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RESEARCH ARTICLE

Overconfidence Bias and Investment Decision

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ABSTRACT

This study was conducted to examine the excessive trading hypothesis; high overconfidence investors exhibit high investments, show excessive and aggressive trading behavior due to high overconfidence as compare to low overconfidence investors. Data for the research is collected from the students of finance who have taken the courses of finance and investments but still they have just theoretical knowledge and they have not make investments in stock market. Independent samples t-test is used for the analysis and testing the hypothesis. Results of the study shows that high overconfident investors makes aggressive and excessive trading as compare to low overconfidence investors, further more there is almost no impact of any bad news on the investing behavior of the overconfidence investors but results of the study shows that there is significant impact of bad news on the investment behavior of low overconfident investors.

Key words: *overconfidence, excessive trading hypothesis, investment decision, JEL Classification: G02, G11.*

INTRODUCTION

In standard finance we assume that the investors are rational. By rational we mean that they are self interested, fully informed and they make all the decisions for maximizing their wealth. They are not affected by emotions while making their decisions but practically we see many anomalies in the results of standard finance models in the markets. This is because of the reason that people are not rational as we assumed in standard finance model. Decisions of the investors are skewed by the systematic errors in their judgments; this systematic error in decision making is called bias in human behavior. Biases can be emotional or cognitive, cognitive biases are based on their cognition which are formed due to their past experience and are based on some logics and emotional biases are not based on logics these are based on emotions. To eliminate these anomalies in markets there is need of incorporating human psychology and behavior in standard finance. Incorporating human behavior in finance is called behavioral finance. Behavioral finance can be divided in two categories, one is micro behavioral finance and the second is macro behavioral finance. Micro behavioral finance deals with the human biases and macro behavioral finance describe the anomalies in market. One of the most important biases is overconfidence bias; that is the unwarranted faith of individual in his assessment and gives excessive weight to his assessment and knowledge. Overconfidence individuals overestimate their abilities their knowledge and information which leads them to wrong decision making. They may become certain about the positive outcome of their decision and also make narrow range future estimates. Overconfidence bias may come from optimism, confirmation and illusion of control biases. Due to these biases he thinks that his decision will give positive outcome and he chooses only that information which confirm his existing believes.

According to excessive trading hypothesis the investor with high overconfidence makes excessive trading as he is overconfident on his knowledge, abilities and information and he thinks that his decision will give him positive outcome ignoring the downside risk of his investment. Numerous studies have been conducted to check the impact of high overconfidence bias in financial market. Kufepaksi (2007) conducted the study and concluded that overconfidence bias leads to wrong decision in which investor make wrong prediction about stock prices. Some other studies conducted by Graham et al (2005); Barber and Odean (2000), (2001) Benos (1998); Odean (1998), (1999) and Pompian (2006) concluded that overconfident investor tend to excessive trading. He makes excessive trading as he has overconfident in his knowledge information and abilities about stock market investment which causes him to frequent and large transaction. The study of Glaser and Weber (2003) concluded that high overconfidence investor think themselves above than average and tend to large volume trading. Same conclusion was drawn by Statman et al (2003) regarding the large volume trading by overconfident investor. Many other studies concluded that overconfident investor make excessive trading but get low investment return. Overconfidence investors invest in the stock from which he gets less return, (Bias et al (2002)). Kirchler and Maciegovsky (2002) argued that overconfidence behavior of investor tends them to excessive trading but they experience reduced earning and even negative return from several overconfident investments. Study conducted by Pompian (2006) concluded that overconfidence behavior causes an investor to ignore or underestimate the risk associated with his investment. In stock markets the prices are affected by the news because prices incorporate the news and information about upcoming event. Stock prices decreases due to bad news and increases in response of positive information. But the overconfident investors don't respond to the bad news and ignore the risk of decline in prices and his trading activity will not be affected by the bad news due to his overconfidence caused by his optimistic behavior, confirmation bias and illusion of control.

