Influence of Behavioural Biases on Investment Decision Making in Bhubaneswar Region

Ruchi Priya Khilar, Shikta Singh

Abstract*: Behavioural Finance has gained a lot more importance in recent era. In the fast moving world where the standard finance fails to explain the irrational behavior of the investors, behavioural finance tries to identify the cause for such behavior which otherwise called as behavioural anomalies. The purpose of this research paper is to identify such anomalies and also to examine whether the behavioural biases has any influence in the investment decision making by the retail investors. This paper also put an emphasis to find out which among the different biases has the most and least influence on the individual investment decision making process. This study has used primary data for knowing the impact of factors such as gender, age, occupation, income, sector preference, and instruments preferred for investments, source of information, intention behind investment and consideration before investment. Descriptive analysis has been done to check the impact of these factors along with correlation and other. The sampling technique used here is non-probabilistic convenience sampling. The data has been collected through structured questionnaire based on five point Likert scale from the retail investors of Bhubaneswar region. This research shall interest the company, policy makers and the issuers of securities about the interest and preferences of individuals before issuing securities in the market.

***Keywords*: Behavioural Finance, Investment Decision, Overconfidence Bias, Media Response Bias, Disposition Effect**

I. INTRODUCTION

The traditional finance models and the neoclassical models in economics assume that the decision makers have the full information regarding the market and cerebral capacity beyond limit. They consider all the vital information and come up with optimal choice of investment decision which yields them maximum return. But this assumption does not hold true in the real world as everything present here has its own limitation whether it is the human mind or using the information available to them in most optimum way. People think that experts or experienced investors always make profit by analyzing the market perfectly and investing in right organization but history had showed us that even big experienced firms have been bankrupted and the market crashed. Had the standard finance models like Capital Asset Pricing Model (CAPM), Long Term Capital Management (LTCM) being held true then the market wouldn't have crashed. After such accidents traditional theories have been repeatedly questioned and it was concluded that there is something missing in fundamentals from such stock's rational estimation. Researchers explain these missing fundamentals as emotions and sentiments of the investors. Traditional finance argues that all the investors behave rationally which is again an unrealistic assumption because market phenomenon has shown the irrational behaviour of investors time and again. Traditional finance models often have been criticized on the ground of having unrealistic assumption which is why one new field have been emerged in the field of finance, called Behavioural Finance. Behavioural finance deals with the influence of psychology on investor and the irrational behaviour of investor while making the investment decision. The psychological factors play a very vital role in predicting the anomalies of stock market. Anomalies are otherwise called the behavioural biases that affect the investor's investment decision. Anomalies include the phenomenon like overreaction, herd behaviour, heuristics, media response, risk tolerance bias, loss aversion, mental accounting, anchoring, familiarity bias etc. These psychological biases cannot be ignored as these can lead to extreme detrimental in stock market and often can result in market crash. The behavioral heuristics and biases are dynamic and complex. Understanding behavioral biases' origin, causes and effects requires interdisciplinary perspectives from the fields of psychology, sociology and biology [1].Therefore it is very important to learn about these biases so as to prevent or minimize the occurrence of such dreadful events. This paper has taken the opportunity to discuss such behavioural biases and its impact on the decision making by the investors. This paper has tried to answer the following questions:

RQ1. Are the behavioural biases like overconfidence bias, media response and disposition effect having any impact on investment decision making by the investors of Bhubaneswar region?

RQ2. Do behavioural biases depend upon the demographic factors such as age, gender, income, education in the present context of study?

For the purpose of the study, a survey has been done in the Bhubaneswar region of Odisha. The data has been collected from the small retail investors from the region who at least has more than of three years of experience in investing their money in capital market. This paper attempts to address the three biases namely overconfidence bias, media response and disposition effect and their impact on the retail investor's decision making process.

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II. REVIEW OF LITERATURE

In recent times, Behavioural Finance has emerged as a very important topic for discussion. This field of study is growing rapidly and has attracted many researchers towards this field of research. A significant amount of research has been done in the area and the relevant research articles pertaining to the topic have been discussed as follows. The section is divided into three thematic themes such as the factors influencing the retail investor behaviour, effects of demographics on investor's behaviour and the literatures about behavioural biases such as overconfidence bias, media response and disposition effect. More empirical researches need to be done basing upon primary data to gain more detail insights on various behavioural biases [2].

