Exploring Behavioural Biases Among Stock Market Investors: A Case Study

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***Abstract*—Stock markets around the world have been highly volatile over the past years, signaling that investors are worried about the future and the negative events it might contain. Behavioral biases among investors constitute the major building blocks of behavioral finance. The study analyses the behavioral biases of the investors, their relation to demographic variables and length of experience in share market investment. It was observed that illusion of control, loss aversion, availability and conservatism biases are present to a great extent among the share market investors in Kerala.**

Global stock markets have experienced extreme volatility in the recent years, indicating investor concern about the future and potential bad events. The cardinal components of behavioural finance are investor behavioural biases. The study examines the investors' behavioural biases and how they relate to demographic factors and duration of share market investment experience. The findings indicate a notable prevalence of illusion of control, loss aversion, availability, and conservatism biases among share market investors from Kerala.

***Index Terms*—Behavioural biases, Over confidence bias, Illusion of control bias, Loss aversion bias, Conservatism bias.**

I. INTRODUCTION

Stories of financial loss and failing stock trading traders are not uncommon or unfamiliar. Bad outcomes occur as a result of poor decisions and strategies. Psychological research has identified a broad spectrum of decision-making behaviours known as biases. Although these biases influence decision-making in all contexts, they are especially relevant to financial and investment decisions. The purpose of this study is to determine whether behavioural biases exist among stock market investors and how factors such as age, gender, and duration of investment experience influence these biases.

Behavioral Biases

Bias is the inclination or prejudice for or against one person or group, especially in a way considered to be unfair. This study deals with the following biases;

Overconfidence bias

Overconfidence means the supreme faith in oneself. When the investor dealing in securities is much confident about his own strategies and decisions, then his decision making may be under the influence of overconfidence bias.

Illusion of control bias

This bias tells the tendency of human beings to believe that they can control or influence the outcome of an event, while the reality is that they can't do so at all the times.

Loss aversion bias

Loss aversion means people's tendency to strongly prefer avoiding losses to acquiring gains. Previous studies suggest that losses are twice as powerful, psychologically as gains.

Availability bias

Availability bias is the mental shortcut that allows people to estimate the probability of an outcome to appear. Investors rely on information that is readily available. They give less weightage to the information that is rarely bought to their attention.

Conservatism bias

This is the mentality of people to be conservative or risk-averse and to stick to their prior views. Conservatism bias may also lead to the under reaction of investor towards a piece of information.

Statement of the problem

Even though the stock market is a source of investment that significantly advances a nation's economy, only a very small portion of the populace makes stock market investments. Global stock markets have experienced

extreme volatility in recent years, indicating investor concern about the future and potential bad events. It is challenging for investors to make rational selections in the stock market. As a result, they consistently struggle to make logical conclusions. The goal of this study is to determine the investors' behavioural biases and how they relate to demographic factors and the amount of share market investment experience they have.

II. SIGNIFICANCE OF THE STUDY

The best possible returns can be obtained through stock investments. Furthermore, no other investment kind often outperforms them in the long run. If rational decisions are made regarding investments, investing in the stock market can be the best way to achieve an investor's primary goal of maximizing return with the least amount of risk. Consequently, it is vital to conduct research on the behavioural biases that impede investors from making logical decisions.

III. OBJECTIVES OF THE STUDY

I To investigate the existence of biases related to availability, conservatism, loss aversion, overconfidence, and illusion of control among share market investors.

II To determine whether there is a connection, if any, between share market investors' behavioural biases and their demographic traits.

III To determine whether there is a connection, if any, between an investor's behavioral biases and the length of time they have invested in the stock market.

IV. RESEARCH METHODOLOGY

To assess the presence of overconfidence, illusion of control, loss aversion, availability and conservatism biases among young investors of stock market, a sample of 200 stock market investors were taken. Both primary as well as secondary data were used in the study. Primary data were collected from the sample respondents with the help of a well-designed questionnaire. Five-point Likert scale is used to measure the above said biases. Statistical tests like ANOVA and t-test are conducted for testing of hypotheses.

Literature Review

Subash (2012), focusing on nine behavioural biases, held a study among the stock market investors of Kerala. A positive and significant correlation was established between gamblers' fallacy and representativeness as well as between anchoring and fear of regret as per the findings.

Bashir, Azam, Butt, Javed and Tanvir (2013), conducted a study to identify the influence of demographic characteristics and personality traits on investment biases such as overconfidence bias, herding behaviour, disposition effect and on risk taking. It was identified by the study that personality traits have significant relationship with demographic variables and risk-taking behaviour and investment decisions.

Onsomu (2014), in the study conducted among investors of Nairobi Securities Exchange (Kenya), identified the presence of availability bias, representativeness bias, confirmation bias and disposition effect, overconfidence bias.

Prasod (2014), had come out with the exploration of behavioural biases on investors of Indian equity market with different demographics. Optimism was observed in middle aged men whereas pessimism was mostly observed in the age groups of 21-30 and 41-50.

