

ATTITUDE OF PAKISTAN'S INDIVIDUAL INVESTOR TOWARDS RISK DURING BULL AND BEAR MARKETS

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ABSTRACT:*The study is based on analyzing Pakistan's individual investor by contrasting their behavior in bull market (2007 & 2010) and bear market (2008-2009). The major objective of study is to examine whether the attitude, perception and preferences towards risk, book to market valuations are different between varying market conditions. Empirical investigation is done by using data of 100 companies of different sectors for four years. Price earnings ratio, Book to market value, systematic risk, volatility and abnormal returns are used as measure of risk in six different regression models along with intercept and interactive dummies. Individual level of ownership is used as attitude towards risk. Due to some behavioral biases, Overall Individual investor attitude towards risk is similar in both market condition except a significant behavioral difference is identified between bull and bear market and such behavior is associated with Book to Market Valuation only.*

Key words: Overconfidence, Individual investor behavior, Bull and bear market

Introduction: Traditional finance ignores the biases that impact the investor behavior since it assumes the investors to act rationally. Behavioral finance is the application of psychology to financial behavior. People may not always be "rational" but they are "human". Behavioral finance exposes irrationality of investors. Several psychological biases impact on investor behavior leading to non-optimal investment decisions. Among many explanations of irrational behavior one is that investors are influenced by overconfidence bias. Physiological studies have revealed that people are overconfident about their abilities and highly optimistic about their future. When it comes particularly to investing, overconfidence causes individuals to exaggerate their own abilities to forecast future outcomes and events.

Impact of psychological biases especially overconfidence on investor behavior has raised questions as how individual investor attitudes and preferences towards risk differ during varying market conditions. The purpose of the study is to examine if there are differences in investor preference in bull state as compared to other market conditions. Changing market conditions provide us with a basis upon which we investigate if varying market conditions relate to investor behavior, more specifically how investor attitude changes by the presence of bull and bear markets. To analyze the investor behavior under the presence of bull and bear periods, the definition of these states must be made clear. Rising prices indicate bullish market while falling prices indicate bearish market. In bull state average return is positive and greater than average return in bear state (Owain et al.) Depressed market is bear market characterized by a fall of more than 10% in benchmark stock index (Anna & Mervi 2012) while an increase of greater than 15% in benchmark stock index is bull market (Peterson & Berglund 2007).

The objective of the study is to contribute empirical evidence on individual investor behavior. The study will specifically be focusing on Pakistan data to compare individual investor behavior during bull and bear markets. The reason to focus on Pakistan's data is that Pakistan experienced bear market for two years period and by a bull market for two years period. It provides the basis to study investor behavior during varying market conditions and examine how physiological biases specifically overconfidence biasness is related to market conditions. Stock level data of Pakistan will be used to examine the behavior and performance of individual investors. In particular Investor attitude towards risk, book-to-market valuations will be measured during varying market conditions.

Functioning of financial markets was primarily based on key assumption, rationality of investors provided by traditional finance theory. The perspective on financial market functioning is leading to a new dimension behavioral finance. Behavioral finance provides new models to understand the functioning of financial markets provided that most of the investors while investing in financial markets will not be fully rational. Many studies has been conducted to study the behavior, attitude, perceptions and preferences of investors for making investment decisions (Selden, 1912; Festinger, Riecken and Schachter, 1956; Pratt, 1964; Tversky and Kahneman, 1974; Kahneman and Tversky, 1979). Traditional finance theory assumes that investor will behave rationally when making investments but behavioral finance states that investors will not be fully rational rather their decisions are influenced by several biases (Rabin, 1998). Investor Psychology is a significant dimension of behavioral finance (Shleifer and Summers, 1990). Investors can behave irrationally by taking more risk (Alpert and Raiffa, 1982), chasing past trends to gain abnormal returns (Andreassen and Kraus, 1988), underreact to new information (DeLong et al, 1990). This study tries to understand the behavior of individual investors during different market conditions within the framework provided by behavioral finance.

