ANALYSIS OF CHANGES IN OVERCONFIDENCE BIAS OF STOCK MARKET TRADERS IN INDIAN STOCK MARKET

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ABSTRACT

The study investigates the changes in overconfidence bias of investors in the Indian Stock Market. In other words, it analyses the variances in the overconfidence level of investors, when changes in the level of experiences in the stock market, profession, gender, mode of trading, annual income, portfolio size etc. For this purpose, a questionnaire was developed and distributed to 385 individual investors chosen by different brokers' firms present in the Indian Stock Exchange. Overconfidence is the overestimation of precision of knowledge in a particular field, here it is financial market. Overconfidence bias can find out by analyzing any of variant like miscalbration, better than average effect or illusion of control. We measured the overconfidence bias by analyzing the better than average effect and illusion of control. The use of one-way ANOVA allowed us to identify the overconfidence bias is varying according to the changes happening in the some of the basic demographic factors of respondents. Result shows that changes in the level of education, experience in the stock market and mode of trading can change the level of overconfidence of stock market traders. The factors like gender, profession, annual income, portfolio size doesn't affect the level of overconfidence of stock market traders.

KEYWORDS: Better than Average Effect, Illusion of Control, Overconfidence, Stock Market Traders

INTRODUCTION

The literature of several disciplines, like psychology, finance, and economics, claims that people are generally overconfident. DeBondt and Thaler [1995] state that "perhaps the most robust finding in the psychology of judgments is that people are overconfident." A large number of studies have been conducted in the area of behavioral finance to identify the factors that leads to take financial decision especially in the area of stock investments and decision related to buy or sell stocks in the stock market and frequency of trading etc. These studies are conducted to analyses the psychological biases, which affects individual investors' decision in the stock market and subsequently their decisions. Such biases include: overconfidence, home bias, sensation seeking attitude, competence effect, herding, anchoring, heuristics, etc. This study is trying to find out whether stock market traders have overconfidence bias or not. Overconfidence is the overestimation of precision of knowledge or skills in a particular area, here it is financial market. Most of the studies used the different proxies for overconfidence, when they use market data, use quite crude proxies for overconfidence such as. gender, past returns, size of the investor, investor competency, market volume etc. But the present study is tried to measure the investor overconfidence by analyzing a person on the basis of *overplacing* himself relative to other(Better than average) and illusion of control. Overconfidence is the one of the behavioral aspects of a human being, it can be changed according to his knowledge, experience, income profession etc. Stock market traders are taking financial decisions very frequently. It is very important to understand how emotions of human beings lead to irrational behavior in financial investment decision

making. The study about Behavioral finance identifies how investors actually behave in financial decision making. Behavioral finance is a study to how psychology affects the financial decision making. It formed with some standard tools as like traditional finance. But different tools are adopted in behavioral finance especially different attitudes towards risk, risk aversion, imperfect self control etc (Statman, 1999). Every human being have emotional and cognitive weakness. Traditional and standard finance are not considered the different behavioral biases of human being. Behavioral finance examines how investors are actually behaved in financial settings. (Nofsinger 2002). Behavioral finance is a use of psychology to financial decision making and it is based on human beings irrational decision making in the financial investments. If emotions and psychological biases comes to investment decision, this can leads to serious loss or harm to the investors wealth. (Kehreman and Riepe 1998) reported that investors those who addicted to these behavioral biases will take more risks and do more unjustified trade in stock market. Behavioral finance is an attempt to find out and understand from the human psychological phenomena, how these behaviors work in financial markets and within individual investors.

Severl studies in the areas of behavioral finance related to overconfidence say that this is one of most important bias and behavior of stock market traders. Overconfident investors are active and high volume traders in the stock market. The study investigates the changes in overconfidence bias of investors in the Indian Stock Market. In other words, it analyses the variances in the overconfidence level of investors, when changes in the level of experiences in the stock market, profession, gender, mode of trading, annual income, portfolio size etc.

