

## Impact of Individual's Psychology in Their Investment Pattern : An Empirical Inquest in Indian Context

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### Abstract

**“Save for better tomorrow” – These words represent the mantra of many of today's personal financial management professional. Bonds and Stocks are two important financial instruments in family investment decisions. As household income level increases the proportion of individuals owning stocks and bonds is also increasing rapidly. Many surveys or studies have already been done on behavior of individual investors based on different year's data obtained from the Survey of Consumer Finances, U.S. In a country like India the availability of the survey or data relating to individual investors is very rare. In this scenario, we have initiated an interesting, yet, risky venture, to unveil the truth relating to the investors' psychology in India, specially, the individual investors and their behavioural aspect and the impact of the same in their investment pattern.**

**Keywords : Behavioural Finance, Investment Pattern, Save, Bonds, Stocks.**

### Backdrop

“Save for better tomorrow” – These words represent the mantra of many of today's personal financial management professional (Muske & Winter, 2004). Bonds and Stocks are two important financial instruments in family investment decisions (Garman & Fogue, 1994). As household income level increases the proportion of individuals owning stocks and bonds is also increasing rapidly (Zhong & Xiao, 1995).

Many surveys or studies have already been done on behavior of individual investors based on different year's data obtained from the Survey of Consumer Finances, U.S. The Survey of Consumer Finances (SCF) is a survey of the balance sheet, pension, income, and other demographic characteristics of U.S. families conducted once in every three years. The U.S. Federal Reserve Board in cooperation with the U.S. Department of the Treasury sponsors the study.

In a country like India the availability of the survey or data relating to individual investors is very rare. The 'Handbook of Statistics on the Indian Securities Market' published by the Securities Exchange Board of India (SEBI) on March 26, 2010 is the most important secondary data source for this study.

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In this scenario, we have initiated an interesting, yet, risky venture, to unveil the truth relating to the investors' psychology in India, specially, the individual investors and their behavioural aspect and the impact of the same in their investment pattern.

### **Brief Review of the Available Literature**

While searching for the appropriate research questions and while finding the ultimate research gap, we had to go through lots of literatures, Foreign and Indian, based on their availability.

The motivation for the present work was provided by Lucy X. Zhong and Jing Jian Xiao (1995)<sup>1</sup>. This article was based on the characteristics of individual bond and stock holders, using data from the 1989 Survey of Consumer Finances. Based on this work, the present research would like to concentrate on the individual investors of India.

**Kaia kask (1987)**<sup>2</sup> discusses value investing – a long-term investment strategy that is based on investing in stocks with relatively low fundamentals (most often with a low price-to-earning ratio) and finally yields a higher total rate of return from investing than other active strategies. The aim of the paper is to find in which way the excess return earned from value investing is influenced by investors' behaviour in the market and also by the organisational culture of value investing companies. The main research question asked within the paper is why the value investing strategy provides investors with relatively higher total return at lower risk than other investment strategies. The article provides evidence that the direct driver of the excess return from the value investing strategy is the behaviour of investors, while organisational culture has an indirect impact on the rate of return on investment through the performance level of value stock companies.

**Daniel Kahneman (1988)**<sup>3</sup> introduces useful distinctions among three approaches to the analysis of decisions. *Normative* analysis is concerned with the rational solution to the decision problem. It defines the ideal that actual decisions should strive to approximate. *Descriptive* analysis is concerned with the manner in which real people actually make decisions. *Prescriptive* analysis is concerned with practical advice and help that people could use to make more rational decisions. Financial advising is a prescriptive activity whose main objective should be to guide investors to make decisions that best serve their interests. To advise effectively, advisors must be guided by an accurate picture of the cognitive and emotional weaknesses of investors that relate to making investment decisions. The goal of learning about cognitive illusions and decision-making is to develop the skill of recognizing situations in which a particular error is likely. In such situations, as in the case of Exhibit 1, intuition cannot be trusted and it must be supplemented or replaced by more critical or analytical thinking – the equivalent of using a ruler to avoid a visual illusion. Providing timely warnings about the pitfalls of intuition should be one of the responsibilities of financial advisors. More generally, an ability to recognize situations in which one is likely to make large errors is a useful skill for any decision-maker. He concludes in his study with a checklist that advisors can use to measure their effectiveness at dealing with these biases.