Few studies have examined Pakistani individual preferences while making investments in financial markets. The objective of the study is to analyze the behavior of individual investor of Pakistan during different market conditions. Investor behavior will be measured by the attitude and preferences that the investor holds while making investment in financial markets. Market conditions under study are Bull and Bear markets. The study is based upon the representative stock market of Pakistan: Karachi Stock Exchange.

Bull and Bear Market States of Pakistan: The aim of study is to investigate investor behavior during varying market conditions. The study will be based on testing whether individual investor behavior will be different during varying market conditions. The study is specifically based upon Pakistani investors during bear market (2008-2009) and bull market (2007&2010). Criteria for the measurement of Market condition (Bull and bear markets) is change in representative index value and average annual return. Pakistan's market experience crushing bear market for two year period (2008 & 2009) characterized by 24.05% decline in KSE-100 index value. The decline in KSE-100 index (Benchmark index) is greater than 10%, 2008 and 2009 is a bear period (Peterson & Berglund). Annual return in 2008 and 2009 was -40.52%. Negative return in this period makes it a bear market (Owain et al). Bull period (2007&2010) is characterized by increase in KSE-100 index by 40.19% (2007) and 19% (2010). The increase in KSE-100 index (benchmark index) is greater than 15% which makes these years as bull period (Peterson & Berglund). Annual return was 33.53% (2007) and 24.75% (2010). Annual return in both years is positive and greater than returns of 2008 & 2009 which makes this period as bull period (Owain et al). During bull and bear periods of KSE investor behavior will be tested in varying market conditions.



Objectives of Study:The main objectives of study include:

- To analyze the Pakistan's individual investor behavior during varying market conditions.
- To test whether the attitudes and perceptions of Pakistan's individual investors towards risk are different between market conditions
- To identify the impact of overconfidence biasness on different market conditions

Significance of Study:Empirical research on investor behavior in bull and bear markets specifically Pakistan is scant. Most of the research on investor behavior is been conducted on US investors as extensive datasets on US individual investors are available for study. Through the study, we contribute to the existing overconfidence literature by conducting tests to see whether individual investing behavior is related to market conditions or not. Taking the case of Pakistan as a base for study is due to the fact that it is a unique country that has several characteristics of common law legal system: separate sets of reporting requirement (Accounting and Tax purposes), no direct involvement of government in standard setting, Pakistan also exhibits characteristics of code law legal system: weak equity market, debt as major source of financing and low transparency in financial reporting (Baig, 1997).

Understanding the psychological biases impact on investor behavior is important as such biases and emotions affect investment decisions and investors can misplace their wealth. Understanding of such biases will allow taking suitable actions or corrective measures to reduce biases impact on investment decisions potentially leading to improved investment results.

Literature Review:Traditional finance theory suggest that Investment decision of investors is primarily based upon two factors: Expected risk and return. Taking these two factors into consideration investors design their investment strategy and try to optimize expected return and behave rationally. In recent years behavioral finance has been the core subject of interest for the researchers. Recent studies in behavioral finance reveals that financial decisions of investors depend upon numerous internal and external behavioral factors(Shefrin, 2000;Shleifer,2000).Numerous research has been done on investor behavior and several factors have been identified that impact on making individual investment decisions especially in stocks. Key assumption of traditional finance theory is that individuals make rational decisions (Sultana, 2010).Investment decisions of individual is influenced by emotions and unconscious biases that lead people to non-optimal decisions.

Many studies have been conducted to why investors act irrationally and alternative explanations have been made through behavioral finance theories to justify the irrational behavior of investors. It is the human

nature that we relate the success to our own abilities (Wolosin, Sherman and Till (1973) ,Langer and Roth(1975),Miller and Ross(1975)].According to (Hastrof, Schneider and Polifka 1970) **“We are prone to attribute success to our own dispositions and failure to external factors.”** When people past investment decisions are wrong, they experience regret (Yahyazadehfar, Ghayekhloo and Sadeghi). According to (Sevil, Sen and Yalama 2007) people try to justify their wrong decisions by putting the responsibility on some other reference point. The biasness in human nature about his abilities leads him to be overconfident.

