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Impact of Demographics and Personality traits on Regret level of Investors: Determinants of Regret Aversion Bias

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***Abstract:** Given study had investigated impact of six demographic variables and Personality trait variables (Agreeableness, Openness, Conscientiousness, Emotional Stability and Extraversion) on emotional bias- Regret aversion. Ten Item personality trait model (Gosling, Rentfrow, & Jr., 2003) had used to measure personality traits. Based on work of (POMPIAN, 2006) regret aversion bias had measured. Data has been collected through Questionnaire from 585 respondents. Respondents who have knowledge of financial products, financial experts and investors had selected for filling the questionnaire. Logistic regression model had used to find out relationship between personality traits & regret aversion bias while chi- square method had used to find out relationship between demographic variables and regret aversion bias (Jr., Black, Babin, & Anderson, 2014). It was found that regret aversion bias had negative relationship with Agreeableness, Emotional stability and positive relationship with openness to experience.*

***Keywords:** Behavioural Finance, Regret Aversion, Big Five Psychological Traits JEL Classification: G02*

I. INTRODUCTION

Behavioural finance examines how psychology and feeling of the investors impact on investment decision making process. It additionally examines the impact of psychology on the conduct of investment experts and the consequent impact on business sectors. Shefrin (2002), who has contributed significantly to the field of Behavioural finance is of the supposition that "financial decisions would be view that market psychology is just about greed and fear. , the primary emotions that determine risk-taking of an investor are hope and fear. The emotion better understood if it is looked beyond the normal of hope initiates in the investor a whole range of non-rational factors that are incalculable. These factors are not possible to be explained by greed."

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II. LITERATURE REVIEW

H.Gayathri(2012) concluded that an investor who considers an extended horizon are going to be take risks that a lot of myopic capitalist will reject, even though their underlying aversion to risk is same. Additionally, individuals are presumably to regret actions. If they followed someone's recommendations in lost from their traditional path, the regret can simply transform hostility and anger.
Girish S. R.and Kantesha Sanningammanavara (2014) did research on "Factors influencing individual investor behaviour and Investment decisions – a case of Indian capital market". The researchers identified eight behavioural factors as Representativeness, Anchoring, Information Heuristics, Risk Aversion, Overconfidence, Disposition Result, and Gambler's Fallacy. From the survey of individual investors, it was found that there was influence of behavioural biases on investment decision processes. Luu Thi Bich Ngoc (2014) did research on "Behaviour Pattern of Individual Investors in Stock Market". This research aimed to research behavioural biases like Herding, gamble's fallacy, Prospect, Anchoring-ability and overconfidence influencing the selections of individual investors at the stock exchange in Ho Chi Minh City, Vietnam. This analysis is investigating individual investors, not institutional investors. Suggestions given to investors that they should to contemplate rigorously before investment however shouldn't care an excessive amount of regarding the previous loss for later investment. Further, the investors shouldn't minimize their regret in investment by avoiding selling decreasing stocks and selling increasing ones. Dr. K. Chitra, T. Jayashree (2014) investigated how demographic profile creates a distinction within the capitalist behavior. The results indicate that capitalist behaviour is subject to overconfidence, Conservatism, Price Anchoring factors, Representativeness and Regret aversion. Based on research, it was found that Education, Age and Gender have an interaction with behavioural biases while making investment choice. Further, behavioural biases like overconfident and Representativeness had graded with max mean score followed by Regret Aversion, Price Anchoring and Conservatism. T Bashir, N Azam, Arslan Ali Butt, A Javed, A Tanvir (2013) concluded that Big 5 personality traits had a major relationship with herding ,overconfidence and risk taking except disposition result.

A. Research Gap

From the literature review it has found that in Indian scenario very few researches have been studied the relationship between big five personality traits and regret aversion bias of individual investors. Most of the studies done in stock markets in focus. Studying only impact behavioural biases on stock market investors may not work well in Indian scenario where alternative investments (apart from Debt and Equity) form a huge part of investor portfolio. This research covers the regret aversion relationship with big five personality traits & demographic variables.

