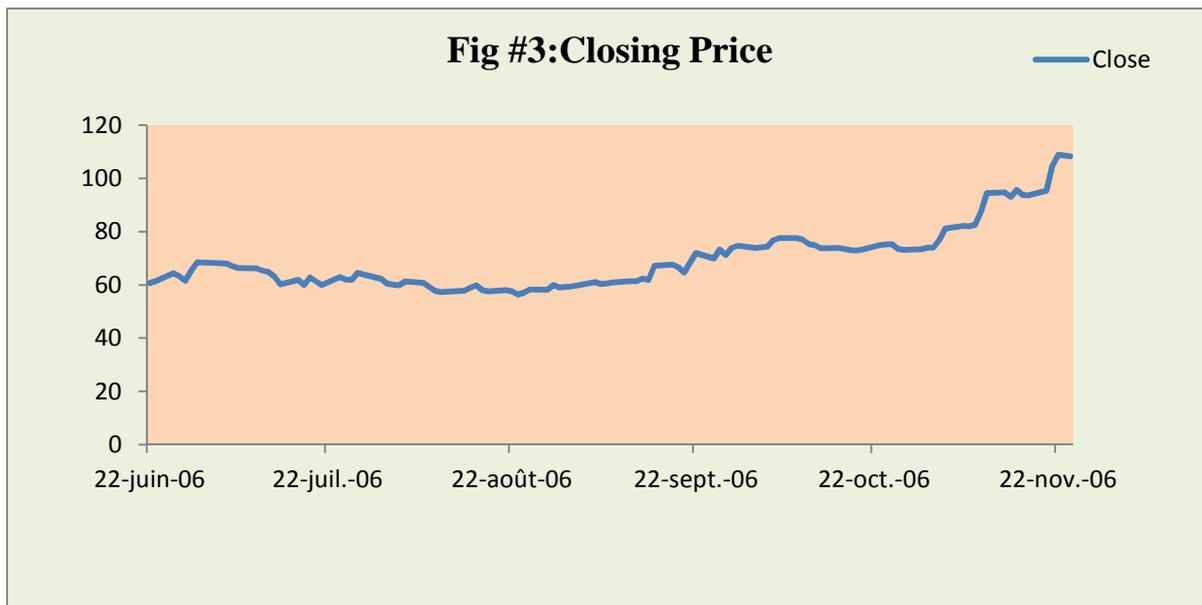
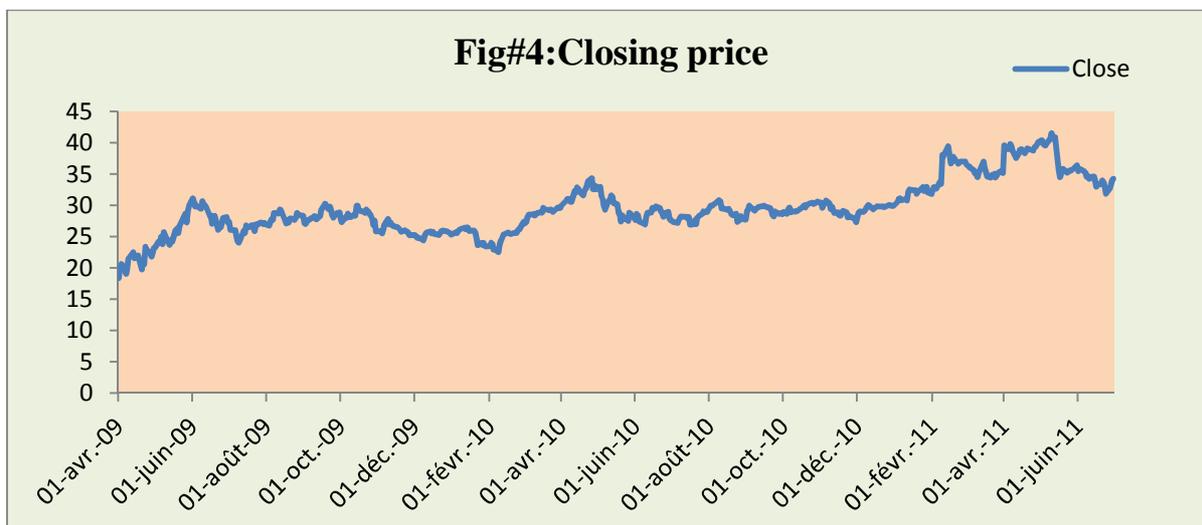*Figure 3 The bullish trend form June 22, 2006 to November 24, 2006.*