Investor behavior has been the core subject of research during inflating stock prices i-e bull market. The focus of the study is to test whether similar behavioral factors are prevalent in declining stock prices i-e bear market? People are naturally overconfident. It has been proved by Physiologists that people exaggerate their own abilities and underestimate risk. According to Nofsinger (2001) overconfidence is exhibited greatly in making investment decisions. Barber and Odean suggest that investors are overconfident in their abilities. Over confidence being the behavioral trait leads to greater trading volume and trading mistakes especially in bull market.

Individual Investor Behavior in Pakistan:

Reluctance to Invest in Stock Market:It has been observed that people of Pakistan are reluctant to invest in stock markets. People of Pakistan are more interested to invest in real estate, starting new venture, depositing money to ensure capital protection or invest in foreign currency, gold etc. Stockholding portion of individuals is impacted by awareness, social interaction, financial literacy, informational and entry cost (Fouzia, Nabeela and Ali 2012).Surprisingly households of developed countries hold limited or no stocks. According to a research by Guiso,etal in 2003 revealed that US and Sweden has high rates of stockholdings even than their 50% of households do not invest in stocks. Most of the Pakistani investors have not embraced equity as an attractive investment.

According to Farrukh (2010) Investment in stocks is generally perceived to be extremely risky and the chances of losing money are high. That is due to the fact that stock market of Pakistan is believed to be controlled by the brokers (that are also the owners of stock exchange).Another reason is instability in Political and economic condition of Pakistan.

Recent boom in real estate and property sector of Pakistan has led to high return investment option to the people. Greater investment in real estate is due to the fact that prices of real estate are continuously increasing in Pakistan, Starting of housing schemes has attracted people investment towards real estate, rental income, as a stable source of income from an asset is also a reason for huge investments in real estate. It is a general perception of Pakistanis that land remains a good and long term investment. People of Pakistan are also perceived to be savers .They prefer capital protection and are generally risk averse. They invest their savings in Saving accounts, National saving schemes etc.(Farrukh,2010)

Although investment in Equities is riskier, it also offers higher returns to compensate for the risk .Despite the above facts and statistics Pakistani households do invest in stocks. According to the economic survey 2011-2012 Per Capita Real Income in Pakistan is \$1372.Total investment in Pakistan is 12.5% of GDP. Fixed Investment 11.5 % of GDP, Private Investment 7.9% of GDP, Public Investment 3% of GDP and National Savings are 10.7% of GDP (Economic Survey of Pakistan 2011-2012). The portion of stockholding by general public of Pakistan in 50 listed companies on three major stock exchanges of Pakistan is 28.57% on an average. Pakistani individuals are involved in buying and selling of stocks as an investment.

Overconfidence:In behavioral finance overconfidence has widespread importance. Overconfidence can be defined in three ways:

- Overconfidence is measured through overestimation of one’s abilities(Soll,2007)
- Another measure of risk is when people consider themselves better and superior relative to others (Larrick,Burson &Soll 2007).
- Excessive precision in prediction of prices(Barber &Odean 2000)

Overconfidence is one of the physiological characteristics of investors that are highly researched in behavioral finance.

There are two major implications of investor overconfidence. Failure to realize being at informational disadvantage and excessive trading volume. Shefrin (2000)

Overconfident investors can make following investment mistakes:

- Overconfident investor overvalues his own abilities and undervalues the available information. Available information might signal not to invest but overconfident investor will invest irrespective of expected negative gains.
- Overconfident investors trade excessively that might lead to poor performance overtime.
- Overconfident investors take more risk as they overestimate their abilities which has an impact on portfolio performance.
- Overconfident investors are not risk averse, giving preference to risk leads to an under diversified portfolio.(Behavioral Finance and wealth management by Michael Pompian)

Overconfidence and Efficient Market Hypothesis: Investor's objective can be to beat the market by earning abnormal returns. Efficient market hypothesis suggest that information is accessible to everyone, every investor can earn only normal returns. Symmetrical information doesn't allow the investors to make prediction about future returns. In efficient market, information available to investors is random that make the movement in prices random. Planned investment strategy will never be fruitful in Efficient Market. (Farhan etal, 2012).

