

Impact of Behavior Biases on Perceived Trading Return

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Abstract

The purpose of this study was to understand impact of behavior biases on perceived trading return in Pakistan Stock Exchange regarding investor from Khyber Pakhtunkhwa. The current research considered the whole investors of Khyber Pakhtunkhwa doing investment in First National Equities Limited and TAURUS Securities as population while 150 investors took as sample from each First National Equities Limited and TAURUS respectively, 300 questionnaires has been issued to the investors holding in mind that 100 of the respondents will return the questionnaires with good response. Simple random sampling technique used at the time of sending questionnaires to the investors from First National Equities Limited and Taurus in Pakistan Stock Exchange. Most managers and scholars emphasize that perceived trading return's most important tool for gaining advantage is behavior biases and; in order to attain a success level at stock exchange for both investor and organization that must be awareness of behavior i.e. market as well as investor. Primary data of this research was collected particularly through using likert scale questionnaire from Investors from Khyber Pakhtunkhwa doing investment in Pakistan stock exchange. The data collected were then analyzed by way of factor analysis and multiple regression methods to validate the hypotheses formed in the theoretical framework. .

Key Words: Behavior Biases, Perceived Trading return, Correlation, and Regression.

1. Introduction

“One of the funny things about the stock market is that every time one person buys, another sells, and both think they are astute.” - **William Feather**

Investors have different psychology regarding investment. Their likes & dislikes, preferences and nature are different from one another. Some of the investors are risk taker while some investors are risk averse. Investment decision of the investors some time based on their past experience and sometime on the information supplied by others. According to Shefrin (2010) Behavioral finance asserts that there exist close relationship among psychology and investment decision. Behavioral finance claims that

why people buy and sell stock at the same time in the same market. Without any doubt, behavioral finance has become an important tool for trading decision process. Study of behavioral finance proclaims that how investors trading decision is influenced by psychological factors (Shefrin 2010). Behavioral finance explains all these factors due to which investors take trade decision. “Behavioral finance relaxes the traditional assumptions of financial economics by incorporating these observable, systematic, and very human departures from rationality into standard models of financial markets. “The tendency of human beings to be overconfident causes the first bias in investors and the human desire to avoid regret prompts the second” (Barber and Odean, 1999). Behavioral finance can be defined as a field of finance that proposes explanation of stock market anomalies using identified psychological biases, rather than dismissing them as “chance results consistent with the market efficiency hypothesis.”(Fama,1998). It is assumed that individual investors and market outcomes are influenced by information structure, and various characteristics of market participants (Banerjee, 2011).

Decision process said to be cognitive in nature because selection is made out of various alternatives. Most of the investor does not have the knowledge of core economics concepts which provide assistance in the process of decision making. So, therefore, it has become indispensable to get inform oneself about those factors which influence investment decision (Lusardi & Midtchell, 2006). Fromlet (2001) defined behavior finance as” Behavioral finance closely combines individual behavior and market phenomena and uses knowledge taken from both the psychological field and financial theory”.SubrahmanyamAvanidhar(2007)has defined the phenomena of behavior finance as the learning of the impact of psychological factors on the investment decision of financial practitioners and the consequent impact on the market. Knowledge of behavior finance is important and interesting to know because it gives the idea that why market is an inefficient and also how markets are an inefficient.

1.1 Problem Statement

Efficient market hypothesis, when all needed information regarding with Investment are known, the return the investors will get will align after doing investment. However the fact is that when the investors actually invests in capital market and actually get their return so the return of one individual will be different from another and so on. This phenomenon reveals that there are some other factors which bring differentiation in the return of each and every individual and consequently this effect investment decision process. The research aims it identify these factors which effect the investors decisions.

1.2 Objectives of the Research

- To analyze the prevailing practices and choices of investors in PSX
- To identify those psychological factors that influence investors perceived trading return.
- To shows statistically the effect of these psychological factors over the investors trading return.
- To suggest measures to the investors investing in PSX

2. Literature Review

Literature review describes the concern literature on the issue understudy, the “behavioral finance” in initial stage a little background of behavioral finance has been shown next the comparison of behavioral finance with tradition finance has been made

and the behavioral finance in Asia. Literature review explains the phenomenon of Efficient Market Hypothesis, its building and limitation. Various behaviors financial theories like Heuristics and Prospect theories have been explained and various behavioral biases like overconfidence, Mental accounting, loss aversion, Availability, Anchoring, Representativeness and Herding have been elaborated with the references of experts.