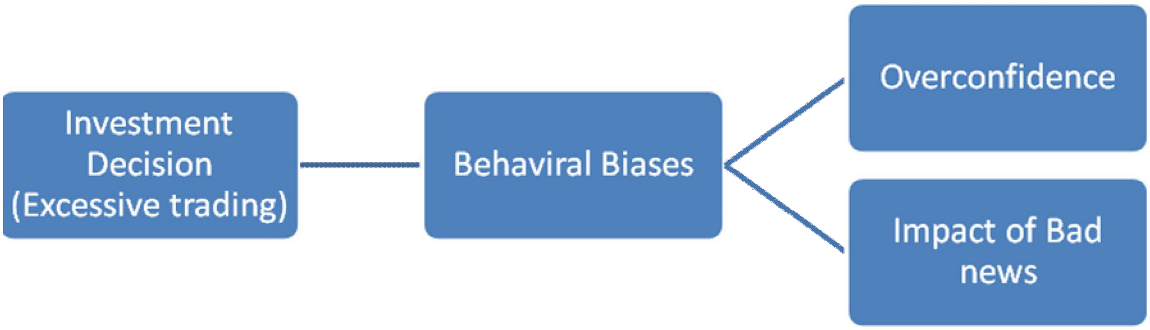
PROBLEM

Investors make so many investment decisions all the times in whole of the world as well as in Pakistan, but the decisions of most of the investors are not based on rationality. There are many human biases which make the decision of investor skewed and these decisions based on wrong judgments results in loss of investment. Many studies have already been conducted on overconfidence and investment decision and the excessive trading due to overconfidence in many different economies; our study is in the context of Pakistan economy, as the behavior of people of different economies are not same because of cultural and religious differences so we cannot generalize the findings of other economies in Pakistan economy. Also the investors in our economy are mostly not equipped with professional knowledge of investments and finance.

OBJECTIVES

Our study will enable to know the impact of overconfidence behavior on investment decisions, and will check weather excessive trading hypothesis prevails in Pakistan economy or not. This study is conducted to examine the affect of high overconfidence behavior on investment trading activity and to check the affect of bad news on trading behavior of the investor of different overconfidence level.

CONCEPTUAL FRAMEWORK



LITERATURE REVIEW

Odean (1998) has already made a study on overconfidence and the performance of investment made by the overconfident investor and has found the similar findings that overconfident investor think that he has perfect knowledge about the investment and he is overconfident about his skills, due to which he makes excessive trading but when Odean measure the performance he found that the performance of overconfident investor was poor while the performance of low overconfident investor was good as compare to the overconfident investor.

Barber and Odean (2001) conducted research to check overconfidence and investment decisions and to check the performance of the investments made by the overconfident investors, their arguments were that due to three reasons or in three forms investor become overconfident; that are the illusion of control, the illusion of knowledge and self attribution bias. These three biases make an investor overconfident. According to illusion of control bias investor has unwarranted faith in his abilities to have control on the investment and he thinks that he will not suffer losses. Also he has wrong belief about his knowledge that he has excessive knowledge as compare to the other investors, this is the illusion of knowledge bias. And self attribution bias makes investor overconfident as he don't goes to the depth of the reason of success but he considers the reason of success to his own unwarranted beliefs and again tries to apply these beliefs in some other situations but fails to get the fruitful results as those factors are not the true predictors of the situations which he considered. They found that this overconfident investor makes excessive trading and also the performance of this overconfident investor is poor as compare to the investors who are not overconfident.

Ulrike Malmendier and Geoffrey Tate (2005), their study was to check the effect of overconfidence of CEOs on corporate investment. They found the results according to the existing literature that overconfident CEOs overestimate the expected cash flows and underestimate the associated risk due to which they make excessive investments and also the returns of their investment were found low as compared to the investors having low overconfidence.

Gavin Cassar and Henry Friedman (2007) extracted the results about the effect of overconfidence on entrepreneurial investment. This study was based on the arguments that the individual who is overconfident will make more aggressive entrepreneurial decisions. Results showed the significant positive relationship between level of confidence of the individual and his entrepreneurial activities. But they found insignificant relationship of humane capital investment, venture funding and investment risk with the overconfidence of individual.

Paul Haribur and Holly Yang (2010) conducted a research to check the effect of overconfidence of CEO regarding the Management of forecasts and earning management. From the analysis of the study they found that the managers were victim of prediction overconfidence bias i.e. they make narrow range forecasts. They make narrow range forecasts as they are overconfident about their skills, knowledge and information. Not only the narrow range predictions but also some overconfident investors made point forecasts. Their findings suggest that due to overconfidence investors becomes more optimistic and they do not make the proper earnings management.

