

Loss Aversion bias and Investment Decision: A Study of Investors in Indian Equity Market

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Abstract— According to conventional financial theory, investor are fully rational and make decision that reflects all available information. But still Efficient Market Hypothesis has failed to explain market behaviour. That's when *Behavioural Finance* comes into picture. In current scenario, behavioural finance plays an important role in investment decision making. So the purpose of this study is to determine the various behavioural factors that influences investors in Indian Equity Market. Many researchers have found that number of biases do have impact on investment decision making. But, here, in this paper we have discussed about very common and predictable bias – Loss aversion, which refers to tendency of individuals to avoid losses strongly as compared to obtain gains. There are many studies undertaken about its existence and results are mixed in terms of its influence on investors in Indian equity market. With this, the present research tries to investigate presence of Loss aversion bias among investors of Rajkot who invest in Indian equity market. We will also examine whether variables like gender, income level, and investment experience have impact over loss aversion bias. To identify the influence of these variables in investor's decision making, structured questionnaire based on 5-point Likert Scale was used among investors of Rajkot region. With relevant statistical tools, it was found that investors are influenced by loss aversion bias in their decisions, gender difference do affect the existence of this bias and same is in the case with experience of investors.

Keywords— Behavioural Finance, Loss Aversion, Investment Decision, Indian Equity Market

I. INTRODUCTION

Win as if you were used to it, lose as if you enjoyed it for a change.

---Ralph Waldo Emerson

Behavioural finance is a study that deals with investors' psychology and its role in making financial decisions. This field provides an alternative explanation of market behaviour where traditional finance theories have failed. It relaxes the assumption of rationality present in standard finance theories and explains that real investors are influenced by their psychological biases. These biases get translated into their behaviour due to which they can take suboptimal decisions. Thus, behavioural finance highlights the fact that we are dealing with real people in the real markets that are far from being either perfect or rational.

Loss aversion refers to the tendency of individuals to avoid losses strongly as compared to gains. This is because loss brings regret and the impact is much greater than that of gains. This concept was introduced by Kahneman and Tversky (1979).

This paper arranged in following manner like first part deal with introduction to Loss aversion behavioural biases. Second part describe reviews of earlier papers. The third section deal with objective and methodology used for the

study fourth section describe findings and results analysis and fifth section deals with conclusion

II. LITERATURE REVIEW

Kahneman and Tversky (1979) wrote a paper titled "Prospect theory: An analysis of decision under risk". This paper has been proved as valuable contribution in the field of behavioral finance as the fundamental concept of prospect theory was introduced. This theory explains decision making process of investors based on the probabilistic alternatives involving risk when the probable outcome of investment decision is known.

Thaler (1980) explained that investors make decisions under the influence of behavioral biases often leading to less than optimal decisions.

Kapoor & Prosad (2017) Explained that investors are influenced by psychological biases and these biases can get translated into their irrational investment behaviour and again it will lead to suboptimal decision

Hwang, S., & Satchell, S. E. (2010) examined that investors in financial markets are highly loss averse than assumed in the literature. It was also analyzed that impact of loss aversion changes depending on financial market situations; investors become far more loss averse during bull markets than during bear markets.

Arora, M., & Kumari, S. (2015) examined that Investors with age group 41-55 years show high impact loss aversion bias as compared to individuals with age group 25-40 years and it was also examined that females show more loss aversion and regret more as compared to males.

Lee, B., & Veld-Merkoulova, Y. (2016) examined that investors who are highly impacted by loss aversion generally have lower stock investment as a share of total portfolio. Loss averse investors tend to observe their stock portfolio performance too often, which contributes to the prevalence of myopic loss aversion.

Mahina et al. (2017) analyzed that loss aversion bias highly affected investment in Rwanda stock market. This study further examined that investors at the stock market tend to be more regretful about holding losing stocks too long than selling winning ones too soon.

Kumar et al.(2018) examined that that gender of the investors have high impact on occurrence of loss aversion in investors and so investment decisions made by the investors are impacted by loss aversion bias.

III. RESEARCH DESIGN

Statement of the problem

To investigate presence of loss aversion bias among investors at Indian equity market and to examine whether demographic variable and investment experience influences this bias of investors.

Objectives

- To investigate presence of loss aversion bias in investment decision making.
- To analyse the impact of demographic variables on loss aversion bias.
- To investigate whether experience of investment influences loss aversion bias during investment decision making.

Hypothesis

- H01: There is no impact of loss aversion bias on investment decision making.
- H02: there is no association between demographic variables and loss aversion bias
- H03: Investment experience of the investors has no association with loss aversion bias.

