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Behavioral Biases Affecting Investors Attitude

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Abstract: Today, many types of investment options are available with the investors, whether to invest in real assets or financial assets. Investors are loaded with information to choose an appropriate portfolio. The securities industry is a gigantic machine for extracting money from ordinary investors, does so in a way that makes it all seems perfectly reasonable. But there are some unconscious drivers that affect the way investors make decisions about money, what we called is behavioral biases. There are different types of behavioral biases which intend to kick away any illusions you have about yourself and your investing abilities and trample them into the dust. These biases can be caused by due to time cost and capacity constraints, insufficient information, information overloaded/distractions and resistance to change. In this research, we will study what is the most preferable tool of investment by both male and female and how investment decisions are affected by two well known behavioral phenomena: loss aversion and illusion of control. Loss aversion theory is related to the individual desire to avoid losses than comparable profits. Illusion of control is defined as the propensity of people to believe that they can control or affects the output that in reality they have no control over. Empirical data will be collected from questionnaire. Sample size will contain 100 investors. Multiple regression model and other suitable techniques will be used to investigate the objectives.

Key words: Illusion of control, loss aversion, behavioral, biases, investors

INTRODUCTION

"Investing isn't about beating others at their game. It's about controlling yourself at your own game"; these are the words by Jason Zweig that explains the purpose of investing. Our purpose is not only to earn average money but to earn sufficient money to meet our needs. By just defeating the market, we cannot be confident about our investing pattern. To be confident we have to make the best financial plan and behavioral discipline that leads us to where we wants to go.

In the present scenario, the decision regarding investment is not an easy cup of tea. An individual has to consider several factors before reaching to a conclusion. Apart from risk and return factor, past market trends, investment needs, etc., there are many paralyzed drivers that affect the investor's decisions. These drivers are called behavioral biases or cognitive biases. It can be defined as "pitfall in judgement that arises from error in memory, social attribution and miscalculation. There are dozens of behavioral biases which destine to remove any myth you have about yourself and about your investing abilities and flatten them into sand. Overconfidence, herding, illusion of control, loss aversion, gambler fallacy, pattern recognition, mental accounting, bandwagon effect, etc., are some example of behavioral biases. Behavioral biases can be caused due to time and capacity constraints, insufficient information, information overloaded/distraction and resistance to change. In this study, we are taking about two biases, loss aversion and illusion of control.

Loss aversion: Loss aversion is a well-known phenomenon was established by 1970 Tversky and Kahneman (1974). Loss aversion states that people prefer to avoid losses to making gains. Loss aversion theory can also be termed as prospect theory. Human has a tendency to deal with profit and losses differently. Decision is based on anticipated profits rather than anticipated losses. People always fear losses, they never want to bear any losses and this fear sometimes leads them to miss great opportunities.

Illusion of control: When people think they have control over the events and but actually they don't is called illusion of control. It is always a dangerous illusion. Example, one sees dice player acting as if they can control the outcome of the dice roll. Practically, the individuals who were most inclined to illusion of control were most likely to perform the worst.

In investing, this type of pattern is quite common. While investing if some people will get lucky early on,

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Table 1: Demographic summary of investors

Title/category	Number
Gender	
Male	38
Female	62
Occupation	
Student	8
Businessman	20
Salaried	42
Homemaker	24
Retired	2
Other	4
Annual income (lakh)	
<1	8
1-5	28
5-10	22
10-15	4
Above 15	38
Age group (years)	
Below 30	32
30-45	62
45-60	4
Above 60	2
Marital status	
Married	80
Unmarried	20
Percentage	
<20	46
20-40	46
40-60	4
Above 60	4

Table 2: Multiple regression analysis with gender as dependent variable model summary

Model	R	R^2	Adjusted R^2	SE of the estimate
1	0.309[a]	0.096	0.077	0.469

they develop their beliefs that they are naturally good at investing. But this is not true; it might be just a coincidence (Table 1). This initial success can lead to unrealistic expectations about the amount of control and about the skills they possess. When we talk about stock market, we all know what happens in this market is largely random. One cannot predict the outcome even when entire industry devoted their time in analyzing the past and present data. This type of situations is simply full of unknown unknowns. Following illusion of control bias can only lead you to take more risk while investing which in turn takes you into disastrous situation. If you feel especially confident, be careful that you're not overreacting. Think what happen if all your investment went bust and take your decision wisely.

Literature review: Qadri and Shabbir (2014) determine the main behavioral factors that impact the investment decision of individual investors in Islamabad Stock Exchange (ISE). Behavioral finance has emerged by combining emotional and cognitive biases. Earlier there was a concept of traditional financial theory which assumes that investors behave rational. He took two biases-overconfidence and illusion of control. He concluded that decisions of investors are influenced by overconfidence and illusion of control. Male are more overconfident than female.