Recent empirical studies have investigated the impact of overconfidence biasness on efficient market hypothesis .According to De Bondt and Thaler 1995 overconfident investors trade excessively that leads to high trading volume and thus disturbing the efficient market. Overconfident investors neglect risk factors, overestimate investment decisions, and ignore market realities that make the market less efficient. Asian investors exhibit significant overconfident trading behavior (Wen, Bong & Kai).

Overconfidence and Market Conditions: An investor with superior past performance will build higher future expectations, leading him to be overconfident and this results in complete failure. The tendency of past winners can lead to future loses(DeBondt & Thaler).According to Barber and Odean(2008) individual investors mostly buy attention grabbing stocks. Attention grabbing stocks are the stocks that are in news, with higher publicity, excessive return for a particular day or higher trading volume. Too many people overestimate what they are not and underestimate what they are (Malcolm s. Forbes).Numerous studies have shown that investors are overconfident in their investing abilities .Overconfidence can lead to several investment mistakes. It can also impact investor portfolio .Rational investor will seek and trade the information that will lead to profit maximization. Overconfident investor is highly optimistic about his abilities and believes that he has special knowledge that other lack that leads to excessive trading volume and thus reducing the anticipated utility. Overconfident investors can even trade when returns are expected to be negative (Barber and Odean).Over confident investors trade more (Bias etal,2000).Overconfident investors respond more to private information and overlook widely accessible information(Daniel etal,1998)

Attribution Bias: Attribution bias makes the investor overconfident by attributing success to his own abilities during bull market. Investors are not overconfident in bear market but they hold external factors responsible for their failure. Attribution bias relate to bull market. Investors in bear markets are less overconfident making improved investment decisions as compared to bull market. The results on individual trading performance during bull markets align with overconfidence theories. (Odean1998b). Overconfidence causes people to make poor decisions, so more trading mistakes are expected in bull market.In a bull market investor try to attribute their success and abnormal returns to his own abilities, therefore investor exhibit more overconfident behavior during bull market as compared to other market conditions like bear market(Zhen-Si & Na- Wang, 2012).

Hypothesis:To study individual investor behavior Pakistan's data will be used to compare individual investor behavior during bull market to their behavior in bear market. Using this data ,it can be examined

whether investor behavior relate to market conditions or not. Individual investor portfolio data was used in prior studies to examine the investor behavior. Investor behavior in Pakistan will be examined using the stock level data. Pakistan's stocks with different levels of individual ownership will be used to examine the behavior of individual investor.

Null Hypothesis: Investors will behave similarly across both market conditions

Alternative Hypothesis: Investors will behave different among both market conditions

Existing overconfidence literature states that investors perform different among both market conditions. When investors are influenced by overconfidence biasness, they mostly hold riskier stocks, more excessive trading and trading mistakes are prevalent during bull market. We will examine whether it holds true in case of Pakistan.

Econometric Model:To examine the relationship between Individual level of ownership and independent variables we estimate the following equation:

Level= a_1+b_1 (Independent Variable) + $a_2*D_{bear}+b_2*D_{bear}$ *Independent Variable

Variables: Level is the dependent variable and it is the individual level of ownership in firm's stock. Independent variables are Price to Earning ratio, B/M ratio, Beta, abnormal returns and volatility. Using different independent variables we derived 7 models using regression analysis for each model. D_{bear} is the dummy variable and it equals one when observation is during bear market (2007&2008). a_1 and b_1 are the coefficients and are interpreted through relationship between individual level of ownership and independent variable in bull market. a_2 and b_2 are the coefficients and are interpreted as the change in relationship between bull and bear market. They are used to test whether the individual investor behavior in bull market is significantly different from their behavior in bear market.