According to **Nik Maheran Nik Muhammad (1989)**<sup>4</sup>, Behavioral finance models often rely on a concept of individual investors who are prone to judgment and decision-making errors. This article

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<sup>1</sup> **Lucy X. Zhong and Jing Jian Xiao (1995)**, Determinants of Family Bond And Stock Holdings<sup>1</sup>, Journal of the Family Economics and Resource Management Division of AAFCS.

<sup>2</sup> **Kaia kask (1987)**, The influence of investors' behaviour and organisational culture on value investing: the case of estonian stock market, university of tartu, taken from [www.ssrn.com](http://www.ssrn.com).

<sup>3</sup> **Daniel Kahneman (1988)**, Aspects of Investor Psychology, Beliefs, preferences, and biases investment advisors should know about, taken from [www.ssrn.com](http://www.ssrn.com).

<sup>4</sup> **Nik Maheran Nik Muhammad (1989)**, Study on Behavioral Finance: Is the individual investors rational?, taken from [www.ssrn.com](http://www.ssrn.com)

provide brief introduction of behavioral finance, which encompasses research that drops the traditional assumptions of expected utility maximization with rational investors in efficient markets. He also reviews prior research and extensive evidence about how psychological biases affect investor behavior and prices. He found that the most common behavior that most investors do when making investment decision are (1) Investors often do not participate in all asset and security categories, (2) Individual investors exhibit loss-averse behavior, (3) Investors use past performance as an indicator of future performance in stock purchase decisions, (4) Investors trade too aggressively, (5) Investors behave on status quo, (6) Investors do not always form efficient portfolios, (7) Investors behave parallel to each other, and (8) Investors are influenced by historical high or low trading stocks. However, there are relatively low-cost measures to help investors make better choices and make the market more efficient. These involve regulations, investment education, and perhaps some efforts to standardize mutual fund advertising. Moreover, a case can be made for regulations to protect foolish investors by restricting their freedom of action of those that may prey upon them.

**Rod Cross, Michael Grinfeld, Harbir Lamba & Tim Seaman (1990)**<sup>5</sup> introduce a class of agent based market models founded upon simple descriptions of investor psychology. Agents are subject to various psychological tensions induced by market conditions, and endowed with a minimal 'personality'. This personality consists of a threshold level for each of the tensions being modeled, and the agent reacts whenever a tension threshold is reached. They consider an elementary model including just two such tensions.

In the opinion of **Werner F.M. De Bondt (1990)**<sup>6</sup>, behavioural finance models often rely on a concept of noise traders who are prone to judgment and decision-making errors. What do noise traders do? He reviewed prior and present new survey evidence on the behaviour of small individual investors who manage their own equity portfolios. Many people (1) discover naive patterns in past price movements, (2) share popular models of value, (3) are not properly diversified, and (4) trade in suboptimal ways.

**Boldea Bogdan Ion, Stanculescu Mircea & Boldea Costin-Radu (1991)**<sup>7</sup>, in his study, determined a general behavior of a multi-agent model capable of describing the process of deliberation of an investors group which may repeatedly decide whether to buy or sell an asset. Each adaptive agent was modeled as a collection of strategies which is optimized by an evolutionary algorithm (EA). The paper investigates the implications and the effect of the learning process for the information strategies used by the agents in the process of deliberation of buy and sells order.

**Syed Tabassum Sultana (2010)**<sup>8</sup>, opines in his study, that, Indian investor today have to endure sluggish economy, the steep market declines prompted by deteriorating revenues, alarming reports of scandals ranging from illegal corporate accounting practices like that of Satyam to insider trading to make investment decisions. She, in her study, while discussing the characteristics of the Indian

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<sup>5</sup> **Rod Cross, Michael Grinfeld, Harbir Lamba & Tim Seaman (1990)**, A Threshold Model of Investor Psychology, taken from [www.ssrn.com](http://www.ssrn.com)

<sup>6</sup> **Werner F.M. De Bondt (1990)**, A Portrait of the Individual Investor, Institute for Empirical Economic Research, University of Zurich, Switzerland, taken from [www.ssrn.com](http://www.ssrn.com)

<sup>7</sup> **Boldea Bogdan Ion, Stanculescu Mircea & Boldea Costin-Radu (1991)**, An Adaptive Evolutionary Model Of Financial Investors, taken from [www.ssrn.com](http://www.ssrn.com)