B. Objectives Of The Study

- Investigating relationship of demographic factors and regret aversion bias of individual Investors.
- Investigating relationship of big five personality traits and regret aversion bias of individual Investors.

C. Hypothesis

H10: Demographic variables and regret aversion behavioural bias is independent.

H20: Regression Beta coefficients of big five personality trait variables are zero when investor's regret aversion bias set as dependent variable

The conceptual framework for structural relationship between personality traits, demographics and regret aversion bias is presented in Figure 1.The hypotheses depicting the relationships are formulated based on the conceptual model.

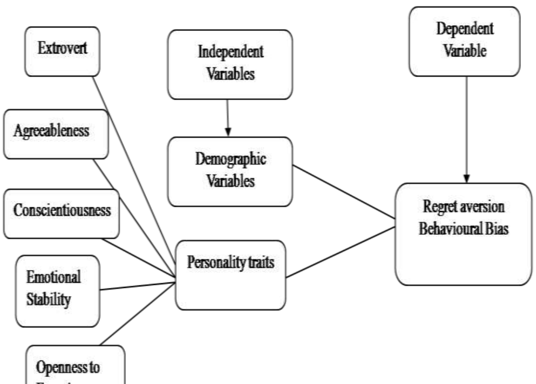

Figure 1. Conceptual Framework
Source: Author's interpretation based on literature review

III. DATA SOURCES AND METHODOLOGY

The present study is an empirical study based on primary data collected from 585 respondents of Ahmadabad, Rajkot, Baroda & Surat in the state of Gujarat through a structured questionnaire. The research was conducted during May-August 2019. The Respondents were selected based on convenience sampling technique. The sample for the study comprises of Investors who are aware about Investment options and have invested at least one investment option.

The structured questionnaire is developed based on the literature review, expert's opinion and opinion received in pilot study. First portion of questionnaire consists of questions related to demographic information which has collected with Relevant closed ended questions. Further Regret aversion behavioural bias measurement has done with closed ended multi-choice question. Question of Regret aversion bias are based on book of Pompain (2006). Author has defined some questions to check presence of bias in investors group based on literature review. Third portion of questionnaire consists of Ten Item Personality Measurement Inventory (TIPI) based on work of Gosling, Rentfrow, & Swann (2003) for measuring Big Five Personality traits. TIPI model measure investor's agreement level about personality traits using 10 questions which had been designed in five point likert's scale. For identifying relationship between demographic variables and regret aversion bias of investor's Chi- Square test has applied. When independent variables are non-metric or metric in nature & dependent variable is non-metric, logistic regression is the useful tool. As in the given research regret aversion bias in non metric in nature & big five personality trait is metric in nature for identifying relationship between these two logistic regressions has applied.

IV. ANALYSIS & INTERPRETATIONS:

For checking the relationship between demographic variables and regret aversion bias following hypothesis has framed. Because of six demographic variables, six null hypothesis have checked by running chi- square independence test with level of significance of $\alpha = 10\%$.

H10: Demographic variables and regret aversion behavioural bias is independent.

H1a: Demographic variables and regret aversion behavioural bias is dependent.

Table1. Summary of Chi-square Independence test -Regret Aversion Bias with Demographic Variables

Relationship with		% with Bias	Significant Value	Inference
Gender	Female	81.28	0.057	Females are more prone to Regret aversion bias.
	Male	74.12		

Age	Young (less than 35 years)	70.83	0.014	In all age group investors are biased with Regret Aversion bias.
	Middle Aged (35 to 54 years)	80.27		
	Old Aged (more than 55 years)	82.65		
Occupation	Student/Unemployed/Retired	72.61	0.000	Self-employed investors are having more regret as compare to other occupation.
	Pvt/ Public Employee	71.93		
	Self employed	91.04		
Education	SSC/HSC/Diploma	82.05	0.000	Investors with high education are having less regret aversion bias as compare to lower education.
	Graduation	82.25		
	Post-Graduation& Above	69.11		
Income	Low Income (less than Rs. 20000 / month)	70.83	0.061	In most of all income level investors are having similar type of regret aversion bias.
	Medium Income (Rs. 20001 to Rs. 60000 per month)	72.38		
	High Income (more than Rs. 60001 per month)	80.54		
Marital Status	Unmarried	72.19	0.100	Probability of regret aversion bias is high in Married investors as compare to unmarried investors.
	Married	78.39		