In model 1, independent variable is Volatility

Level= a_1+b_1 (Volatility)+ $a_2*D_{bear}+b_2*D_{bear}$ *Volatility

In model 2, independent variable is Beta

Level= a_1+b_1 (Beta)+ $a_2*D_{bear}+b_2*D_{bear}$ *Beta

In model 3, Independent variables are both measures of risk (Volatility and Beta)

Level= a_1+b_1 (Volatility and Beta) + $a_2*D_{bear}+b_2*D_{bear}$ *(Volatility and Beta)

In model 4, independent variable is Book to Market Ratio

Level= a_1+b_1 (B/M) + $a_2*D_{bear}+b_2*D_{bear}$ *B/M

In model 5, independent variable is Abnormal Returns

Level= a_1+b_1 (Abnormal returns) + $a_2*D_{bear}+b_2*D_{bear}$ * Abnormal returns

In model 6, independent variable is Price to Earning Ratio

Level= a_1+b_1 (P/E) + $a_2*D_{bear}+b_2*D_{bear}$ * P/E

In model 7, all independent variables Volatility, Beta, Book to Market Ratio, Abnormal Returns and Price to Earning ratio

Level= a_1+b_1 (independent variable) + $a_2*D_{bear}+b_2*D_{bear}$ * independent variable

Data:The study is based on bull and bear market of Pakistan but it is limited to four years 2007-2010. In 2007 Pakistan's representative market KSE-100 Index experienced tremendous growth KSE-100 Index reached to 14075.83 and with an annual return of 33.53%. In 2008 and 2009 Pakistan's stock market experienced a crash and overall trend was bearish. We have used years 2008-2009 as bearish period and Years 2007 and 2010 as bullish period in Pakistan. 21 companies are selected to examine the individual investor behavior in varying market conditions. All selected companies are listed on Karachi Stock

exchange. These companies are from leading sectors of Pakistan Oil and Gas, Textile, cement, chemicals, banking, insurance and food sector.

Currently three stock exchanges are working in Pakistan: Karachi Stock Exchange, Islamabad Stock Exchange and Lahore Stock Exchange. Karachi stock Exchange is the oldest, largest and representative stock market of Pakistan. Karachi stock exchange was established in 1947 and started trading with 50 share index. KSE-100 Index was introduced in 1991. Today more than 660 companies are listed on Karachi Stock Exchange. KSE-100 index is a capital weighted Index with a basket of 100 companies. Karachi stock exchange is the representative stock market of Pakistan and KSE-100 Index is the benchmarked index for Pakistan's stock market.

Individual level of stock ownership and financial data of selected companies is taken from company's annual reports and KSE analysis reports of companies. According to a notification of SECP, a company has to report its pattern of shareholding to disclose the aggregate no of shares along with detailed categories of shareholders in their annual reports. Among the categories of shareholders, there are associated companies, mutual funds, financial institutions, non-banking finance companies, modarabas, pension funds government, public sector companies and corporations, directors and Individuals (Domestic & Foreigners). Individual investment can be by residents of Pakistan or by foreigners. We are interested to examine the Pakistan's individual investor behavior we do not incorporate foreign investors in the study.

Individual level of ownership is the dependent variable in study. Individual level of ownership is the ratio of total shares owned by individual investors from the total outstanding shares of company. Price to Earning ratio, Book to Market ratio, Abnormal Returns, two measures of risk: Beta & volatility are independent variables. Earning per share is the ratio of earnings available to common stockholders and Total number of outstanding shares of company. EPS represents the number of Rs earned during the period on behalf of each outstanding share. Price to Earning ratio is the ratio of Market price of stock and Earning per share. P/E ratio measures the amount the investors are willing to pay for each Rupee of a firm's Earnings. Book to market ratio is the ratio of Book value per share of company and Market price for each share of company. Volatility of each company is measured through sigma.

Individual level of ownership for each selected company was derived from company's annual reports. Earnings per share, Price to Earning ratio, book to market ratio was collected from Analysis report of companies on KSE website for the year 2007-2010. This study uses daily closing value for Karachi stock Exchange (KSE-100 Index) from Jan 1, 2007 to Dec 31 2010.

Data on closing value of KSE 100 index was collected from online database SKY Drive. Abnormal returns for each company are calculated by subtracting the KSE-100 index returns (Market Returns) from the company returns. Sigma is used to measure volatility of each company. Sigma for the individual companies is calculated from returns of company daily closing share prices for the period 2007-2010.