2.1 Behavioral Finance

Behavior finance is a business sectors' investigation that draws on psychology, tossing more light on why individuals purchase or offer the stocks furthermore, even why they don't purchase stocks by any means. This examination on financial investors conduct serves to clarify the different 'market anomalies' that challenge standard theories. This is on account of this oddity is persevering. Subsequently this conduct exists. Behavior finance includes research that drops the customary suppositions of expected utility augmentation with sound financial investors in effective business sector. The two building squares of Behavioral finance are psychological psychology and the breaking points to arbitrage (Ritter, 2003). Psychological alludes to how individuals think and the breaking point to arbitrage at the point when business sector is wasteful. There is a gigantic psychology writing recording that individuals make precise blunders in the way they think: they generally make choice simpler (heuristics), arrogance, put an excessive amount of weight on late experience (representativeness), separate choices that ought to be joined (mental accounting), incorrectly displaying the individual matters (framing), have a tendency to be moderate to get the progressions (conservatism), and their inclinations might likewise make mutilation when they abstain from acknowledging paper misfortunes and try to acknowledge paper picks up (air impact). Behavioral account uses models in which a few specialists are not completely sane, either as a result of inclinations or in view of mixed up convictions. An illustration of a presumption about predispositions is that individual is misfortune opposed. Mixed up convictions emerge since individuals are terrible Bayesians. A great part of the fundamental hypotheses of behavioral account worry with a progression of new idea under the general heading of 'limited judiciousness,' a term connected with Herbert Simon (1947, 1983).

2.2 Trading Decisions and Stock Investment Performance

Exchanging choices and stock trading execution as said above, there are a few speculation choices identified with stock exchanging, such as: buying, selling, decision of stock, period of time to hold stock, and volume of stock to trade. In any case, in this section, two essential stock trading decisions: selling and buying are centered in light of the fact that they have association with other decisions, and exceedingly effect on the investment decision.

2.3 The Selling Decision

Past studies report that investors diminish the selling decision of advantages that get a misfortune in correlation to the beginning obtaining value, a pattern called the "disposition effect" by Shefrin and Statman (1985, p.778). Genesove and Mayer (2001, p.19) state that investors who offer their advantages at the cost less than unique price tag for the most part expect the offering cost is more than other merchants' asking cost. It is the venders' desire, as well as the amendment of business sector chooses the offering value: investors experiencing a misfortune regularly do the exchange at the moderately higher cost than others.

2.4 The Purchasing Choice

Odean (1999, p.1293) gives a few understandings about the preferable stocks that singular investors might want to purchase. As specified above, offering choices mostly organize winning stocks; though, purchasing choices are identified with both former winning and losing stocks. Odean states that the purchasing choices may be an after effect of a consideration impact.

2.5 Investment Performance

A few adversaries of behavioral finance scrutinize that the awful execution of nonsensical investors can expel them from the security market. Conversely, a few others trust that careless investors who have the great exchanging conduct could advantage with hoisted results (Anderson, Henker and Owen, 2005, p.72). Kyle and Wang (1997, p.2) characterize carelessness as somebody's conduct that over-assess the accuracy he could call his own information and consider a careless investor as one whose "subjective likelihood disseminations are too tight." In the adjusted condition, the careless investors exchange much higher than their sane rival, and expect a higher venture benefit over the long haul. Wang (2001, p.138) perceives that under-certainty and high carelessness are not liable to exist in the long haul, but rather direct arrogance can continue and command the discerning conduct.

2.6 Behavioral Biases

Investors are tending to confront with different types of biases at the time of doing investment, which move them to commit cognitive errors. People make decision on their prediction and not optimal choices when they face uncertain and difficult decision because of the simplification of the heuristics. Behavioral biases, can be defined in similar ways as in judgment, systematic errors are defined (Chen et al., 2007).

2.7 Overconfidence

According to psychologists overconfidence lead to people overestimation about their underestimate risks, knowledge and overstate their capability to handle events. Overconfidence concepts have been derived from huge structure of intellectual psychological experiments and also from surveys in which the subjects are overestimating both the predictive abilities they have, and precision from the information supplied to them by others. Overconfidence is the tendency of the investors in which they show their talent and ability outstandingly. He asserted that overconfidence is the scenario in which investors take investing decision without consulting it with other experts .He further asserted that in case of overconfidence the actual return and the perceived return of the investors do not match when they invest in a particular stock market in short, investors or people think that they possess better and timely information at the time of doing investment decision (Pompian, 2006).