A. Factor influencing retail investor behaviour

Overconfidence, over thinking, herding, cognitive bias, and hindsight effect have significant positive impact on investment decision. Investment decisions are influenced by behavioral biases [3]. Overconfident investors overreact to private information and under react to the public information hence there exist overconfidence among Indian investors [4]. Five behavioral biases (i.e. anchoring, risk aversion, overconfidence, representativeness and regret aversion) have a positive and significant influence on investor decisions. On the contrary, two behavioural biases (i.e. mental accounting and availability) do not have a statistically significant impact on investor decisions [5]. Moods, emotions and sentiments do affect the financial behaviour of the individuals [6]. Information culture creates home bias, herding behaviour among institutional investors [7].

B. Effects of demographic factor on investor behaviour

Demographic factors like age, gender and the level of education have significant positive effects on investment decisions by investors. Experience does not play a significant role in investment decisions, but as investors gain experience, they tend to overlook the emotional factors [8]. The survey evidence shows that behavioral biases are dependent on investors' demographics and their trading sophistication with highest influencing factors being age, profession and trading frequency [9].

C. Literature on behavioural biases

Overconfidence: This bias occurs when people tend to exaggerate their talents and underestimate the likelihood of bad outcomes over which they have no control. The greater confidence a person has in himself, the more risk there is of overconfidence. Overconfidence is overestimation or under estimation. It generally occur when public information is ignored and priority or emphasis is given to investor's own knowledge and wisdom [10].

Media response bias: This bias checks the influence of media reporting on the investment decision made by the investors. Media news plays a major role in influencing individual's decision. People carried away by media influence and take media biased decision [11].

Disposition effect: This effect tends to occur when investor tries to hold onto the loosing stocks and goes on selling the winning stock. This concept is coined by [12].

III. OBJECTIVE

The purpose of the current article is to examine the influence of behavioural biases like overconfidence, media response bias and disposition effect on the investment decision making of small retail investors of Bhubaneswar region. It also tends to see demographic influence such as age, gender and income on the investors decision making process.

IV. RATIONALE OF THE STUDY

Odisha is one of the mineral rich states and one of the fastest growing economies of the country. It is the home for Navratna Company like NALCO. Earlier it was an agricultural based economy but now it is in transition towards industry and service based economy. Bhubaneswar being the capital of the state has an untapped potential to grow in coming future. People of the city are investing in capital market but the ratio is very low. It is therefore become very important to examine the role of behavioural biases constraining them to invest in capital market.

V. METHODOLOGY

The present study has been done on the basis of primary data collection directly from the respondents. As the objective of the study suggests, only specific portion of population of the state has been selected for survey. The sampling method used is convenience sampling. The unit of analysis used for this study is the investor who invest in capital market at least once or twice every year, has at least three or more years of experience in investing in stock market. Furthermore, Bhubaneswar region has been selected for the study as this place has a potential to grow and it is in transition from agricultural economy to industrial and service economy. Sample size has been selected on the basis of judgment and snowball sampling technique as no official investor list was available [13]. The following criterion has been adhered for selection of the sample:

- Selected respondents should be the resident of Bhubaneswar region.
- Respondent must be investing in capital market and have at least three or more year of experience in investing.
- The income of the respondents should fall in the bracket of minimum 3 lakhs and more up to 13 lakhs per annum.

Around 200 people investing in capital market have been approached to participate in the survey. Of those, 125 samples have been received but all couldn't be taken for analysis purpose as some of them were incomplete which result in final sample to be 91. The questionnaire was prepared on some basic factors such as the gender, age, occupation, income, sector preference, instruments preferred for investments, source of information before investing, intention behind investment and consideration before investment. It was prepared in both paper and electronic form.

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The data has been collected on one to one basis and through online filling up of questionnaire.

VI. RESULT AND DISCUSSION

Descriptive analysis has been done to examine the influence of behavioural biases on the investment making decision of the investors. The respondents participated in the survey has been divided on the basis of their demographic profile such as gender, age, income profile of the respondents which has been shown in the following figures.

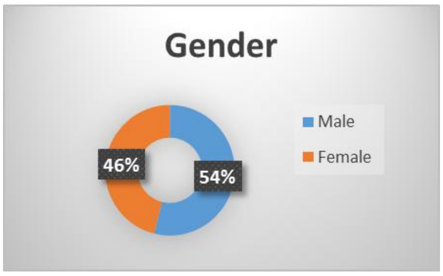

Fig. 1. (Gender distribution)

Source: Author's own

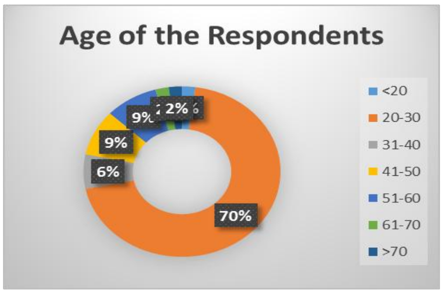

Fig. 2. (Age of the respondents)

Source : Author's own

It is observed from the survey that 54percent of the respondents were male and 46percent were female. The survey was conducted among all the age groups and it is noticed that majority of the respondents (70percent) were between the age of 20 years and 30 years old.