RELATED LITERATURE AND HYPOTHESIS

Overconfidence is "the tendency of people to unwittingly give too much weight to the assessment of his/her knowledge and accuracy of information possessed and ignore the public information available" (Lichtenstein and Fischhoff, 1977). In the finance literature, overconfidence is usually defined as overestimating the precision of information about the value of a financial security (Kyle and Wang, 1997, Odean, 1998, Gervais and Odean, 2001). It is tendency to give more weight to one's abilities and believes. Overconfidence has three variants Miscalibration, better than average effect and illusion of control. Thus overconfidence is the tendency of overestimating one's own abilities, knowledge, skills and information on particular area, here it is financial market.

Literature Related to Antecedents of Overconfidence

Grift Tversky(1992) reported that experts those who have good financial knowledge they are more overconfident than those who got less experience in financial market and knowledge about stock market. Presson and Banassi (1996) documented that overconfidence occurs when there are more choice, task familiarity, competition and active involvement. Odean and Gervias (2001) studied how traders learn about their abilities and these believe can create overconfidence. In their model trader's level of confidence will change with his past success and failures. Gervais and Odean (2001) put forward that during bull markets, individual investors will attribute too much of their success to their own abilities, which makes them even more overconfident. Daniael and Gur (2005) investors who think they have good knowledge about financial securities hold better diversified portfolio and those who think they are more knowledgeable than average investor they trade more, means frequently change their portfolio. Deaves et al (2005) reported that more experienced traders are seems to be more overconfident. Dorn and Huberman (2005) by combining survey response and trading details of investors found that risk aversion is most important determinants of both diversification and turnover of the portfolio. More risk tolerant investor holds less diversified portfolio and trade aggressively, less experienced also churn poorly diversified and those who think themselves more knowledgeable than the average investor change their portfolios more.

Stateman (2006) Past returns from the market make some investors overconfident and this leads to high turnover or volume in the market. Investors' overconfidence and trading volume can vary with past returns. Glaser and Weber (2007) are those who think they are above average in terms of investment skills trade more and measures of miscalibration is not related to trading volume. Durand et al (2008) Individuals who had higher negative emotion, higher risk-taking propensity and more openness to experience opted for higher portfolio risk and associated with increased trading behavior, investors who were more extraverted were found to have a lower propensity to trade. Lin et al (2010) analyzed the effect of online trading on investors' trading behavior found those who got higher income from previous trades makes them to go for online trading and give overconfidence. After going online annual turnover rate and trading frequency have been increased even then also trading performance not gone negatively. Park (2012) found that confirmation bias of the stock market traders increase overconfidence. Fuertes et al(2012) finance professional and married investors placing high volume trade because they are overconfident.

DATA AND METHODOLOGY

We use the survey method to measure the overconfidence and drivers of overconfidence. Survey methods allow this study to construct proxies of trait that have been previously identified as drivers of overconfidence such as an investor's perceived control over his investments (illusion of control) or his tendency to rate himself to others than little higher (Better than average). The Overconfidence (OC) of the respondents measured with help of average score of two variant of overconfidence, better than average and illusion of control. This study is purely based on the primary data collected by using the structured questionnaire. The Questionnaire is prepared and used five-point Likert scale to measure each variable. Most of the questions are adopted from previous research of Daniel and Gur (2005). Standard questionnaire has developed to measure the profile of respondent and distributed to 500 stock market traders in Kerala.385 response collected back as completely filled. We have used the ANOVA for analyzing the changes in overconfidence level.

RESULTS AND DISCUSSIONS

First the study has analyzed and tested whether respondents are overconfident or not by taking the average score of responses to the questions related to better than average and illusion of control. The average score for this test was 3.71. So study concludes that stock market traders are overconfident. So the first hypothesis accepted.