2.8 Herding Bias

Hirshleifer and Teoh (2003) Herding in the financial market is the phenomenon where crowd is followed. Herding is the most prominent mistake committed by the investors at the time of investment decision. In case of herding investors follows others when prices changes occur in the stock market. According to practitioners herding is exercised by the investors when they believe in collective information as compare to private information. Usually in financial market people tend to follow others when they are lack of knowledge or when they have limited time to do investment decision.

Investors put on to “herd behavior” because they sometime think what the other investors think in the stock market while doing investment decision

2.9 Mental Accounting Bias

Thaler (1999) has defined Mental Accounting as “set of cognitive operations used by individuals and households to organize, evaluate, and keep track of financial activities.” He further elaborated his idea about the mental accounting and said that it is the total set of perceptive operations which are used by the household and individual for the purpose to evaluate and take care of their financial activities. This tendency instructs the individuals to keep separately their money in to various accounts based on various subjective reasons.

2.10 Anchoring Bias

Ross and Lepper (1979) anchoring is the tendency where by an individual focuses on a particular trait while neglecting the other traits at the time of doing decision. Anchoring defines the general human tendency in which he rely on too heavily, or he “anchor” on the one of the particular feature or trait or a portion of information at the time of doing investment decision. Anchoring is the phenomena which is used in that circumstances when the people use specific initial values at the time of making estimation about a particular stocks, which are also biased in the direction of initial ones because altered starting points yield changed estimates (Kahneman & Tversky, 1974 ; Waweru et al., 2008).

2.11 Availability Bias

Availability is one of the key elements of Heuristic theory which is generally used by the investors for their own convenient. According to (Waweru et al., 2003, p.28) availability bias seems to happen when the investors in the stock market easily accessible information excessively. In the stock trading market, this bias mark itself by way of doing investing in the local companies about which investors are aware easily or can gain information conveniently, in spite of the necessary principles which is called” diversification of portfolio management for optimization .

2.12 Representativeness Bias

Gilovich, et al, (1983) described the representativeness in his words as “an assessment of the degree of correspondence between a sample and a population, an instance and a category, an act and an actor or, more generally, between an outcome and a model.” Representativeness can get down to business when investors either look to purchase what they believe is a "hot" stock or attempt to mark stocks which may have performed inadequately in the later past as "bad" and maintain a strategic distance from them.

2.13 Loss Aversion Bias

Behavioral finance considers that investors are not hazard unwilling but rather lose-opposed. Barberis et al. (2001) and Barberis and Huang (2001) have endeavored to join the wonder of loss aversion into utility capacities. Loss aversion alludes to the idea that investors experience the ill effects of a riches misfortune than the utility from an identical riches pick up in supreme terms. In this way, financial specialists will expand their danger, characterized as far as vulnerability to stay away from even the littlest likelihood of misfortune.

2.14 Market Factors

DeBondt and Thaler (1995, p.396) state that financial markets can be influenced by the investors' behaviors in the method for behavioral finance. On the off chance that the points of view of behavioral money are right, it is trusted that the investors may have over- or under-response to price changes then again news; extrapolation of past patterns into the future; an absence of thoughtfulness regarding essentials hidden a stock; the attention on prominent stocks and regular value cycles.

3. Research Methodology

Self-completion questionnaires has been used for the collection of quantitative and quantifiable data, as current study focused on the investors of Pakistan Stock Exchange and hence it is difficult to arrange interviews while some of them are in Peshawar, For data collection purpose 150 questionnaires has been sent to the investors of First National Equities(FIRST NATIONAL EQUITIES LIMITED) and 150 to the TAURUS securities,(FIRST NATIONAL EQUITIES LIMITED and TAURUS are the security markets in Peshawar for dealing in Pakistan stock Exchange).

3.1 Population and Sample

The current research considered the whole investors of KPK doing investment in FIRST NATIONAL EQUITIES LIMITED and TAURUS as population while 150 investors took as sample from each FIRST NATIONAL EQUITIES LIMITED and TAURUS respectively, 300 questionnaires have been issued to the investors holding in mind that 100 of the respondents will return the questionnaires with good response. Simple random sampling technique used at the time of sending questionnaires to the investors

3.2 Statistical Tools for Analysis

The statistical package for social science (SPSS) has been used for collecting data processing and analysis. factor analysis, cronbach's Alpha and regression analysis for reliability, validity and for ascertaining the relation of variables.