Figure 4 The bullish trend form April 1, 2009 to June 30, 2011.

From the above figures there are three different time intervals in which the market was showing bullish trends as it is roughly portrays in the graphs. Similarly the bearish trends are also occurs in our sample period more than a time which indicates that's the closing price at the end of the day after trading of different shares and stocks are decreases as compare to the opening price of the stock exchange which are clearly shown in the following figures.
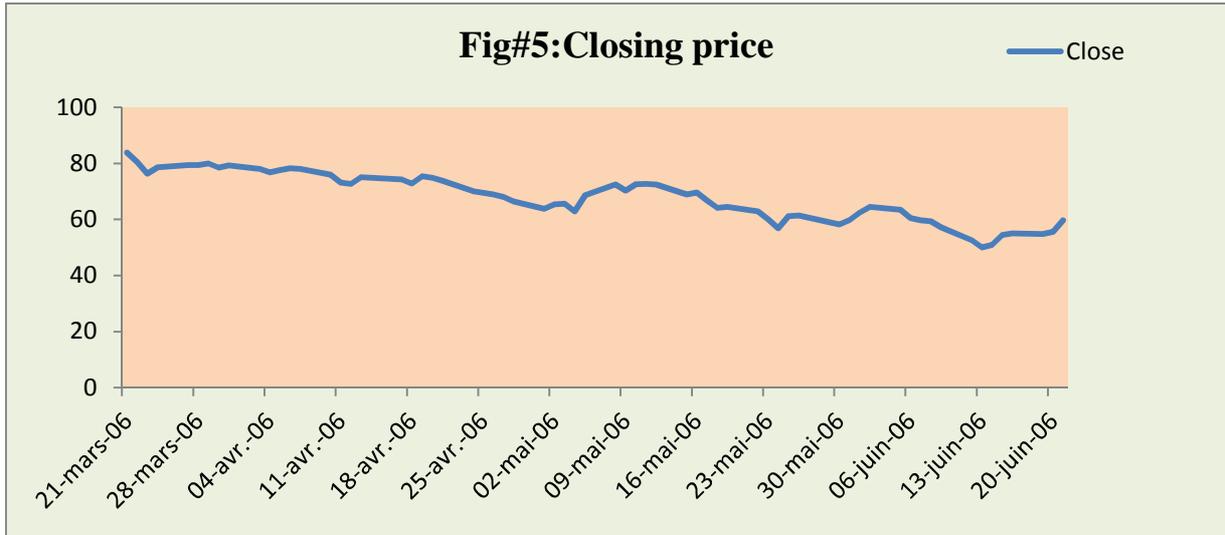
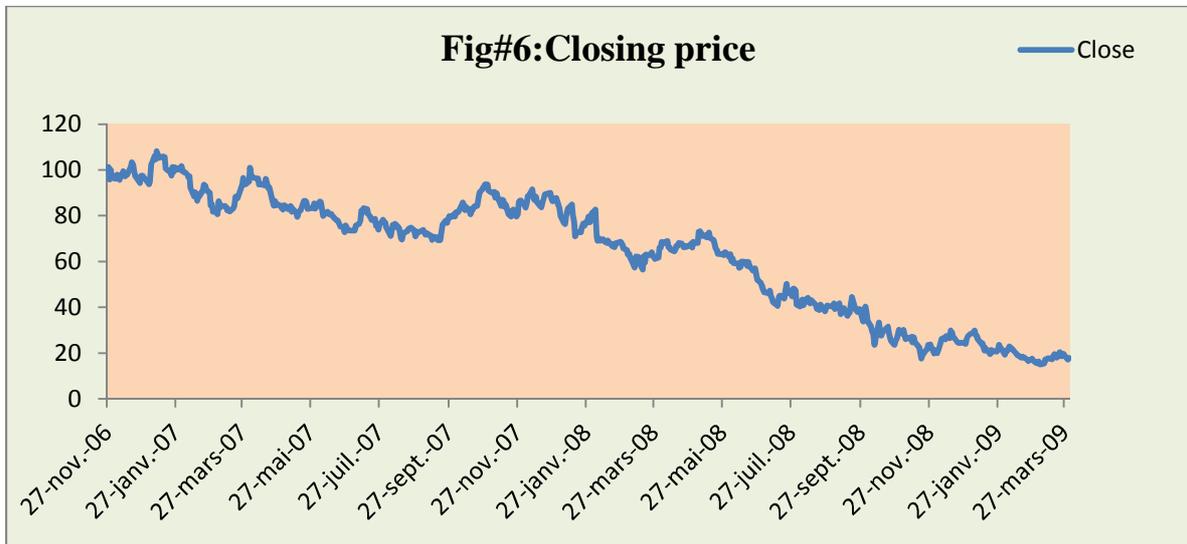*Figure 5 The bearish trend form March 21, 2006 to June 21, 2006.*