Sheng-Syan, Keng-yu and Po-hasin (2011) conducted the research to check the relationship between overconfidence of CEO and his behavior towards the increase in expenditures in research and development. Their study concluded that there was a positive significant impact on the performance of the companies for which the CEOs were not overconfident and for the companies whose CEOs were overconfident; they could not get the benefit of research and development expenses in form of good performance. Their performance was not good because of overconfidence as they made overinvestment and they were optimism about the future cash flows estimations. They also found that the impact of overconfidence was high in case of technology firms and less for low technology firms.

Irwan Trinugroho and Roy Sembel (2011) conducted the study to check the excessive trading behavior due to overconfidence. The objective of their study was to check excessive trading hypotheses; the investors having higher confidence show excessive and aggressive trading behavior. The results of the study confirms the excessive trading hypothesis that higher overconfidence investors tend to high trading activity as compared to less overconfidence investors. Researchers also find the impact of bad news on trading activity. They found that overconfident investor's trading activity was not influenced by bad news while the trading activity of low overconfident investors was reduced after bad news.

Arman Eshraghi and Richard Taffler (2012) conducted the study to check the impact of mutual fund managers overconfidence on their investment performance. They use the proxies for overconfidence such over optimism, excessive self reference and excessive certainty. They found that the past good performance leads to overconfidence and this overconfidence results in excessive trading along with the decreased future returns published in the next year annual reports.

Prabdhudev, Bin et al. (2012) conducted study to see that how investors responds to the information given on the stock message board, how this information is interpreted by the investors due to their confirmation bias, and due to the confirmation bias how they become confident about their investment decision, finally they evaluated the performance of this investment made on the basis of confirmation bias which made them overconfident on their investment decision. The study concluded that the investors who were the dictum of confirmation bias they shows more overconfidence and this overconfidence leads them to excessive trading as confirmation bias creates higher expectations about the returns associated to that investment. Furthermore the overconfident investor suffers and gets low returns as compare to the investor who makes decisions in low confidence.

HYPOTHESIS

From the given literature following hypothesis could be developed for testing the impact of overconfidence on trading and investing activities of the investor.

H1: High overconfidence investors make frequent and large trading volume as compared to low overconfidence investors.

H2: There is no impact of bad news on trading activity of high overconfidence investors.

H3: There is significant impact of bad news on trading activity of low overconfidence investors.

DATA COLLECTION

We have used primary data by getting responses of the participants through questionnaire. In this research the participants are Finance graduate and finance post graduate students of the department of Management Sciences of Muhammad Ali Jinnah University Islamabad, the finance students are selected as participants of the research as they have at least the knowledge about finance and about the capital markets. They can easily understand the investment as they have adequate academic back ground to understand the investment and stock market related concepts.

Measuring overconfidence:

We have collected the primary data using the questionnaire to measure overconfidence and trading and investment. To measure the overconfidence questionnaire of Inga Chira et al. (2008) is used which has already been used by Svenson (1981), Taylor and Brown (1988) and Sumer et al. (2006). The questionnaire consists of six questions which are used to check the existence of overconfidence in respondents. First question is asked by the students to categorize themselves into average driver, below average driver and above average driver, in second, third and forth question respondents are asked to categorize themselves as below average, average and above average in performing their jobs, in athletic abilities as compare to the peers of their age and in improving their grades of the subjects for which they are provided a chance of improving their grades after failing one time respectively, in fifth question respondents are asked to tell that how quickly they will replace their job if the existing job is lost by them, this will measure their confidence in a way that overconfident respondent will think that they will easily replace their job in less time, and the final question was asked related to investment in which they are asked that the better returns from their investment are due to luck, good advices/good market timings or due to his own skills and intelligence. The stated questionnaire is used to measure the confidence of the respondents.

Measuring investment activity before and after bad news:

Investment and trading activity is measured by the perceived investment of the respondents as a percentage of his available resources for investment in stocks before and after the bad news using questionnaire on investment. And the bad news here is the announcement of dissolution of national assembly.

METHODOLOGY

Independent samples t-test is used to test the first hypothesis by comparing the means of the groups, one is high overconfident and the second is low overconfident, whether the means of the two groups are significantly different or not, also it is seen which group makes aggressive trading by comparing numerical values of the means of two groups. The respondents with values of the variable overconfidence greater or equal to 1.5 are categorized as high overconfident while the respondents with values less than 1.5 are considered as low overconfident.

Second and third hypothesis are also tested by using samples t-test by comparing the means of the trading activity of both the groups before and after the bad news.

RESULTS

Samples t-test results indicate that for the pre bad news the means of investments of both the groups are statistically significantly different at significance .022.