3.3 Descriptive Statistics

Table 2: Test of Overconfidence

S. No.	Description	Overconfidence
1.	Valid cases	175
2	Excluded	1
3	Total	176
4	Cronbach's alpha	0.817

The above table shows the cronbach's alpha result is .817 that far above 0.5, the acceptance point for scale reliability and consistency. Which mean that the internal consistency of overconfidence in the likert scale are reliable and data collected from the respondents through these questions are reliable and accurate.

3.4 Reliability Test of Herding

The reliability test for the herding variable again show good position, because the cronbach's alpha is .653 which is greater than the standard value that is 0.5.

3.5 Reliability Test of Mental Accounting

The cronbach's alpha in the above table for Mental Accounting is more than 0.5, which indicates that the data we have collected for the measurement of mental accounting is

quite correct and reliable because the cronbach's alpha is 0.542 which lead to good position for the mental accounting questionnaire.

3.6 Reliability Test of Loss Aversion

The above test has been run to check the internal consistency of the questionnaire of loss aversion. The output produced by the test as cronbach's alpha is .633 which is more than the standard value that is 0.5, and lead the researcher towards the reliable position of the questions entered in the scale for the measurement of respondent's responses.

3.7 Reliability Test of Anchoring

The above table also shows the excellent position of the internal consistency for the questionnaires of Anchoring variable. All the data entered in the questions are quite correct and relevant and has measured the behavior of the respondents accurately. The cronbach's Alpha of the anchoring variable is 0.827 which show good reliability of the questionnaire.

3.8 Reliability Test of Representativeness

The reliability test of the Representativeness also exhibit good position because the cronbach's Alpha for the above variable is .788 which is too much better than the standard i.e. 0.5. Only one case has been excluded out of 176. This table also shows good internal reliability of the questionnaire, and the responses obtained from the respondents are considered more reliable.

3.9 Reliability Test of Availability

Every researcher is interested to get cronbach's Alpha minimum up to .5 which will make his questionnaires internally reliable and consistent. The above table has produced cronbach's Alpha .788 which is too much better than .5. The above cronbach's Alpha makes the researcher able to rely on the questionnaires which have been designed to get the responses of the respondents regarding their investment behavior.

3.10 Factor Analysis

The output of KMO for Mental Accounting in the above table is .570 which leads to good sample selection.

3.11 KMO and Bartlett's Test (Loss aversion)

The KMO result in the above output for Loss Aversion is .590, which means that there is sample adequacy.

Table 2: Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic
Overconfidence	175	15.80	5.20	21.00	5.1143	3.73239
HRD	176	11.75	4.50	16.25	4.5341	2.61935
MAC	176	6.00	1.50	7.50	3.6193	1.30711
LAV	176	6.00	1.50	7.50	5.0170	1.44904
TRAD	176	6.00	1.50	7.50	4.9659	1.41683
REPS	175	6.00	1.50	7.50	4.9886	1.68577
AVB	176	6.00	1.50	7.50	4.9659	1.53956
ANCH	176	9.33	2.33	11.67	5.6686	2.26428
Valid N (listwise)	174					

The descriptive statistics test was run to understand the impact level of all behavioral biases and the tendency of individual's behavior in taking investment decision in PSX. The above table of descriptive statistics reveals the respondent tendencies when they decide about investment. The overconfidence, a behavioral bias has the Mean value of 5.11 that proclaimed that most of the investors when taking investment decision incorporate overconfidence in their decision making as the mean value of overconfidence is 5.11 and the researcher used 6-point likert scale on which 5.11 means highly agree and 6 means extremely agree thus it is stated that majority of investors used overconfidence in their decision making about investment. Likewise the other behavioral biases have the Mean value of 4.53, 3.6, 5.01, 4.96, 4.98, 4.96 and 5.66 for herding, mental accounting, loss aversion, trade returns, representativeness, availability bias and anchoring bias respectively.