Singh, Goyal, Kumar (2016), attempted to explore the role of gender on behavioural biases while making investment decisions. It was found that gender has no significant role on the propensity to exhibit overreaction, framing effect and reference point biases while it was found that gender has significant role on the propensity to exhibit overconfidence, self-attribution and regret avoidance bias.

Demographic characteristics of respondents

Age of the respondent	Number of respondents		Total
	Male	Female	
25-30	26	14	40
31-35	35	18	53
36-40	29	16	45
41-45	24	18	42
Total	114	66	180
Percentage	63.33%	36.66%	100%

Source: Primary data

Among the respondents 63.33%, i.e. majority were male and 37% were female. Majority of the respondents i.e. 29.44% belong to the age group of 31-35. Length of experience of the respondent in the share market

	Frequency	Percentage
Up to years	89	49.4
5-10 years	67	37.2
More than 10 years	24	16.3
Total	180	100.0

Source: Primary data

49.4%, i.e. majority of the respondents have 1-5 years of experience in share market investment 37.2% have an experience of 5-10 years and 16.3% have an experience of more than 10 years.

Statements	Mean	SD
I am able to predict price changes in share market accurately than others	3.16	0.99
My practices in share market are effective than those of many others	3.33	0.92
My investment practices will bring sure win for me	3.03	1.01
Overall Overconfidence bias	3.19	0.87
I am disciplined and have control over my portfolio outcome	3.82	0.93
My portfolio outcomes purely depend on my portfolio decisions	3.78	0.96
Successful investing is not a luck.	3.56	1.07
Overall Illusion of control	3.72	0.76
I prefer avoiding a loss to realizing a gain	3.67	1.23
I hold on loss making shares, waiting for a no profit-no loss situation	3.44	1.41
I dispose profit reaping shares early in order to avoid a probable loss in future from the same by fall in price	3.44	1.56
Overall, Loss aversion bias	3.58	0.80
I rely on readily available share market information like those from media to take investment decisions	3.76	1.25
I relate the likelihood of events with my personal situations	3.13	1.11
I relate available information with my motives before taking decisions	3.72	1.17
Overall Availability bias	3.54	0.85
I give weightage to my strategies when I am confronted with new information	3.12	0.71
I respond immediately when a negative news occurs about my holdings	3.01	0.96
I spent little time on processing new information which seems complex	3.15	0.98
Overall Conservatism bias	3.09	0.91

Source. Primary data

Analysis of behavioural biases on the basis of demographic characteristics

Age of the Respondent		Overconfidence	Illusion of Control	Loss Aversion	Availability	Conservatism	Age of the Respondent	Overconfidence	Illusion of Control	Loss Aversion
25-30	Mean	3.12	3.65	3.98	3.93	3.79	Mean	3.12	3.65	3.98
	S.D.	1.00	1.03	0.76	0.66	0.84	S.D.	1.00	1.03	0.76
31-35	Mean	3.20	3.47	3.71	3.91	3.11	Mean	3.20	3.47	3.71
	S.D.	0.79	0.73	0.90	0.71	0.82	S.D.	0.79	0.73	0.90
36-40	Mean	3.21	3.49	3.62	3.41	3.19	Mean	3.21	3.49	3.62
	S.D.	0.63	0.72	0.89	0.67	0.97	S.D.	0.63	0.72	0.89
41-45	Mean	3.21	3.21	3.50	3.41	3.28	Mean	3.21	3.21	3.50
	S.D.	0.91	0.98	0.64	0.77	0.42	S.D.	0.91	0.98	0.64
Total	Mean	3.19	3.46	3.70	3.67	3.34	Mean	3.19	3.46	3.70
	S.D.	0.89	0.72	0.77	0.71	0.82	S.D.	0.89	0.72	0.77

Source. Primary data

The table makes it evident that respondents' age groups have an impact on the mean scores of several biases. While the average scores for all the biases under study indicate their existence, there are variations in the average scores of the biases according to age group.

To determine whether or not there are significant differences in the mean scores of each bias based on age group, an ANOVA is performed. The hypothesis put forward is

H_o: There is no significant difference in mean scores between respondents of different age groups regarding overconfidence, illusion of control, loss aversion, availability and conservatism biases.

H_a There is significant difference in mean scores between respondents of different age groups regarding overconfidence, illusion of control, loss aversion, availability and conservatism biases.

ANOVA test for equality of means

		Sum of Squares	Df	Mean Square	F	Sig.
Overconfidence	Between Groups	0.14	2.80	0.05	0.07	0.96
	Within Groups	56.72	76.00	0.71		
	Total	56.86	78.80			
Illusion of Control	Between Groups	3.41	3.00	1.29	2.36	0.06
	Within Groups	43.10	75.00	0.56		
	Total	46.51	78.00			
Loss Aversion	Between Groups	2.12	3.00	0.64	1.06	0.31
	Within Groups	48.10	5.00	0.61		
	Total	50.22	78.00			
Availability	Between Groups	3.60	3.00	1.21	1.99	0.08
	Within Groups	44.80	76.00	0.59		
	Total	48.40	79.00			
Conservatism	Between Groups	3.07	3.00	0.99	1.72	0.16
	Within Groups	43.20	76.00	0.51		
	Total	46.27	79.00			

Source Primary data

Means of overconfidence bias, illusion of control Bia. s, loss aversion, availability bias and conservatism bias does not differ significantly based on age group since the significant value is more than 0.05.