Methodology

The present study adopts descriptive research design .A well-structured questionnaire is designed to collect primary data from the respondents. It is divided in two sections – Section A is fetching information of Demographic factors and investors experience. Section B asks question which

judges and tests the influence of underlying bias i.e. Loss aversion bias. Snow ball sampling method is used to collect data from the respondents. The Sample includes stock market investors who have DEMAT account and are from Rajkot region of Gujarat. It was administered to 175 sample respondent but only 116 responded.

Statistical Tool

Primary data is analysed with the help of SPSS 19 version and chi-square test, ANOVA, and regression analysis was used. Reliability of the questionnaire construct was analysed using Cronbach alpha technique. Cronbach alpha value, for the 19 variables used in the study, was 0.912, which means it was 91.2% reliable.

Scope and significance of study

- This study help individual investors to understand their pitfalls in their investment decision making.
- It also help financial planners, financial advisors and financial managers to advice their client for avoiding and dealing with loss aversion bias during their investment decision making process.

Limitations

- Some of the investors are reluctant to reveal the correct information.
- The study is limited to only one district of Gujarat i.e Rajkot.
- The study considered only limited variable in behavioural finance.

IV. ANALYSIS AND DISCUSSION

Table 1 Results of ANOVA

	Sum of Squares	df	Mean Square	F	Sig. 000 ^b
Regression	15.332	1	15.332	58.107	
Residual	30.079	114	0.264		
Total	45.41	115			
a. Dependent Variable : investment decision					
b. Predictor (constant), Loss Aversion					

Above table explains the results of ANOVA of proposed model. The “F” statistic value was found to be 58.107, which was significant at 5% level. Therefore, the *H01: there is no impact of loss aversion bias on investment decision making*, was rejected.

Table 2 Result of Co-efficient for loss aversion bias and investment decision

	Unstandardized Coefficient		Standardized coefficient	t	sig
	B	Std Error	Beta		
(Constant)	1.592	0.209		7.632	0
Loss Aversion	0.479	0.063	0.581	7.623	0

Table 2 shows the findings of co-efficient analysis which explains the degree of impact of loss aversion bias on investment decision. The dependent variable in the model was Investment decision and the independent variable was Loss aversion bias. The 'p' value was significant at 5% level, which indicated there was significant impact of loss aversion bias on investment decision. The value of standardized Beta was found to be 0.581, which indicated that 58.1% investors' decision were influenced by their loss averse attitude in investment.

Table 3 Chi-square analysis of association between loss aversion biases and demographic variables

Sr. No	Demographic factors	Chi-square value	P-value	Significance	Hypothesis
1	Gender	2.680	0.08	Significant	Reject
2	Age	5.730	.124	Not Significant	Accept
3	Education	3.779	.435	Not Significant	Accept
4	Income	1.345	.048	Not Significant	Reject
5	Occupation	7.949	.512	Significant	Accept

The above tables show the relationship between gender and loss aversion bias, income and loss aversion bias. From the study it shows that loss a version biases is positively associated with gender and income level. It is hence concluded that male respondents are more overconfident than females and income level also determine the loss averse attitude. From the above table it is observed that there is negative significant association between Loss aversion and age, education, occupation. So we accept the null hypothesis and it is concluded that increasing age of the investors, better education level and growing income level, the behavioural loss aversion bias is reduced.

Table 4 Results of ANOVA for Investment Experience and Loss Aversion bias

	Sum of Squares	df	Mean Square	F	Sig.
Between groups	2.859	3	0.953	1.67	0.177
Within groups	63.907	112	0.571		
Total	66.766	115			

Above table represents the results of analysis of variance for identifying the difference between investment experience of the respondent and loss aversion. The sum of squares values between groups is 2.859 and within groups is 63.907. F statistic was found to be 1.670. The significant value from the table was 0.177 which greater than 0.05 significant level which indicates that there is no significant difference between experience of the investors and loss aversion bias. Hence, we accept null hypothesis *H03: Investment experience of the investors has no association with loss aversion bias.*

V. FINDINGS AND CONCLUSION

Findings of the second objective confirmed the existence of difference between gender and loss aversion bias which implies that male and female investors did perceive the losses differently. Result of this study agrees with the previous study done by Arun Kumar (2018). Results of ANOVA indicated that income of the investors did have a significant difference with loss aversion bias but investment experience of the investors did not have any significant difference with loss aversion. The same was case with education qualification and occupation. However, loss aversion bias did have a significant impact on investors, who participated in the stock market.

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