Independent Samples Test:

		IVPre=investment before bad news	
		Equal variances assumed	Equal variances not assumed
Levene's Test for Equality of Variances	F	5.575	
	Sig.	.022	
t-test for Equality of Means	T	-3.446	-3.537
	Df	58	40.873
	Sig. (2-tailed)	.001	.001
	Mean Difference	-.55000	-.55000
	Std. Error Difference	.15961	.15548
	95% Confidence Interval of the Difference Lower	-.86949	-.86402
	Upper	-.23051	-.23598

And further more the mean of investing activity of high overconfidence is 2.45 which are much greater than the low overconfidence of 1.90.

Group Statistics:

	OC=overconfidence	N	Mean	Std. Deviation	Std. Error Mean
IVPre=investment before bad news	low overconfidence	20	1.9000	.55251	.12354
	high overconfidence	40	2.4500	.59700	.09439

The results of the independent samples t-test for the investment after bad news are given in the table below which indicates that again the means of the both groups are statistically significantly different at significance .000.

Independent Samples Test:

		IVPost=investment after bad news	
		Equal variances assumed	Equal variances not assumed
Levene's Test for Equality of Variances	F	18.762	
	Sig.	.000	
t-test for Equality of Means	T	-5.823	-7.091
	Df	58	57.868
	Sig. (2-tailed)	.000	.000
	Mean Difference	-1.10000	-1.10000
	Std. Error Difference	.18892	.15512
	95% Confidence Interval of the Difference Lower	-1.47816	-1.41052
	Upper	-.72184	-.78948

By comparing the means of the investment of high and low overconfidence groups before and after the bad news, It could be seen from the results that the mean investments of high overconfidence before bad news were 2.45 and after bad news the value of mean investments decreases to 2.30 that is not a great change and the second hypothesis is accepted that there is no effect of bad news on the investment behavior of high overconfidence.

Further we can see from the given tables that the mean investment for the low overconfidence before bad news was 1.90 and after the bad news it decrease to 1.20 that is significant decrease in investing activity after bad news, hence third hypothesis is also accepted that there is significant impact of bad news on the investing and trading activity of low overconfidence.

Group Statistics:

	OC=overconfidence	N	Mean	Std. Deviation	Std. Error Mean
IVPost=investment after bad news	low overconfidence	20	1.2000	.41039	.09177
	high overconfidence	40	2.3000	.79097	.12506

CONCLUSION

Our study provides empirical evidence in support of the theory of excessive trading that high overconfidence investor will go for excessive and aggressive trading as they are much overconfident on their skills, knowledge and information. Also the impact of bad news is seen on the investment behavior of the high overconfidence and low overconfidence investor. Bad news did not show significant impact on the investment decision of the overconfident investor as the overconfident investors are optimistic about their decisions and they expect positive outcome from their decisions. Overconfident investor ignores the downside risk associated with the decision.

Results of the study are aligned with the major previous studies conducted on overconfidence and the trading behavior of investor and are also confirming the theory. High overconfident investors also shows confirmation bias due to which ignores the bad news and negative aspects and information regarding their decisions, also they commit such mistakes due to illusion of control as well. It could be recommended that investors should identify the biases they have and they should not make excessive trading after realization of their skewed behavior regarding their decisions because excessive and irrational trading leads towards low returns. As it is argued by Gervais and Odean (2001) that increase in trading volume and volatility leads the returns of investor towards lower side even towards negative returns.

There are some severe limitations of the study, as the data is collected from the finance students using questionnaire and they have just knowledge of finance and they have provided the responses for the perceived investment volumes. As they were known that they were not going to suffer any loss as that questionnaire was just about their perceived behaviors and were not about their real investment decisions furthermore they may become more sensitive about their responses as many of them were currently studying the course of behavioral finance so the responses and the results may be skewed. It will be better insight for the future research to see the real investments of the investors who are practically doing investment in stock market and furthermore the returns of the investors should also be seen with respect to the overconfidence level.

RECOMMENDATIONS

Following are the some recommendations according to finding and conclusion of the study:

In our financial markets individual investors should be provided with proper knowledge of investment. Also they should be realized again and again about their biases while making investment decision. Professionals playing in the markets should be equipped with the knowledge of standard finance as well as behavioral finance so that they may help others to overcome their biases and make decisions of investments based on rationality, because the awareness and recognition of behavioral biases is prime task to eliminate these biases and to avoid excessive and irrational trading and to avoid

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