<sup>8</sup> **Syed Tabassum Sultana (2010)**, An Empirical Study of Indian Individual Investors' Behavior, Global Journal of Finance and Management, ISSN 0975 – 6477, Volume 2, Number 1 (2010), pp. 19-33, source : <http://www.ripublication.com/gjfm.htm>

individual investors along, makes an attempt to discover the relationship between a dependent variable i.e., Risk Tolerance level and independent variables such as Age, Gender of an individual investor on the basis of the survey. Indian investors are high income, well educated, salaried, and independent in making investment decisions and conservative investors. From the empirical study it was found that irrespective of gender, most of the investors (41%) are found have low risk tolerance level and many others (34%) have high risk tolerance level rather than moderate risk tolerance level. It is also found that there is a strong negative correlation between Age and Risk tolerance level of the investor. Television is the media that is largely influencing the investor's decisions. Hence, this study can facilitate the investment product designers to design products which can cater to the investors who are low risk tolerant.

**Terrance Odean (1998)**<sup>9</sup>, in his study, tests the disposition effect, the tendency of investors to hold losing investments too long and sell winning investments too soon, by analyzing trading records for 10,000 accounts at a large discount brokerage house. These investors demonstrate a strong preference for realizing winners rather than losers. Their behavior does not appear to be motivated by a desire to rebalance portfolios, or to avoid the higher trading costs of low priced stocks. Nor is it justified by subsequent portfolio performance. For taxable investments, it is suboptimal and leads to lower after-tax returns. Tax-motivated selling is most evident in December.

**Geoffrey Williams (2011)**<sup>10</sup> provides an empirical analysis of the differences between socially responsible investors (SRI) and conventional investors in six countries. He showed that differences are seen more often in investor attitudes and behaviour rather than in other criteria such as demographics. SRI investors appear to care more about social criteria rather than financial and shareholder interests and are more likely to punish firms for poor social performance as consumers as well as in their investment choices. All investors believe that good corporate social performance leads to good financial performance but conventional investors do not appear to follow this through in their portfolios. Market context also appears to be important.

In the opinion of **Iqbal Mahmood, Habib Ahmad & Mansoor Anjum (2011)**<sup>11</sup>, the behavioral finance has been recognized as an important area in the study of recent finance literature. Its implicit objective is to discover and remedy the deviations from the rational decision making in the investment process. They examined the role of various socioeconomic, demographic and attitudinal factors affecting the investment decision of investors in the market.

Based on the previous studies, factors that could influence holdings of bonds and stocks include three sets of variables – demographic characteristics, financial resources and socio-psychological variables. Socio-demographic variables included educational levels, age, gender, marital status, and race of the household head. Financial variables included the level of income, checking amount and savings amount. Five psychological variables were: expectation for economy, expectation for interest rates, expectation for family income, saving motives and financial planning horizon (Zhong & Xiao, 1995).

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<sup>9</sup> **Terrance Odean (1998)**, Are Investors Reluctant to Realize Their Losses? *The Journal of Finance*, Vol. 53, No. 5. (Oct., 1998), pp. 1775-1798. Stable URL: <http://links.jstor.org/sici?sici=0022>

<sup>10</sup> **Geoffrey Williams (2011)**, Are socially responsible investors different from conventional investors? A comparison across six countries, *European Journal of Social Sciences* – Volume 20, Number 2

<sup>11</sup> **Iqbal Mahmood, Habib Ahmad & Mansoor Anjum (2011)**, Behavioral Implications of Investors for Investments in the Stock Market, *International Islamic University, Islamabad, Pakistan*.

Age and stock holdings are positively related (Kreinin, 1959). However, older investors have been found to be more conservative in their investment behavior (Baker & Haslem, 1974; Lease, Lewellen & Schlarbaum, 1974; Lewellwn, Lease & Schlarbaum, 1977). Male consumers were more likely than females to invest in real estates, common stocks, and corporate bonds, but females were more likely to own government bonds (Haynes & Helms, 1990). An earlier study indicated that females were more likely than males to emphasize the importance of expected dividend yield and price stability (Baker & Haslem, 1974).

There are various types of motivational issues and personality which are related to a specific individual and these will play an effective role in the savings and investment decisions related with each individual (Maslow, 1954).

As the risk factor is inseparable with the fuctions like investment or savings, hence it is necessary to understand the financial risk tolerance factors of an individual. The various risk tolerance factors associated with an individual play very important roles in his/her various financial decision makings (Hallahan, Faff & McKenzie, 2004).

Perceived saving motives were different in terms of the household's home ownership, marital status, number of children, life cycle stage, employment status, income, asset and debt categories, net worth, and the head's gender and education (Xiao & Noring, 1994).