Figure 6 The bearish trend form November 27, 2006 to March 31, 2009.

Summary of the bullish and bearish market trends are given in the following table (1)

Table 1 Bullish and Bearish market trends

S.NO	Market trends	KSE 100
1.	Bullish Market:	
	December 31, 2004 to March 20, 2006.	305
	June 22, 2006 to November 24, 2006.	110
	April 1, 2009 to June 30, 2011.	558
	Total Days	**973**
2.	Bearish Market:	
	March 21,2006 to June 21,2006	65
	November 27,2006 to March 31, 2009	589
	Total Days	**654**

The second statistical test which is applied to investigate the impact of bullish and bearish market on the investor's sentiment is Granger Causality test although the regression analysis deals with the dependence of one variable on other variables but it does not necessary imply causation other words the existence of a relationship does not prove causality or the direction of influence. As the purpose of our study is that the closing price of the shares and stocks become the cause of motivation to invest in the stock market for the investors so it is the appropriate test to apply this type of empirical study.

Following are the two equations for unidirectional causality in the model of our study as per Granger Causality test.

$$Vt = \alpha + \sum_{i=1}^{n} \beta Vt - i + \mu 1t \tag{1}$$

$$Vt = \alpha + \sum_{i=1}^{n} \gamma Pt - i + \sum_{i=1}^{n} \beta Vt - i + \mu 2t \tag{2}$$

Where

Vt= volume of trade at current time period.

Vt-1=Lag volume of trade at preceding time period.

Pt-1=Lag values of closing price of stocks and shares.