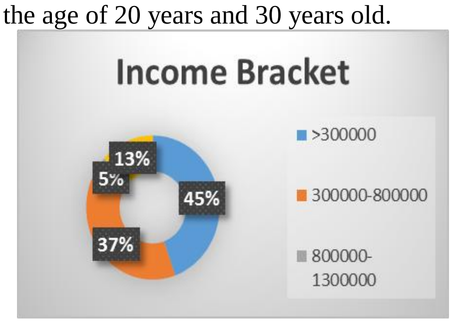

Fig. 3. (Income profile of the respondents)

Source : Author's own

The questionnaires were circulated among various income group investors and it is found that majority of the respondents (45percent of the total respondents) earned income below 300000, 37percent earned income in between Rs.300000 to Rs.800000, 5percent in between Rs.800000 to Rs.1300000 and 13percent earned above Rs.1300000. It was seen that majority (41percent) of the responses used less than 10percent of their income for investment purposes 28percent of the respondents used 11percent-25percent of their income , 20percent of the respondents used more than 40percent of their income and final only 11percent of the respondents used 26percent-40percent of their income for the same. In addition to the descriptive analysis correlation analysis has also been done to examine the relationship exists between the variables. This has been explained below.

A. Correlation

Correlation is done to check the relationship or association of variables with each other. Here pearson correlation has been done. It is depicted in the following table.

Table1. Correlation matrix of the survey response

Correlations

		Gender	Age	Income	Type_Invest	Lock_Period	Regret	Media	Nature
Gender	Pearson Correlation	1	.120	.100	.181	.004	.208*	.231*	-.167
	Sig. (2-tailed)		.258	.345	.086	.969	.048	.028	.113
	N	91	91	91	91	91	91	91	91
Age	Pearson Correlation	.120	1	.259*	.009	.023	.016	-.006	.009
	Sig. (2-tailed)	.258		.013	.929	.831	.880	.954	.932
	N	91	91	91	91	91	91	91	91
Income	Pearson Correlation	.100	.259*	1	-.049	.067	-.233*	.055	-.133
	Sig. (2-tailed)	.345	.013		.644	.528	.026	.607	.208
	N	91	91	91	91	91	91	91	91
Type_Invest	Pearson Correlation	.181	.009	-.049	1	-.192	-.022	.076	-.072
	Sig. (2-tailed)	.086	.929	.644		.069	.834	.475	.497
	N	91	91	91	91	91	91	91	91
Lock_Period	Pearson Correlation	.004	.023	.067	-.192	1	-.020	.161	.190
	Sig. (2-tailed)	.969	.831	.528	.069		.848	.128	.071
	N	91	91	91	91	91	91	91	91
Regret	Pearson Correlation	.208*	.016	-.233*	-.022	-.020	1	.065	-.076
	Sig. (2-tailed)	.048	.880	.026	.834	.848		.538	.472
	N	91	91	91	91	91	91	91	91
Media	Pearson Correlation	.231*	-.006	.055	.076	.161	.065	1	.148
	Sig. (2-tailed)	.028	.954	.607	.475	.128	.538		.162
	N	91	91	91	91	91	91	91	91
Nature	Pearson Correlation	-.167	.009	-.133	-.072	.190	-.076	.148	1
	Sig. (2-tailed)	.113	.932	.208	.497	.071	.472	.162	
	N	91	91	91	91	91	91	91	91

*. Correlation is significant at the 0.05 level (2-tailed).

Source: Author's own

The above rectangular array of numbers that is correlation matrix, shows the correlation coefficient between a single variable and every other variable i.e. the table above depicts the correlation coefficient between the variables chosen (Gender, age, income, type of investor, lock in period, past experience, effect of media and nature of the investor) among themselves. In the table it is observed that the principle diagonal in a correlation matrix has value 1 which defines the correlation coefficient between a variable and itself is 1. Similarly, the correlation between gender and age is 0.120, gender and income is .100, income and type of investor is 0.049 and income and lock in period is 0.067.

It can be noted from the above table that some of the strong relationship can be seen between age and income (0.259), gender and past experience (0.208), the effect of media and gender (0.231) Similarly the strongest negative correlation are seen to be in between income and past (-0.233) and nature of the investor (risk seeker or risk averse) with gender (-0.167).

B. Overconfidence bias

Next when the question being asked to the respondents whether they regret their decision in past or not and what they think might have gone wrong with those investments. Following responses were received and analyzed.