#### **Identification of the Research Gap**

After swimming within a glimpse of above available literatures (keeping in mind the searching limitations), it becomes crystal clear, that, no compresensive study has yet been made which could throw a light on the impact of the individual's psychology on their investment pattern, especially in Indian context.

#### **Design of the Present Study**

There is a paucity of primary research in this area in India. So, this study will mainly be based on primary data collected through questionnaire, from the individuals with different religion, age, sex, marital status, income group, etc. This study would also use variables like the roles of trust and optimism (Guiso, Sapienza & Zingales, 2005) that have not been used in previous researches in India, which is a major contribution of this paper.

But, different other sources of secondary data which would be taken into consideration for this study will be - the various reports on household sectors investment generated by Reserve Bank of India, Ministry of Finance of Indian Government, etc. and also different official and non-official sources and obviously, different websites.

The objectives of the present study include the identification of factors affecting the individual's psychology for the purpose of investment. The study is exploratory or formulative in nature with an emphasis on discovery of insights and ideas. This study would mainly focus on primary sources of data. It also involves the empirical and qualitative testing to establish linkages and relationships between the different factors so as to ultimately lead to a proper model /framework that would provide an integrated framework for the research.

Keeping these objectives in mind, it is clear that both an exploratory / formulative and descriptive / diagnostic research design seemed most appropriate.

#### **Objectives of the Present Study**

This is an attempt to study the individual's psychology and their investment behavior. This study is concentrated for the country India only. This is also an attempt to examine the characteristics of individual bond and stock holders. This study will not only investigate which consumers hold bond

and stocks, but will also try to explore why they choose such instruments for the purpose of investment. The findings of the study will help the practitioners to provide better suggestions related with investment decisions to their clients. This study will help the personal financial counselors and planners to understand the socio-economic characteristics of the individual investors.

The main objectives of the study are –

- 1. To have an overview of the Investors' behavioral pattern in India. (to be explained in Chapter 2).**
- 2. To explain the various determinants of bond and stock ownership and the savings behavior of the individuals. (to be explained in Chapter 3)**
- 3. To link the investment and savings pattern of individuals to age, family structure, income pattern, and educational background of the individual. (to be explained in Chapter 4)**
- 4. To look at the roles played by psychological variables such as trust, optimism and risk aversion in investment decision making. (to be explained in Chapter 5)**
- 5. To test empirically, the role played by the above variables in the Investment Decisions of Individuals. (to be explained in Chapter 6)**
- 6. To provide with better and relevant suggestions related regarding the investment decisions to the clients of different financial services providers. (to be explained in Chapter 7)**

### **Proposed Methodology of the Present Study**

#### **Data Source**

Quantitative data will be collected through filled-up structured questionnaires. The sample will be selected based on random sampling procedure.

Necessary data support will also be taken from various secondary sources of information, relevant books, journals, periodicals and websites, wherever necessary.

#### **Period of Study**

The primary data survey and the analysis will take into consideration almost two years of study period.

#### **Method adopted for Sampling**

The sample will be selected based on random sampling procedure. The target group would consist of Indian individual investors (both male and female) from different part of the country with different socio-cultural backgrounds, different age groups, different income groups, etc.

#### **Tools for Analysis**

The test for quantitative validity would be done through suitable statistical techniques like regression, chi-square, ANOVA etc. by using appropriate statistical software. Other relevant statistical tools and models may be deployed as deemed pertinent to the problem in hand.

#### **Variable conceptualization**

Based on the literature review, the variables and the items for the study would be conceptualized. The items would be pilot tested to arrive at the final questionnaire.

Based on previous studies, the variables to be included in the data analyses of this study are:

**Dependent variables** – the rupee values/the percentage of bond holdings and the rupee values/the percentage of stock holdings.

**Independent variables** –

- a) *Socio-demographic variables*: educational levels, age, gender, marital status, and race of the household head.
- b) *Financial variables*: the level of income, checking amount and savings amount.
- c) *Psychological variables*: expectation for economy, expectation for interest rates, expectation for family income, saving motives, financial planning horizon, etc.