**Source: Author Interpretation based on SPSS O/P*

A. Summary of Logistic Regression Model: Personality Traits and Regret Aversion Bias

For checking the relationship between Personality traits and regret aversion bias following hypothesis has framed. Table-2 is showing predication accuracy of overall model. Next table is showing Cox & Snell R2 & Nagelkerke R Square. The interpretation of Table 2 is same like R2 in multiple regression models but value of Nagelkerke R Square cannot touch maximum value of 1 (Jr., Black, Babin, & Anderson, 2014). The last table is showing Beta value of logistic regression model.

H20: Regression Beta coefficients of big five personality trait variables are zero when investor's regret aversion bias set as dependent variable

H2a: Regression Beta coefficients of big five personality trait variables are not zero when investor's regret aversion bias set as dependent variable

From Table 2, it has been interpreted that given model is showing accuracy of 76.4%. The model explained 13.4 % (Nagelkerke R2) of the variance in Regret aversion bias and correctly classified 76.4 % of cases. Table-4 is showing logistic regression result where regret aversion bias set as dependent variable and personality traits like Extrovert, Agreeableness, Conscientiousness, Emotional Stability and Openness to Experience as independent variable. The null hypothesis was rejected for Agreeableness with p = 0.038, Emotional Stability with p=0.000 and for openness to experience trait with p = 0.001. This suggests that relationship is significant at α = 10%. The relationships with the Agreeableness, Emotional stability are negative while with openness to experience is having positive relationship. The Variables in the Equation output shows us that the regression equation is

Ln (Regret Aversion) = 3.380 - 0.184 A -0.443 ES+0.308 OE

Table 2. Classification Table - Personality Traits & Regret Aversion Bias

			Predicted		
			Regret Aversion Bias		Percentage Correct
	Observed		No	Yes	
Step 0	**Regret Aversion Bias**	**No**	0	138	**.0**
		Yes	0	447	**100.0**
	Overall Percentage				**76.4**

Source: SPSS Output based on primary data (through survey)

Table 3. Model Summary - Personality Traits & Regret Aversion Bias

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	584.677	.089	.134

Source: SPSS Output based on primary data (through survey)

Table 4. Relationship between Personality Traits & Regret Aversion Bias

		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1	Extrovert(E)	-.063	.097	.422	1	.516	.939
	Agreeableness (A)	-.184	.089	4.287	1	.038	.832
	Conscientiousness (C)	-.127	.088	2.112	1	.146	.880
	Emotional Stability (ES)	-.443	.096	21.526	1	.000	.642
	Openness to Experience (OE)	.308	.090	11.655	1	.001	1.360
	Constant	3.380	.719	22.092	1	.000	29.371

Source: SPSS Output based on primary data (through survey)

V. CONCLUSION

Regret aversion bias is more in students/ unemployed / retired investors. Probability of having Regret aversion bias increases with Female investors. Further Probability of having Regret aversion bias increases with lower education of investors. A figure depicting relationship of traits with the behavioral biases of individual investors can be handy for advisors for practice. A person with more agreeableness in nature is supposed to have lower probability of showing the presence of regret aversion bias. Further, investors with more emotionally stable, showing less probability of regret aversion bias. A person with more Open for experience is demonstrating higher presence of regret aversion bias. Female investors with occupation of student/unemployed/ retired are having more regret aversion bias.

LIMITATION OF THE STUDY AND SCOPE FOR FURTHER RESEARCH

This research should be concluded with alarm because it has respondents of fair one state of India. Further, research has attempted to cover four cities of Gujarat state, in any case, cautious relative depiction of the impressive number of sections of the common open might not have been made since of controls of cost and reach. The country populace of state of Gujarat was not spoken enough; subsequently these think about cannot claim legitimacy for country financial specialists.

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