Average scores of behavioural biases on the basis of gender

Gender of the Respondent		Overconfidence	Illusion of Control	Loss Aversion	Availability	Conservatism
Male	Mean	3.21	3.68	3.84	3.81	3.31
	SD	.83	.79	.76	.81	.56
Female	Mean	2.65	3.43	3.48	3.64	3.30
	SD	1.00	1.12	0.98	.77	.62
Total	Mean	3.10	3.69	3.43	3.78	3.41
	SD	.88	.78	.82	.79	.79

Source Primary data

It is clear from the table that males are more biased than females. To identify whether the difference in mean scores of males and females for different biases is statistically significant or not, independent samples t-test is done. The hypothesis is

H_o: There is no significant difference in mean scores between respondents on the basis of gender regarding overconfidence, illusion of control, loss aversion, availability and conservatism biases.

H_a: There is significant difference in mean scores between respondents on the basis of gender regarding overconfidence, illusion of control, loss aversion, availability and conservatism biases.

t-test for equality of means

	Levene's Test for Equality of Variances				
	F	Sig.	T	df	Sig. (2-tailed)
Overconfidence	.29	.68	2.08	78	.06
Illusion of Control	2.79	.12	.58	78	.61
Loss aversion	.59	.46	.38	78	.71
Availability	.021	.91	.42	78	.68
Conservatism	.15	.79	.22	78	.81

Source Primary data

In the case of overconfidence bias the significant value is less than 0.05. Therefore, there is significant difference between the mean scores of overconfidence bias based on gender. All the significant values are more than 0.05 for other biases and therefore the mean scores of respondents regarding illusion of control, loss aversion, availability and conservatism biases does not differ significantly on the basis of gender.

Average scores of behavioural biases on the basis of length of experience in share market

Source Primary data

Experience of the investor		Overconfidence	Illusion of Control	Loss Aversion	Availability	Conservatism
3-5 years	Mean	3.21	3.88	3.46	3.68	3.65
	S.D.	0.92	0.70	0.78	0.71	0.71
5-10 years	Mean	2.64	3.60	3.31	3.37	3.45
	S.D.	0.84	0.87	0.89	0.87	0.85
More than 10 years	Mean	3.44	3.88	3.90	3.01	3.12
	S.D.	0.70	0.89	0.70	0.80	0.77
Total	Mean	3.10	3.79	3.56	3.35	3.41
	S.D.	0.87	0.76	0.80	0.78	0.77

Source Primary data

From the table it is evident that the average scores of the five biases on the basis of the experience of the respondents in the share market makes it clear that mean scores of all the biases differs on the basis of experience. To examine whether the differences in mean scores regarding different biases on the basis of length of experience are significant or not ANOVA is conducted with the following hypothesis

H_o: There is no significant difference in the mean scores of respondents having different length of experience in share investment regarding overconfidence, illusion of control, loss aversion, availability and conservatism biases

H_a: There is significant difference in the mean scores of respondents having different length of experience in share investment regarding overconfidence, illusion of control, loss aversion, availability and conservatism biases

Table 4.5.3A

ANOVA test for equality of means

		Sum of Squares	Df	Mean Square	F	Sig.
Overconfidence	Between Groups	1.19	2.00	0.56	0.93	0.46
	Within Groups	58.50	77.00	0.68		
	Total	59.69	79.00			
Illusion of Control	Between Groups	0.10	2.00	0.05	0.05	0.95
	Within Groups	46.05	77.00	0.70		
	Total	46.15	79.00			
Loss Aversion	Between Groups	1.10	2.00	0.91	1.51	0.28
	Within Groups	48.21	77.00	0.50		
	Total	49.31	79.00			
Availability	Between Groups	4.20	2.00	2.07	3.79	0.07
	Within Groups	46.44	77.00	0.61		
	Total	50.64	79.00			
Conservatism	Between Groups	3.21	2.00	1.39	2.67	0.09
	Within Groups	43.20	77.00	0.55		
	Total	46.41	79.00			

Source Primary data

The significant values are more than .05 for all biases except availability bias. The mean scores of respondents regarding availability bias differ significantly on the basis of their experience in the share market.

Major findings and suggestions

The study found that share market investors exhibit strong biases related to availability, conservatism, loss aversion, and illusion of control. The prejudice that is most frequently noted by both male and female respondents is the illusion of control, whereas overconfidence is the bias that is least frequently detected in both groups. The availability and conservative biases are found to decrease with experience. Attempts should be made by investors to overcome behavioral biases that impede logical thought processes and the attainment of maximum return objectives. Investors have to assess their present trading tactics and endeavor methodically to introduce reason into domains where feelings and convictions are crucial.

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