Appropriate test statistic for Granger Causality test is
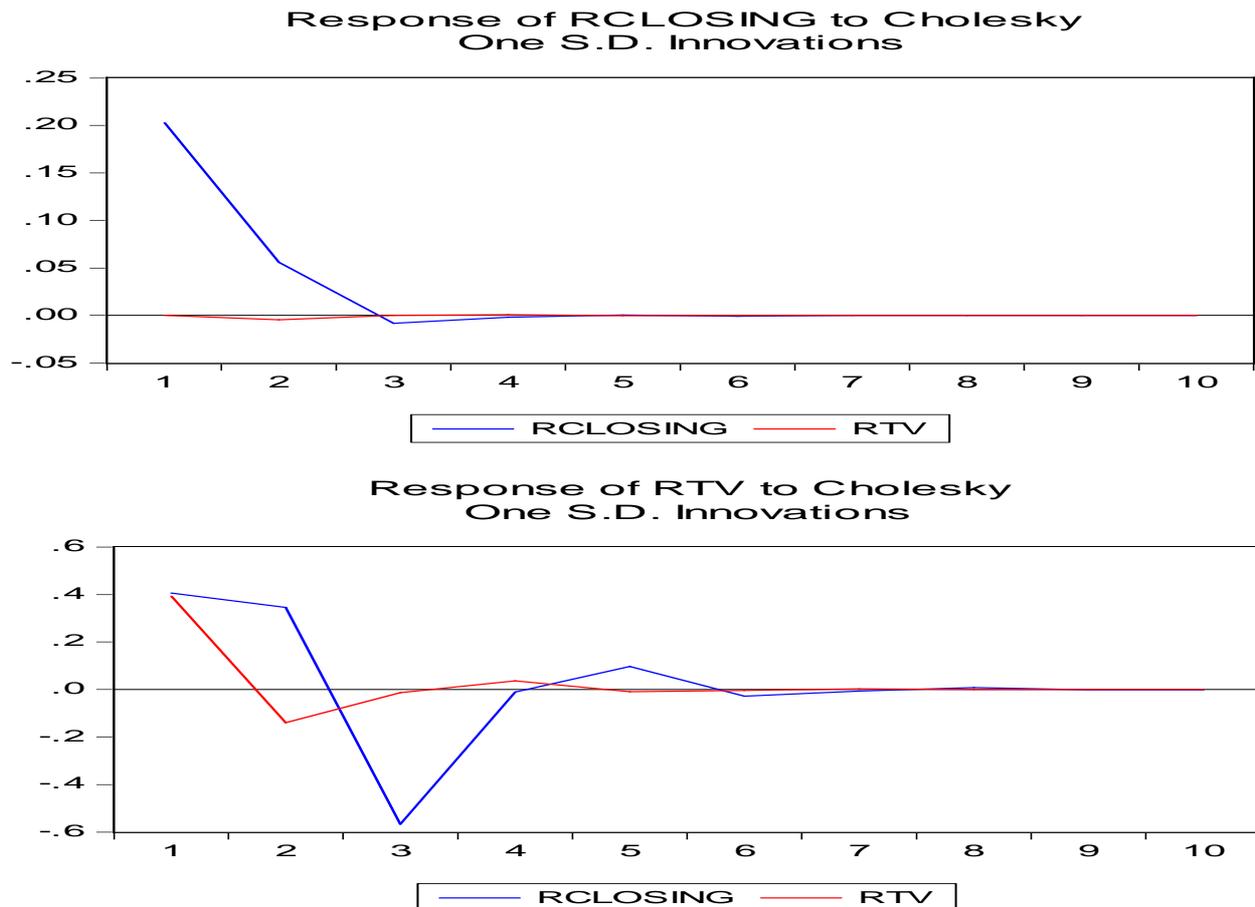
F = [(RSSr - RSSur)/q] / [RSSur/ (n-k)].

Where

RSSr = Restricted residual sum of squares.

RSSur = Unrestricted residual sum of squares.

Calculated value of F-test = 327310.885 are highly rejected Ho: that indicates that there is impact of Bullish and bearish factor on the investor's sentiments. This test also indicate the Direction of Causality that is Closing price → trading Volume which is our proxy variable to measures the investor's sentiments to invest in stock exchange market.

Table 2 Uni-directional causality

Null Hypothesis	lag	Obs	F- Statistic	Prob
R CLOSING does not Granger Cause R TV	02	1971	9.28492	.0001
R TV does not Granger Cause R CLOSING			0.56145	.5705

Table 2 contains the results that there is uni- directional causality between daily closing price (stock prices) and trading volume which indicate that the movement of stock price in any direction is a sign of information and prediction about future trading activities.