Hassan *et al*. (2014) investigate the influence of age and gender on two behavioral biases-overconfidence and loss aversion with reference to Pakistan. They used questionnaire method and did chi-square and correlation analysis. They concluded that gender has a noticeable influence on these two biases. Men are more confident than women and women are more loss averse than man (Table 2).

Baker and Ricciardi (2014) discuss about some behavioral biases and advise how to lessen them. Investors have to learn about behavioral biases and try to reduce their effect. They should invest for long term rather than short term. They also concluded that investors have to identify their risk tolerance level and experienced investors must learn from their mistakes and avoid making the same mistake as new investors.

Agrawal (2012) presented a theoretical framework of behavioral biases that affect financial decision making process and causes and outcome of these biases. She concluded that behavioral biases cannot be viewed in isolation. The strength of the bias is depends on several factors like external environment and presence of other biases. Several biases may be active simultaneously which makes investigation complex and difficult. However, sometimes one bias may become more salient than others. She recommends that this paper has important implication for both investors and advisors. She also suggests that these biases can be avoided in some situation but one cannot completely eliminate them.

Rostami and Dehaghani (2015) in an investigation to find the influence of three behavioral biases (overconfidence, ambiguity aversion and loss aversion) on Tehran Stock Exchange claimed that all these biases have positive impact on Tehran Stock Exchange. He did one-sample t-test, binomial test, Friedman test and one-way ANOVA test to check the relevance of these biases. Moreover, he used Cronbach's alpha method to rest the reliability of questionnaire. His study was descriptive and non-experimental research.

Kahneman said that heuristic biases are quite useful but sometimes they lead to systematic and severe errors. He talks about three heuristic biases: representativeness which is usually employed when people are asked to judge the probability that an object or event A belongs to class or process B; availability which is often employed when people are asked to assess the frequency of a class and adjustment from an anchor which is usually employed in numerical predictions when a relevant value is available. He concluded that better understanding of these biases helps to reduce the errors in decision making.

Prakash and Sundar (2013) analysed the investor's investment pattern and their awareness on mutual funds. They also analysed investor's attitude towards investment with respect to their financial needs, investment objectives and return on investment, willingness to take risk, preference and degree of safety for financial needs. They inferred that investors mostly give preference to children education followed by tax benefits. Risk diversification, tax exemption, safety professional management, liquidity and reliability are the main factors that influence the pattern of investment while the main factors that affect mutual funds scheme are high return, net asset value, tax policy, repurchase facility and market trends. Investor prefers to invest in bank deposit, gold/silver followed by life insurance, Pf, mutual funds and real estate.

Skala (2008) reviewed work of other researcher to understand more about the concept of modern behavioral finance, the overconfidence. His aim is to present overconfidence as a well-developed psychological concept to describe its origin, forms and definitions and to summarize its main application in the current financial research. By going through various researches, he concluded that overconfidence has become an important interdisciplinary concept and its structure and development can be studied from both psychological and economic perspective. Its existence has been established through both financial data analysis and theoretical models. In corporate environment, overconfidence plays a vital role in decision making.

Objectives:

- To investigate the impact of loss aversion on investment decision making
- To examine whether investors are affected by illusion of control bias
- To find out the most preferable tool of investment by both male and female

MATERIALS AND METHODS

The study includes only primary data which was collected through a questionnaire. The target population was 100 individual investors located in NCR region. Stratified sampling was used to send the questionnaire to the respondent. The questionnaire was sent only to the individual investors. The questionnaire was divided into two parts: investor's profile and behavioural analysis of investors. Data collected for this study was analysed by using SPSS. Statistical techniques which were used for analysis include descriptive statistics and multiple regressions analysis.

RESULTS AND DISCUSSION

Demographic analysis: The demographic summary of Investors is given in Table 1. The total sample size is 100 individual investors which contains males (38) and females (62). Most of the investors were salaried followed by homemaker and businessman. The highest number of investors earn above 15 lakhs. Age group 30-45 years is highly represented in the research as most of the investors belong to this group. In terms of marital status, 80% of the investors were married while only 20% were unmarried. The 46% of Investors prefer to invest <20% of their savings and another 46% of investors prefer to invest about 20-40% of their savings.

Behavioral analysis: Behavioral Analysis shows whether while taking investment decision, investor is affected by these biases or not. It consist of Analysis of two biases:

- Loss aversion
- Illusion of control

Loss aversion:

- H_1; investors get affected by loss aversion bias while taking investment decision
- H_2; investors don't get affected by loss aversion bias while taking investment decision

The F of 5.127 as stated in Table 2-4 is highly significant (<0.008), so the variable explains the large portion of variation in the dependent variable (gender) by independent variables. The model R^2 is 0.096 is also somehow supporting the F result. However the variable, "investor tends to prefer low risk assets as they get older", do not make any sense as the β coefficient is beyond the range.

