

ANALYSIS OF PROSPECT THEORY ON EQUITY INVESTMENT DECISION MAKING – A BEHAVIOURAL PERSPECTIVE

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ABSTRACT

Behavioural finance is a rapidly growing area that deals with the influence of psychology on the behaviour of financial practitioners. In India behavioural finance is an emerging field of study for the past two decades. Behavioural finance theory says investors are irrational in their behaviour while investing in equities which have high degree of uncertainty; and they make lot of cognitive and emotional errors. Prospect theory is an alternative to standard models, which provides a better account for observed behaviour. Prospect theory examines variables such as regret aversion, loss aversion, and mental accounting. In this context, the authors explore the behaviour of Indian investors. Primary data has been collected by questionnaire with one single sample consists of 303 respondents who invested in equity shares. To test the hypothesis, descriptive statistics, t-test, anova, linear regression are used and it is found that there is no significant difference between behavioural factors and socio demographic variables. From the linear regression analysis, it is found that there is significant influence of Behavioural factors on Investment decisions.

KEYWORDS: Behavioural Finance, Prospect Theory and Investment Decision

Shefrin (2000) has defined Behavioural finance as a rapidly growing area that deals with the influence of psychology on the behaviour of financial practitioners. Behavioural economics emerged by integrating social, cognitive and emotional factors in understanding economic decisions. – Wikipedia. In India behavioural finance is an emerging field of study for the past two decades. Traditional finance theory says investors are rational and they invest their money by calculating the risk and return carefully, but this statement becomes very old and the new behavioural finance theory says investors are irrational in their behaviour while investing which has high degree of uncertainty; and they make lot of cognitive and emotional errors.

Kahneman and Amos Tversky (1979), formulated prospect theory an alternative to standard models, which provides a better account for observed behaviour. Prospect theory describes how people evaluate losses and gains. There are two specific thought processes in this theory which is editing and evaluation. During editing state alternatives are ranked according to a basic ‘rule of thumb’ (heuristics) and during evaluation phase some reference point is taken as relative basis for appraising gains and losses are designated. A value function, passing through this reference point and assigning a ‘value’ to each positive or negative outcome, is S shaped and asymmetrical in order to reflect loss aversion. Prospect theory focuses on subjective decision-making influenced by the investors’ value system.

Prospect theory describes some states of mind affecting an individual’s decision-making processes

including: regret aversion, loss aversion, and mental accounting (Waweruet.al., 2008, p.28). Loss aversion, Regret aversion, and Mental Accounting were used to measure their impact levels on the investment decision making as well as the investment performance of individual investors at the Ho Chi Minh Stock Exchange (Luonget.al., 2011). The study of Wamae, J. N. (2013) concluded herding effect, risk aversion, prospecting and anchoring influences the investment decision making in stock market.

“Crying over spilt milk” illustrates ‘loss aversion’ or the tendency to dislike loss more than gain. Loss aversion bias was developed by Daniel Kahneman and Amos Tversky (1979) that people feel a stronger impulse to avoid losses than to acquire gains. Loss aversion is the S-shaped utility representative value functions (asymmetric) that weigh all potential gains and losses in relation to some reference point (origin). The risk-seeking behaviour prevails below the reference point and risk-averse behaviour prevails above the reference point.

Regret aversion is a cognitive phenomenon that often arises in investors, causing them to hold onto losing positions too long in order to avoid admitting error and realising losses (Pompian, 2006). Antoinette Nicolle et. al. (2011) research reveals that behaviourally, experienced regret was higher after an erroneous status quo rejection compared with acceptance.

Mental accounting bias first coined by Richard Thaler (1999), describes people’s tendency to code, categorize and evaluate economic outcomes by grouping their assets into any number of non-

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interchangeable mental accounts.

REVIEW OF LITERATURE

Murthy and Joshi (2012) found that investors are irrational with different investment options, investors were found overconfident. The findings also support the disposition effect theory and regret theory. Alberto et.al., (2012) used the questionnaire of Kahneman and Tversky's (1979) and the results indicate that individuals' decisions were influenced by psycho physiological stress, as stressed individuals are even more controversial and inconsistent in their decisions than other studies revealed.

Chaudharyl (2013) investigated the behavioural patterns of investors and tries to understand how these patterns guide investment decision. Investors' learn from their mistakes and capitalize their investments during the next rise. Suresh (2013) conceptually revealed that understanding various behavioural key biases and traits can help individual take sound financial decisions and in turn make him a better trader/investor.

Kengatharan and Kengatharan (2014) explored behavioural factors affecting individual investors' decision and investment performance at the Colombo Stock Exchange. The result reveals that four behavioural factors such as Herding, Heuristics, Prospect and Market affects investment decision out of which anchoring has high influence and choice of stock has low influence. Grover and Singh (2015) endeavoured how emotions and cognitive errors influence the behaviour of investors in investment decision and disclosed that they avoid selling shares that have decreased in value and ready to sell shares that have increased in value.

Bakar and Yi (2016) studied the impact of psychological factors on investors' decision making in Malaysian stock market and found that overconfidence, conservatism and availability bias have significant impact on investors' decision making whereas herding has not significant.

Jaroslava et.al., (2016) researched on endowment income on investment and found that household cannot avoid experiencing a relative loss in consumption either now or in the future. Loss aversion directly affects consumption and risky investment. Reference level plays a significant role in consumption and risk taking activity. Kimeu, et.al., (2016) examined the behavioural factors influencing individual's investment decision in Nairobi Securities Exchange and observed that investment decisions are positively

influenced by behavioural factors including prospect, herding, heuristic and rationality.