Response of RCLOSING to Cholesky
One S.D. Innovations

Response of RTV to Cholesky
One S.D. Innovations

Figure# 7 Impulse Response Function

According to Fig # 7 movement of stock prices not disturb the trading volume movement as shown in above figure after 3 lag periods the movement of stock prices are moves in a same direction with trading volume without any positive or negative reaction so the volatility of stock prices is slightly effect on trading volume but trading volume have largely effect stock prices either positively or negatively.

This study shows that investor trade more during the bullish period and less during the bearish period. So during the bullish period when investor sentiment is positive, it is the good time for financial manager to make some corporate decision. These corporate decisions are fruitful for the firm which ultimately increases the wealth of the shareholder. When market is bullish more buyer of security and fewer sellers which raise the security prices very high. So it is the right time for the manager to issue new shares of company. So he sell share at high price than normal period price. Other decisions like Dividend payments, merger of firms and seasoned equity issue are fruitful to take benefit of high trading valuation. The firm will not issue the share during the bearish period. If firm has sufficient amount of cash so it will repurchase share at that time. As result suggest that trading volume is affect by the bullish and bearish market. An individual investor must have an understanding of these trends.

Especially professionals like Firms Managers, Brokers and Mutual fund Managers can use various kinds of investment strategies like diversification of portfolio and short selling of various stocks to get benefit from this pattern of market. So they perform well in this competitive world of financial market where so many securities and investors are traded. Understanding these well founded strategies will surely improve the chances to perform better in both the markets. Broker must keep in mind the sentiments of Investor before prescribing the stock specifically during the bullish and bearish period. Policy maker should consider investor sentiment when they tradeoff risk and return.

5   CONCLUSION AND RECOMMENDATIONS

We conclude that bullish and bearish trends are the important factors, which play with the emotion of the noise traders and affect their sentiments. Investors trade less money when market is bearish and greater amount of money when market is

bullish. This can be shown by the trading volume during the bullish period and bearish period. The result is contradicted with the prospect theory, which describes that investor is more risk averse when market is bullish and risk prone when market bearish.

After analysis the data series shows that high existence of volatility in stock prices still lacks the trader confidence which not only affect investor sentiment but also different broker, regulator and analysis must review their portfolio. Stock price can be predicted through past volatility of trading volume but unfortunately the existence of asymmetric investment environment investor does not rationally act in stock market and this is the big cause of inefficiency in Pakistani stock market. So, the uncertainty and lack of trader confidence in stock market study suggests that domestic economic policies must be restructured by authorities for stable stock market activities.

Future research is required to find the relationship of bullish and bearish market with other measures of Investor sentiment in Pakistani context. Further which stocks perform well during the bullish and bearish period and which do not perform well.

REFERENCES

[1] Avery C., Chevalier, J., "Identifying investor sentiment from price paths: the case of football betting", *Journal of Business*, Vol.72, 1999, pp. 493– 521

[2] Black, F. Noise., "The Pricing of Commodity Contracts", *Journal of Finance*, Vol. 41, 1986, pp. 529–543.

[3] Brown, G.W. and Cliff, M.T., "Investor sentiment and the near term stock market", *Journal of Empirical Finance*, Vol. 55, 2004, pp. 82–90.

[4] Baker, Malcolm and Jeffrey,W., "A Catering Theory of Dividends", *Journal of Finance*, Vol. 59(3), 2004, pp.1125– 65.

[5] Baker, Malcolm and Jeffrey W., "Appearing and Disappearing Dividends: The Link to Catering Incentives." *Journal of Financial Economics*, Vol. 73, 2004, pp.271–88.

[6] Cochrane, John, H., Stocks as money: Convenience yield and the tech-stock bubble, NBER, Working Paper Series, No. 8987, 2002.

[7] Clarke, R.G. and Statman M., "Bullish or bearish", *Financial Analysts Journal*, Vol. 5, 1998, pp. 63–72.