**Individual Investor Attitude towards Risk during Bull and Bear Markets of Pakistan
Regression Analysis of Stock Characteristics and Ownership in Bull and Bear Markets**

Model	1	2	3	4	5	6	7
Intercept	0.0926 (1.786)	0.1779 (8.747)	0.0939 (1.794)	0.0874 (3.438)	0.1781 (8.724)	0.1918 (8.545)	0.1210 (1.3041)
Volatility	2.7820 (1.768)		2.7565 (1.739)				-0.3194 (-0.124)
Beta		0.0290	0.0213				-0.1917

		(0.375)	(0.278)				(-0.494)
BM				0.1135 (4.955)			0.1046 (2.556)
Abnormal Returns					1.8016 (0.355)		2.9621 (0.506)
P/E						-0.00091 (-1.438)	-0.000860 (-0.971)
Estimates for Bear Market							
Intercept D*Bear	0.1619 (5.968)	0.1785 (8.7744)	0.16264 (5.968)	0.1469 (6.659)	0.1774 (8.689)	0.1918 (8.545)	-0.0605 (-0.441)
Volatility D*Bear	1.2432 (0.845)		1.2947 (0.875)				2.0065 (0.408)
Beta D*Bear		0.0476 (0.599)	0.0514 (0.645)				0.2402 (0.586)
BM D*Bear				0.0803 (2.853)			0.0038 (0.065)
Abnormal Return D*Bear					1.1704 (0.0798)		1.5422 (0.091)
P/E D*Bear						-0.000914 (-1.438)	0.00036 (0.293)
R-Square	0.0367	0.001711	0.03765	0.230387	0.001532	0.024598	0.2602190

To examine the relationship between Individual level of ownership and independent variables (Book to Market, Price to Earning ratio, Abnormal Returns, Beta and Standard Deviation) during bull and bear markets in Pakistan following equation is estimated:

$$\text{Level} = a_1 + b_1 (\text{Independent Variable}) + a_2 * D_{\text{bear}} + b_2 * D_{\text{bear}} * \text{Independent Variable}$$

Level of individual ownership of the firm's stock is Dependent Variable. Independent Variables are Book to Market Ratio, Price per Earning Ratio, Beta, Abnormal Returns and Sigma. D_{bear} equals one when observation is during bear market. Coefficients a_1 & b_1 shows the relationship between level and independent variable during bull market. Coefficients a_2 & b_2 shows the change in relationship between bull and bear market. T-statistics is estimated using a pooled approach on the panel data of Pakistan's bull and bear markets.

Results: T-Statistics is calculated using Pooled ordinary least square approach and is reported in table in parenthesis. In model 1, we have tested the relationship between ownership and volatility. The coefficient for the relationship between these two variables is insignificant (2.78). In model 2, beta is independent variable. Beta is another measure of risk. Individual level of ownership doesn't align with beta in bull and bear market. As the results for both measures of risk appear to be similar using least square regression. It is possible that these two measures of risk are viewed to be same in eyes of the investor. In model 3, the

relationship between individual level of ownership and risk measures (beta and volatility) are used. The bull and bear market coefficients for risk and beta appear to be insignificant which indicates that investors perceive the two measures of risk as similar. In model 4, the relationship between individual level of ownership and book to market ratio is tested. The intercept dummy coefficient for book to market ratio is positive and significant which states that individual investor behavior related to book to market ratio in bull and bear market is different. While the slope dummy intercept in bear estimates is also significant this indicates that investors prefer value stocks during bear market. Value stocks are the stocks with higher Book to Market Ratio. Model 5, tests the relationship between individual level of ownership and Abnormal returns. Abnormal returns are an indicator of stock performance. Positive estimates of the relationship between the two variables indicate that investors over perform. Investors tend to hold the stock with positive abnormal return. There is no significant change observed in bear market for stock performance which states investors also hold the stocks with positive abnormal returns in bear market. Model 7, shows the relationship between Individual level of ownership and all independent variables. In model 7 measures of risk, volatility and beta appear to be negative during the bull market. These results are inconsistent with the results of Model 1,2 and 3. All other results for the independent variables are similar to previous regression results.