RESEARCH METHODOLOGY

Research Design

The research design undertaken for the study is Descriptive Research Design. Primary data collection has been done by questionnaire method. Convenient sampling technique has been adopted to collect the data from the equity investors of Chennai city with one single sample consists of 303. To test the hypothesis framed in the study, various statistical tools such as t-test, anova, regression are executed by using SPSS 16.0.

Objective of the Study

The behavioural factors undertaken for the study is prospect theory which includes Loss aversion, Regret aversion and mental accounting. The following objectives are set:

- To study the influence of Behavioural factors (Prospect theory variables) on Investment Decision
- To attain the objective, the following hypothesis has been framed:

H_01 : There is no significant influence of gender, marital status, family type, age, education, family size, occupation, monthly income, on Behavioural factors

H_02 : Behavioural Factors do not predict Investment Decision

DATA ANALYSIS AND INTERPRETATION

Descriptive Statistics

From Table 1, it was found that 84.2% of the respondents are Male, 48.2% comes under age group 30-45 and 13.2% of the respondents are below 30. 27.4% of the respondent possesses UG Qualification and the other 27.4% possesses Professional Qualification. Based on this sample research 83.2% are married, 51.2% are living as a Joint family and 30.4% of the respondent's family size 3 excluding the respondent. The highest percentage of 53.1% of the respondents Occupation is Salaried and 25.7% of the respondents comes under the Monthly Income of Rs.40,000-Rs.60,000.

Table 1: Descriptive Statistics

Socio Demographic variables		Frequency	Percent	Cumulative Percent
Gender	Male	255	84.2	84.2
	Female	48	15.8	100
	Total	303	100	
Age	Below 30	40	13.2	13.2
	30-45	146	48.2	61.4
	46-60	70	23.1	84.5
	Above 60	47	15.5	100
	Total	303	100	
Qualification	School level	18	5.9	5.9
	Diploma	19	6.3	12.2
	UG	83	27.4	39.6
	PG	100	33	72.6
	Professional	83	27.4	100
	Total	303	100	
Marital status	Single	51	16.8	16.8
	Married	252	83.2	100
	Total	303	100	
Family type	Joint	155	51.2	51.2
	Nuclear	148	48.8	100
	Total	303	100	
Family size	1	13	4.3	4.3
	2	66	21.8	26.1
	3	92	30.4	56.4
	4	74	24.4	80.9
	5	43	14.2	95
	>5	15	5	100
	Total	303	100	
Occupation	Salaried	161	53.1	53.1
	Business	39	12.9	66
	Professionals	30	9.9	75.9
	Student	12	4	79.9
	Home Maker	14	4.6	84.5
	Retired	47	15.5	100
	Total	303	100	
Monthly Income	Below 20000	61	20.1	20.7
	20000-40000	76	25.1	46.4
	40001-60000	78	25.7	72.9
	60001-80000	47	15.5	88.8

	80001-100000	18	5.9	94.9
	Above 100000	15	5	100
	Total	295	97.4	

Source: Primary data

Independent Sample T-Test

The results of the Independent sample t-test are given in Table 2. From the p value results 0.659, 0.175 and 0.376, there is no significant difference between the two independent Socio Demographic variables (Gender, Marital Status and Family type) and the Behavioural factors.

Table 2: Independent Sample T-test

Socio Demographic variables		Mean	t-value	p value	Inference
Gender	Male	3.4444	0.321	0.659	Not significant
	Female	3.4062			
Marital Status	Single	3.4542	0.164	0.175	Not significant
	Married	3.4352			
Family Type	Joint	3.3774	-1.442	0.376	Not significant
	Nuclear	3.5023			

Source: Primary data

Analysis of Variance

Table 3 shows the result of ANOVA analysis. From the table, since the p value results are 0.429, 0.296, 0.306, 0.824 and 0.192, there is no significant mean difference between the Socio Demographic variables (Age, Qualification, Family size, Occupation and Monthly Income) and the Behavioural factors respectively.

Table 3: Analysis of Variance

Socio Demographic variables	F Value	p value	Inference
Age	.925	0.429	Not significant
Qualification	1.235	0.296	Not significant
Family size	1.206	0.306	Not significant
Occupation	.435	.824	Not significant
Monthly Income	1.493	.192	Not significant

Source: Primary data

Regression Analysis

Regression Analysis has been used to test the influence of Behavioural factors on Investment decision. From the table 4, shows the t-value 4.625**, which means there is a significant influence of Behavioural factors on Investment decision. R Square values shows that Behavioural factors are influencing 6.6% on Investment decision.

Table 4: Regression Analysis for Investment Decision with Behavioural Factors as Independent Variables

Variables	R ²	Beta	F-statistics	t-value
Behavioural Factors	0.066	0.258	21.39	4.625*
	Adjusted R ²			*
	0.063			

Source: Primary data

SUMMARY AND CONCLUSION

Investment decisions of investors are influenced by various rational and irrational/behavioural factors. In this paper the authors examined the behavioural factors influencing equity investment decision. The behavioural variables considered for the study are Loss aversion, Regret aversion and Mental Accounting. From the results it is evident that there is no significant difference between socio demographic variables on behavioural factors. From the regression analysis, it is found that behavioural factors influence at 6.6% on investment decisions. In this research paper the authors have taken only behavioural factors influencing investment decision, various socio demographic factors on behavioural factors as well. Further the study can be expanded by studying various socio demographic factors on rational and irrational factors too.

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