Table 1: Profile of the Respondents

Demographic Variables		N	%
Gender	Male	343	89.09
	Female	42	10.91
Age	20 – 30	78	20.26
	30- 40	131	34.03
	40 – 50	62	16.10
	50 -60	49	12.73
	60 above	65	16.88
Education	Less than college	25	6.49
	College	163	42.34
	Post graduate	174	45.19
	PhD	11	2.86
	Others	12	3.12
Experience	Less than 1 year	49	12.73
	1-3 years	69	17.92

	3 to 5 years	49	12.73
	5 to 10 years	92	23.90
	10 to 15 years	61	15.84
	More than 15 years	65	16.88
Income	Less than 200000	166	43.12
	200000- 400000	121	31.43
	400000-600000	56	14.55
	600000- 800000	12	3.12
	More than 800000	30	7.79
Job	Retired	82	21.30
	House wife	12	3.12
	Self employed	70	18.18
	Student	27	7.01
	Finance profession	92	23.90
	Engineer	14	3.64
	Teaching	24	6.23
	Professional	64	16.62
Mode of trading	In person with advisor or broker	167	43.38
	Internet or mobile	117	30.39
	Telephone with advisor or broker	101	26.23
Portfolio Size	Less than 200000	229	59.48
	200000 to 500000	123	31.95
	500000- 800000	9	2.34
	800000- 1000000	12	3.12
	More than 1000000	12	3.12

Table 2: Relationship between Overconfidence Bias and Demographic Factors

	Overconfidence	Mean	SD	F	Sig.
Gender	Male	3.70	0.66	0.118	0.731
	Female	3.74	0.73		
Age	20 – 30	3.73	0.64	0.745	0.562
	30- 40	3.69	0.82		
	40 – 50	3.59	0.60		
	50 -60	3.76	0.45		
	60 above	3.78	0.54		
Education	Less than college	3.13	0.80	5.644	0.000
	College	3.74_3	0.60		
	Post graduate	3.75_2	0.70		
	PhD	3.96_1	0.48		
	Others	3.68	0.48		
Experience in stock market	Less than 1 year	3.35	0.80	5.929	0.000
	1-3 years	3.60	0.76		
	3 to 5 years	3.57	0.87		
	5 to 10 years	3.85_2	0.39		
	10 to 15 years	3.82_3	0.60		
	More than 15 years	3.88_1	0.51		
Income	Less than 200000	3.62	0.65	2.307	0.058
	200000- 400000	3.71	0.70		
	400000-600000	3.76	0.75		

	600000- 800000	3.87	0.29		
	More than 800000	3.99	0.48		
Job	Retired	3.75	0.48	0.817	0.574
	House wife	3.54	0.72		
	Self employed	3.63	0.76		
	Student	3.75	0.73		
	Finance profession	3.81	0.71		
	Engineer	3.69	0.55		
	Teaching	3.61	0.53		
	Professional	3.63	0.74		
Mode	In person with advisor or broker	3.72_2	0.55	4.195	0.016
	Internet or mobile	3.82_1	0.65		
	Telephone with advisor or broker	3.56	0.83		
Portfolio size	Less than 200000	3.66	0.72	1.468	0.211
	200000 to 500000	3.80	0.60		
	500000- 800000	3.41	0.61		
	800000- 1000000	3.83	0.29		
	More than 1000000	3.76	0.49		

From the above table it is easily can understand that education, experiences in stock market and mode of trading are the important factors to vary the overconfidence bias. The p- values are low and significant at 1 % level. These factors are significantly affecting the overconfidence bias of stock market traders'. When level of education changes the level of overconfidence bias also changes. Those who got highest education have high overconfidence. Level of experience also is a significant variable to change the overconfidence level of stock market traders. It is found that when experience in stock market increases the overconfidence also changing. Those who have high education have high overconfidence. Those who opt the trading via online have high overconfidence. It shows that overconfidence biases will changes when trader's method of trading changes.

CONCLUSIONS

The study was to investigate the changes in overconfidence bias when there are changes in basic demographics factors of stock market traders. By using detailed survey among the various investors and stock market traders, researcher has found that the stock market traders have overconfidence bias, most of the respondents thinks that they have good knowledge and they are better than others in terms of stock selection and trading and also feel that when they have control over the events, they can perform better than others. This shows that stock market traders are overconfident. The study found that changes in education, experience in stock market and mode of trading (online, offline, and telephone with broker) also can affect the level of overconfidence. As same findings of Graham (2006), investor competency is the factors for overconfidence. The study shows that when the level of education is increasing the overconfidence bias also increasing and overconfidence among the traders are increasing when their experiences increasing in stock market. The overconfidence biases is more among the traders those who trade by themselves via online or mobile. These findings are consistent with findings of Odean (2001).

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