Summary of Results: Our regression findings suggest behavioral factors of individual investor of Pakistan. Individual investor of Pakistan prefers the stocks which have higher book to market ratios in bear market. There does not appear any significant change for the estimates of measures of risk (volatility and beta), Price per earning share and abnormal returns in bull and bear market. The individual investor behavior related to these independent variables appear to be similar in both market conditions in Pakistan stock market.

Justifications for Similar behavior of Pakistan’s Individual Investor During bull and bear Market: The regression results indicate positive significance impact of Book to Market ratio on individual level of ownership in Pakistan. Individual investors of Pakistan prefer the stocks that have higher book to market ratio during bull market. The preference of value stocks is also observed in bear market but in bear market the individual investor of Pakistan will prefer value stocks in lower magnitude as compared to their preference in bull market. We observed no significant change in investor behavior related to other variables including Earning per share, Price to Earning ratio, Abnormal returns and measures of risk during bull and bear market of Pakistan. Similar attitude towards risk by the individual investor of Pakistan is prevalent in Pakistan’s scenario. There are several reasons for the similar behavior and similar attitude towards risk of Individual investor of Pakistan during different market conditions.

Investors are categorized as Individual and institutional investors. Institutional investors include financial institutions, associated companies, Joint stock companies, government, modarabas, other companies etc while individual investors can be either residents of Pakistan or the foreigners that are making investments in Pakistan’s stock market. Our study focuses on the behavior of individual investor of Pakistan. Individual investor of Pakistan has limited stockholding. The reasons behind discouraged stockholdings by the Pakistan individuals are demographic characteristics like age, gender, occupation, education, income impact on stockholding by general public of Pakistan. In addition to these factors awareness, financial literacy, social interaction, informational cost, participation cost and entry cost are also found to have a significant impact on individual stockholding. A significant factor impacting stockholding proportion in Pakistan is lack of money and awareness and information about financial markets and alternative investments in Pakistan (Fouzia et al, 2012).

Year	Average Individual level of ownership
2007	19.80%
2008	16.80%
2009	19.12%
2010	16.80%

Average individual level of ownership in bull and bear markets for 20 listed companies

The behavior of individual investor in Pakistan appears to same in both market conditions. 2008 was a crashing bear period in Pakistan with a fall of 40.52% in KSE-100 index while 2010 was a significant bull period of Pakistan KSE-100 Index went up by 19 %. In both these years individual level of ownership is similar which indicates similar behavior and similar attitude towards risk in different market conditions of Pakistan.

Due to limited stockholding of individual investors, institutional investors are a major participant in Pakistan stock market. Major participant in any financial market tends to move the prices in direction of their respective trading (Noah Stoffman). The changes in prices of Stocks or benchmark index of Pakistan move in direction of institutional trading and individual investors have a limited influence upon these changes.

Most investors of Pakistan have not embraced investment in equities as attractive asset class upon which to base their portfolio. Investment in gold, foreign currency, bank deposits and real estate is attractive for the individual investor of Pakistan. The investment in these asset classes is considered to be safe and capital protected. Pakistan individual investor is risk averse investor demanding greater capital protection. Perception of stocks as an extremely risky investment is a major reason for fewer proportion of stockholding. Pakistan's stock market is been controlled by few powerful brokers and board of governors of stock market are allowed to trade equities in Pakistan. In such situation small investors especially individual investors consider themselves as lambs to slaughter. Being a manipulated market risk of losing money is high. It leads to a risk averse behavior of Individual investor of Pakistan (Farrukh, 2010).

Considering the stock market as being manipulated leads to lack of trust. Lack of trust means investor perceives to be cheated; it will significantly impact the stock market participation (Trusting the stock market, 2008).