Table 5 shows that only 18 out 100 investors ready to take risk for higher return otherwise another 82 investors

Table 3: ANOVA

Model 1	Sum of squares	df	Mean square	F-value	Sig.
Regression	2.252	2	1.126	5.127	0.008b
Residual	21.308	97	0.220		
Total	23.560	99			

Table 4: Coefficient

Models	Unstandardized coefficients B	SE	Standardized coefficients Beta	t-values	Sig.
Constant	2.001	0.156	-	12.861	0.000
Investor tends to prefer Low risk assets as they get older	-0.225	0.070	-0.309	-3.199	0.002
You are happy by getting low return instead of taking risk for high return	-0.011	0.039	-0.026	-0.270	0.788

Table 5: Loss aversion table

Variables	Count
Choose one of the following alternative	
An assured gain of Rs. 50000	82
A 25% chance of gaining 1 lakh and 75% chance of gaining nothing	18

Table 6: Result of multiple regression analysis with gender as dependent variable model summary

Model	R	R^2	Adjusted R^2	SE of the estimate
1	0.442^a	0.195	0.162	0.447

Table 7: Result of ANOVA

Model 1	Sum of squares	df	Mean square	F-value	Sig.
Regression	4.603	4	1.151	5.767	0.000^b
Residual	18.957	95	0.200		
Total	23.560	99			

Table 8: Result of coefficients

Models	Unstandardized coefficients B	SE	Standardized coefficients Beta	t-values	Sig.
Constant	1.261	0.227		5.564	0.000
When playing cards are you usually most optimistic when you deal the cards yourself	0.129	0.061	0.200	2.125	0.036
When you participate in any game of chance that involve dice, do you feel most in control when you roll the dice yourself	0.050	0.070	0.073	0.725	0.470
When your portfolio gives higher return, do you think it's because of your investment control	-0.220	0.063	-0.378	-3.470	0.001
When your portfolio gives higher return, do you think its because of random chancex	-0.220	0.063	-0.378	-3.470	0.001

prefer not to take any chance and are satisfied by getting fixed amount of return. This explains that majority of investors are risk averse.

Therefore, we can conclude that when investors take decisions about investment they are affected by loss aversion bias and hypothesis H_1 is accepted.

Illusion of control:

- H_3; illusion of control bias has positive impact on investors
- H_4; illusion of control bias has negative impact on investors

The result shown in Table 6-8 interpret that model F is significant as it has very low p-value (0.000). It shows that all the independent variables explain a significant portion of variation in the dependent variable. The coefficient of determination (R^2) interprets the percentage of total variation in dependent variable as a result of independent variable. Here, R^2 = 19.5%, explains these variables of illusory pattern recognition create 19.5% variation in both male and female while taking investment decisions. However, the remaining 80.5% is unexplained. The variable, when your portfolio gives higher return, do you think it's because of your investment control is significant as it has low p-value ($p<0.05$) but the β coefficient do not make any sense. The another variable, when you participate in any game of chance that involve dice, do you feel most in control when you roll the dice yourself is not significant as p-value is not in range. While all other variables have positive values with β coefficient under the range (-1.0 to 1.0), making all variables significant.

This shows that investor's lives in an illusion that they actually can control the things while in reality, they may or may not. Therefore, we accepted the hypothesis H_3 that illusion of control have positive impact on investors.

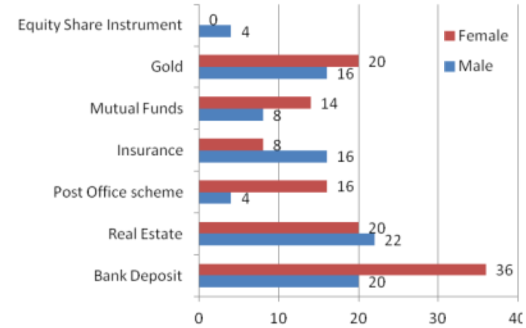

Fig. 1: Tools of investment

Investment analysis: Investment analysis talks about where investors prefer to put their money. The result shown in Fig. 1 reveals that maximum number of female investors preferred to invest in bank deposit as it has lower risk as compared to other tools while maximum number of male prefers to invest in real estate. Least number of investors preferred to invest in equity share instrument because of high risk involved. If we look individually, females prefer to invest in bank deposit followed by gold, real estate and post office scheme while male prefer to invest in real estate followed by bank deposit, gold, insurance and post office scheme. We can conclude that females are not ready to take higher risk as compared to male.

CONCLUSION

This study was undertaken to study the attitude of investors. Although, there are several biases which affects investors attitude but we have taken two behavioral biases namely, illusion of control and loss aversion. We concluded that both these biases have positive impact on investors. In real world it is applicable as happiness of gaining profit is less than a pain of bearing losses. People fear losses. Majority of investors are not ready to bear high risk for high return, however as compare to males, females are most risk averse. Individual have the tendency to overestimate themselves. They believe that the situation is in their hand but actually no. They did the same mistake while taking the investment decision thinking they can control their investment in future. Although, sometimes they can control but it's a matter of chance. As investment choice is considered, bank deposit is the major choice as it is safe and secure. In this complicated financial market, the main attraction for investors is security.

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