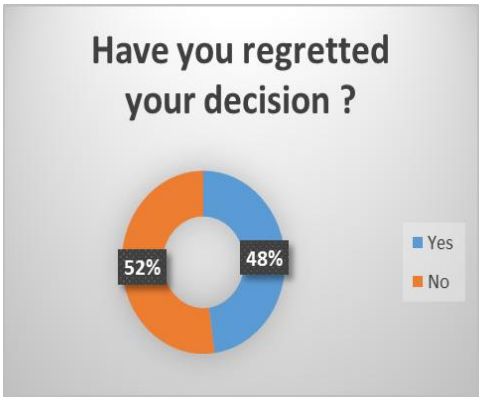

Fig.4. (Decision regretted)

Source: Author's own

Fig.5. (Reason for wrong decisions)

Source: Author's own

It has been observed from the above table that when asked if the respondents had made any wrong decision in their past for which they had regretted, the response was 48percent of respondents had regretted on their past decision, while 52percent never regretted. The main reasons behind the regret of their past decision were either overestimation or underestimation. It is observed that out of 48percent who regretted their decision, 63percent claimed the reason to be overestimation and 37percent considered the cause to be underestimation. It can be observed from the table that respondents of Bhubaneswar region are influenced by overconfidence bias.

C. Media response and disposition effect

The impact of media news while making a decision to invest were measured on a 5 point likert scale where the impact was defined as least for 1 and most for 4. 25percent of the respondents rated as 4 considering it to be important or highly impactful while 40percent rated as 3 indicating the impact of media to be medium and 25percent rated as 2 and remaining 12percent rated as 1. This can be observed from the following figure.

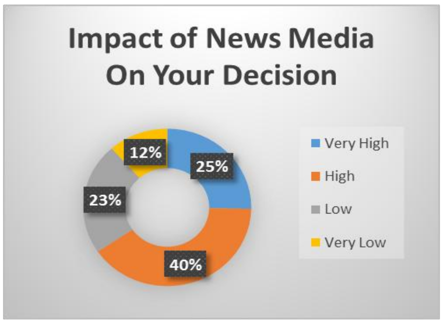

Fig.6.(Impact of media response)

Source: Author's own

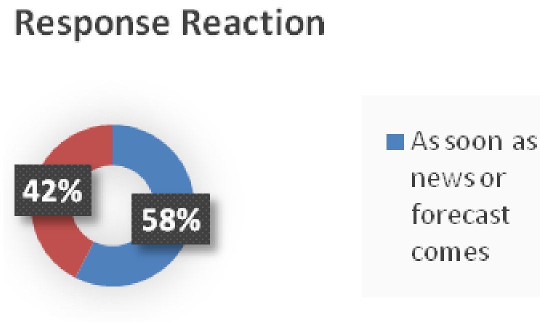

Fig.7. (Response reaction)

Source: Author's own

It was found that more than half of the respondents preferred to buy/sell a financial asset as soon as news/forecast comes. This means that 58percent of the respondents are loss aversive in nature or pride seeking in nature. This behaviour usually causes the investors to sell winning assets too quickly and hold on to losers for too long. This bias or effect is known as disposition effect. It can be concluded that media response could lead to disposition effect.

VII. CONCLUSION

Stock market of India has seen many ups and down in recent past. It got to the lowest in 2008 from 2006 and has seen subsequent frequent fluctuations till 2013 [14]. The major financial crisis occurred in 2008 has shaken the world and due to this Investors are restraining themselves to put their hard earned money into the stock market. This is why it's become interesting to know their beliefs, sentiments and their emotions related to the market.

The present research paper has been written to put forth the behavioural biases (overconfidence, media response bias and disposition effect) and their impact on the investment decision of retail investors residing in Bhubaneswar region of Odisha. Overconfidence bias occurs when people overestimate or underestimate certain stocks by virtue of their own wisdom and knowledge. Available literature suggests that this is the most pronounce bias found among Indian investors and in the present context of study also this holds true. The findings of this study suggest that investors of Bhubaneswar region are influenced by overconfidence bias while taking investment decisions. Next we tried to examine the influence of media response bias on to the investor's decision making process. Media response bias depicts the influence of news, forecasts, advisors viewpoint on the market etc onto the investor's investment decision. In our study we found that investors take note of the media reporting and take biased decisions. One more interesting finding of this study is we saw that media reporting leads to disposition effect among investors. By seeing the news reports, investors decides stocks to hold and stocks to sell which in turn make them to sell their winning stocks and holding onto the loosing stocks for a longer period of time. Thus we can conclude that the investors of the present context are influenced by these behavioural biases (overconfidence, media response bias and disposition effect).

The findings of this study cannot be generalized to all context as this has been taken out in a specific context and more thorough study needs to be undertaken in future for better results.

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