[8] Daniel, K.D., Hirshleifer, D. and Teoh, S.H., "Investor psychology in capital markets: Evidence and policy implications", *Journal of Monetary Economics*., Vol. 49, 2002, pp. 139–209.

[9] De Long, J.B., Shleifer, A., Summers, L.H. and Waldmann, R.J.,"Noise trader risk in financial markets", *J. Polit. Econ.,* Vol. 98, 1990, pp. 703–738.

[10] Daniel, K.D., Hirshleifer, D. and Teoh, S.H., "Investor psychology in capital markets: Evidence and policy implications", *Journal of Monetary Economics*., Vol. 49, 2002, pp. 139–209.

[11] Fisher, K.L. and Statman, M., "Investor sentiment and stock returns", *Financial Analysts Journal. , Vol*. 3, 2000, pp. 16–23

[12] Hsu, H., Kuo, W.H. and Cheng, N.C., "The interrelationship between investor sentiment index and stock price volatility: Evidence from the Taiwan stock market. Taiwan Bank", *Finance Q.,* Vol. 6, 2005, pp. 107–121.

[13] Hsu, C.J. and Yen, W.J., "Sentiment indicators and stock returns", *Minghsin Journal*. Vol. 34, 2008, pp. 89–106.

[14] Jin X., Gao D., Shi J., Liu H., "An Empirical Analysis of Closed-fund Discounts in China", *Social Sciences in China, Vol.* 2, 2002, pp.71-73(in Chinese)

[15] Lee, C.M.C., Shleifer, A. and Thaler, R.H.,"Investor sentiment and the closed-end fund puzzle", *J. Finance*, Vol. 46, 1991, pp. 75–109.

[16] Lee, Charles, Andrei S. and Richard H. Thaler., "Investor Sentiment and the Closed-End Fund Puzzle", *Journal of Finance*, Vol.46 (1): 1991, pp.75–109.

[17] Neal, R. and Wheatley S.M., "Do measures of investor sentiment predict returns?" *J. Financial Quant. Anal.*, Vol. 33, 1998, pp. 523–547.

[18] Rao, Yulei, Liu D., "Medium term Bull/Bear index changes (ΔIM) Short term Bull/Bear index changes (ΔIS) 582", *Behavioral Finance, Shanghai: Shanghai university of finance & Economics Returns Press*, (in Chinese) 2003

[19] Seyhun, H. Nejat., "Investment Intelligence from Insider Trading" *Cambridge, MA: MIT Press. Baker 1998*

[20] Simon, D. and Wiggins, R., "S&P futures and contrary sentiment indicators", *J. Fut. Mkt*, Vol. 21, 2001, pp. 447–462.

[21] Schmeling, M., "Institutional and individual sentiment: Smart money and noise trader risk", *Int. J. Forecast.*, Vol. 23, 2007, pp. 127–145.

[22] Ting, C.W. and Zeing, F.M., "A study on the relationship between stock index, the turnover, financing stocks and the in/out of legal persons in Taiwan using the vector auto regression model", *Tamsui Oxford J. Econ. Bus.*, Vol. 13, 2005, pp. 43–74.

[23] Verma, R. and Verma, P., "Noise trading and stock market volatility.' *J. Mult. Financial Mgmt*., Vol. 17, 2007, pp. 231–243.

[24] Whaley, Robert E., "The Investor Fear Gauge" *Journal of Portfolio Management*, Vol. 26(3), 2000, pp.12–17.

[25] Baker M. and Jeffrey W., "The Equity Share in New Issues and Aggregate Stock Returns." *Journal of Finance*, Vol. 55(5), 2000, pp. 2219–57.

[26] Zweig, Martin E.), "An Investor Expectations Stock Price Predictive Model Using Closed-End Fund Premiums." *Journal of Finance*, Vol. 28(1), 1973, pp. 67–87.