Investor involvement significantly relates to market sentiments. Investor involvement relates to technical analysis while risk and overconfidence relates to fundamental analysis in Pakistan. Stock market can be weak efficient, semi strong or strongly efficient. Pakistan's stock market is weak efficient stock market in which trading is done on the basis of technical analysis by chasing the previous price trends. Lack of fundamental analysis leads to lack of overconfidence in Pakistan's stock market (Understanding investment behavior in Pakistan)

Institutional investor are informed investors (Mei Chen, 2010) and they have an informational advantage (Deinz, 2007). Institutional investors can design their strategies according to the changes in Market conditions while individual investor of Pakistan has lower informational advantage and financial literacy. Investment strategies of individual investor of Pakistan do not change overtime.

Pakistan is among the least financially literate countries. Preference of risk increase with education attainment. Risk behavior of an individual is dependent on individual risk preference and education. Individual investor of Pakistan is risk averse, prefers capital protection. There is a strong preference of dividends among individual investors of Pakistan which indicates individual investor capital protection behavior (Naeem). Investors in Pakistan have a risk averse behavior as they shy away from high risk equity funds (Farid Ahmad Khan, 2012).

Perception of Risk = f (Characteristics of stocks & characteristics of Investors)

Pakistan's individual investor has a characteristic of being risk averse so his perception of risk is higher. Preference of risk is also dependent on education attainment. Individuals with more education about financial market have risk preference. Education about financial markets leads to confidence to take risk and ultimate outcome will be overconfidence in investors. Guiso & Spienza (2005) indicated the importance of financial literacy, as how much financially literate people understand stock market behavior. Financial literacy of individual investor is a major factor in portfolio diversification in Pakistan. As investor

knowledge about financial market trends products, conditions increase he will be keen to earn abnormal returns by beating the market and under reacting to public information. Being more financially literate will make the investor overconfident but Individual investor of Pakistan as lacking financial literacy overconfidence will not be prevalent in his behavior. The ultimate outcome of lacking overconfidence will lead to similar behavior and similar attitude towards risk in both market conditions.

Conclusion: We study Pakistan's individual investor and contrast his behavior in bull market (2007&2010) to a bear market (2008-2009). The study focused on examining whether market conditions (Bull and bear market) relate to individual investor behavior in Pakistan. Significant impact of overconfidence on risk attitudes of investors was observed in previous studies but it was not related with market conditions. The impact Risk attitude of individual investor, book to market valuations and stock performance variables in varying market conditions was studied on individual level of ownership. Our study is based on representative stock market of Pakistan Karachi stock exchange. We randomly selected 100 listed companies on KSE to conduct our study. An important investing behavior was observed during bull and bear market of Pakistan. Individual investor of Pakistan prefers value stocks (High book to market stocks) in bear market as compared to bull market. Another important finding of our study is that individual investor of Pakistan do not seem to behave differently in varying market conditions. Investing behavior of Pakistan's individual investor is not significantly related to market conditions. Our result is inconsistent with previous studies. Lack of financial literacy, overconfidence and trust among individual investors of Pakistan, institutional investors being the major participants in Pakistan's stock market, Highly risk averse and capital protection behavior among individual investors were the key factors identified that accounted for the similar behavior of Pakistan's individual investor during different market conditions. A major limitation of our study is that our study is based on smaller no of listed companies on Karachi Stock Exchange and bull and bear periods identified in Pakistan are fewer in number due to non availability of Individual level of ownership data in Pakistan. By overcoming these limitations better insights about individual investor behavior can be gained.

Limitations of Study:

1. The study is based on bull and bear period of only four years due to non-availability of individual level of ownership data in Pakistan
2. The study is based on limited no of companies listed on Karachi stock Exchange

Further Research: It would be interesting to analyze the bull and bear market of Pakistan by overcoming the limitations of our study to gain better insights for the Pakistan's individual investor behavior and attitude towards risk. One could investigate the factors that account for similar behavior of individual investors during bull and bear market. Bull and bear market can also be analyzed in Mutual Fund, Money market or Bond Market for gaining insights about risk preferences. Among the physiological biases, overconfidence is significant yet another interesting line of research can be incorporating in study other biases attribution bias, familiarity bias, representative bias, availability bias, conservatism bias etc and relating such biases with market conditions.

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