Table 2: Correlation

	Overconfidence	HRD	MAC	LAV	PERF	REPS	AVB	ANCH
overconfidence	1							
HRD	.421**	1						
MAC	-.119	-.265**	1					
LAV	.382**	.468**	-.169*	1				
TRAD	.559**	.481**	-.145	.230**	1			
REPS	.610**	.369**	-.093	.263**	.641**	1		
AVB	.565**	.366**	-.162*	.315**	.590**	.750**	1	
ANCH	.439**	.467**	-.31**	.309**	.422**	.244**	.280**	1

The Pearson correlation test has been used to understand the relationship and association among different variables under study, as the purpose of Pearson correlation is to check the link and association among variables. Either there exist any relationship or not? If there exist any relationship, the relationship is positive or negative and significant or insignificant? Actually the value of correlation among variables range from -1 to +1. In a nutshell all the variables have positive correlation with dependent variable trade returns, of course some have strong and significant and some have moderate association

only the Mental accounting is the one that is negatively correlated to dependent variable trade returns.

Regression Analysis

Following summary table shows the regression results and indicates the results of all independent variable. Their individual contribution towards dependent variable, moreover the table also shows the fitness of the model. R square shows the individual changes brought by each independent variable in dependent variable. Beta shows unit change of independent variable, while T indicated significant level of the independent variables. The column F in the model shows fitness of the model

Table 3: Regression

Predictors	Beta	R2	t	F	P
Overconfidence	.559	.313	8.871	78.697	000 ^b
Herding	.481	.232	7.247	52.51	.000
Mental accounting	-.145	.021	-1.935	3.744	.055
Loss aversion	.230	.053	3.11	9.711	.002
Representativeness	.641	.411	10.98	120.69	.000
Availability	.590	.590	9.62	92.69	.000
Anchoring	.422	.178	6.143	37.737	.000

The above table shows that overconfidence has positive impact on the perceived trading return as the T value =8.87 that suggest high significance level than the critical value of T=2 which is the critical value of significance of an individual variable. The results show that overconfidence will have positive impact on the perceived trading return of investment. The results show that that the F value of overconfidence as 49 or F=78.69 which means that the overall model is significant as F=4 is the threshold value for acceptance. The results show that the overall model is significant.

4. Discussion, Conclusion and Recommendation

4.1 Behavioral factors

There are so many behavioral factors which effect the decision making process and subsequently their return. There are 11 factors which have been studied for the current research these are Overconfidence, Representativeness, Anchoring, and Availability bias, Loss Aversion, Regret Aversion, Mental Accounting and market factors. The impact levels of all these variables are discussed below.

Overconfidence has strong impact on the perceived trading return (Mean=5.11)

Herding has significant impact on Herding (Mean=4.53)

Loss Aversion has strong significant impact on the perceived trading return (Mean=5.01)

Mental Accounting has moderate impact on the perceived trading return (Mean=3.61)

Representativeness has positive impact on the perceived trading return (Mean=4.98)

Availability has positive impact on the perceived trading return (Mean=4.69)

Anchoring has strong positive impact on the perceived trading return (Mean=5.66)

Perceived Trading return (Mean=4.96)

4. Conclusion

The study is completed with answering the research questions which were raised in the initial steps of current research and meeting the objectives of research which was determined in doing the research. Following are the research questions and their answers.

What are the prevailing practices and choices of investors in PSX

In literature review we identified various techniques used by investors in PSX i.e. CAPM, Fama French three factor model, SML, CML and the behavioral factors under study.

What are the psychological factors that influence investors trading return?

The psychological factors influencing investor's trade returns in Karachi Stock Exchange are the different biases i.e. overconfidence, herding bias, mental accounting, loss aversion, representativeness, availability bias and anchoring that most of the investors incorporate in their investment decision. The second objective has been achieved as we identified the psychological factors influencing trade returns of investors in PSX.

What are the effects of these psychological factors over the investors trading return?

The psychological factors that are identified and influence the investor's returns are overconfidence positive and significant impact. Herding, positive and moderate impact, mental accounting has negative and somehow impact, loss aversion has positive impact on trade returns, representativeness and availability bias both has positive and significant impact on trade returns while anchoring bias has positive impact but not as significant as representativeness and availability bias.

What should an investor incorporate in investment decision in PSX for good returns?

The investors in PSX should incorporate the overconfidence, herding, loss aversion, representativeness, availability and anchoring in their investment decision as all these factors have positive impact on the trade returns of the investors in PSX.

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