### Respondent Characteristics

Table 1 shows that most of the respondents of this study, belong to the age group “Below 30 years”. 35 respondents belong to the age group of “Below 30 years” which is almost 43% of the total sample size. If we consider the respondents belonging to the age group of “30 – 40 years” and the age group “Below 30 years” together, it can be seen that there are 46 respondents, which is almost 57% of the total sample size. Hence we can say that most of the respondents are young. Again the majority of the sample is “Male” which almost 83% of the total sample size is. 63% of the respondents are married. Married individuals generally bear more responsibility than their unmarried counterparts. Therefore it is quite expected that the investment of the married individuals are more than unmarried ones. 96% of the respondents are Hindus.

Table 1 shows that while most of the respondents are either Postgraduates or Graduates, few are Professionals (Doctor, Chartered Accountant or Engineer) as well. Further, it is interesting to note that most investors of this study can be said to possess higher education, and this factor will increase the reliability of the conclusions drawn about the matters under investigation. Most of the respondents are service holders (75.6%). Very few number of them are either self-employed, retired, businessmen, or engaged in cultivation. During the study, we find one respondent who is a student but still he has his own investment and his monthly income is between “Rs. 20,000 – Rs. 30,000 per month”.

A large number of respondents belong to the individual monthly income bracket of Rs. 20,000 to Rs. 50,000, whereas in case of total monthly income of family, almost 55% of the respondents belong to the income level of “above Rs. 50,000”. The total number of members in the family is either 3 or 4 in most of the cases. Almost in 79% of the cases, the total number of earning members in the family is either the respondent himself or the respondent and another person in the family.

The descriptive respondent characteristics are presented in Table 1.

**Table 1: Demographics of the Sample Investor**

Parameter	Number of Investors	Percentage
<b>Gender</b>		
Male	68	82.9
Female	14	17.1
<b>Total</b>	<b>82</b>	<b>100</b>
<b>Age (in Years)</b>		
Below 30	33	40.2
30 - 40	13	15.9
41 - 50	10	12.2

51 - 60	23	28
Above 60	3	3.7
<b>Total</b>	<b>82</b>	<b>100</b>
<b>Marital Status</b>		
Married	52	63.4
Unmarried	30	36.6
<b>Total</b>	<b>82</b>	<b>100</b>
<b>Religion</b>		
Hindu	79	96.3
Islam	2	3.6
Jain	1	0.1
<b>Total</b>	<b>82</b>	<b>100</b>
<b>Educational Qualification</b>		
Upto Class XII	3	3.6
Graduate	25	30.5
Post Graduate and above	54	65.9
<b>Total</b>	<b>82</b>	<b>100</b>
<b>Occupation</b>		
Service	62	75.6
Self employed	2	1.9
Retired	3	2.7
Business	8	9.8
Professional	6	7.3
Others	3	2.7
<b>Total</b>	<b>82</b>	<b>100</b>
<b>Monthly Earnings of Individual (in Rs.)</b>		
Upto Rs. 10,000	3	3.6
Rs. 10,001 - Rs. 20,000	11	13.4
Rs. 20,001 - Rs.30,000	17	20.7
Rs. 30,001 - Rs. 40,000	14	17.1
Rs. 40,001 - Rs. 50,000	24	29.3
Above Rs. 50,000	13	15.9
<b>Total</b>	<b>82</b>	<b>100</b>
<b>Monthly Earnings of Family (in Rs.)</b>		

Upto Rs. 10,000	2	2.5
Rs. 10,001 - Rs. 20,000	6	7.3
Rs. 20,001 - Rs.30,000	11	13.4
Rs. 30,001 - Rs. 40,000	7	8.5
Rs. 40,001 - Rs. 50,000	11	13.4
Above Rs. 50,000	45	54.9
<b>Total</b>	<b>82</b>	<b>100</b>
<b>Total earning members in family</b>		
Only 1 (Respondent)	34	41.5
1 person in addition to respondent	31	37.8
2 person in addition to respondent	10	12.2
3 person in addition to respondent	5	6.1
4 person in addition to respondent	1	1.2
More than 5 person in addition to respondent	1	1.2
<b>Total</b>	<b>82</b>	<b>100</b>
<b>Instruments of Investment</b>		
Only Equity	11	
Equity & Debentures	9	
UTI Scheme	6	
Mutual Fund	31	
Fixed Deposit	38	
Only Bonds	2	
EPF/PPF	35	
LIC	69	
Chit Funds	1	
RDs PO	8	
NSS, NSC	19	
Pref Sh	2	
Comm. & Derivatives	1	
Real estate	12	
Others	5	
<b>Reasons of Investment</b>		
Safeguard	66	
Hobby	4	
Financial Gain	20	
Learn	3	
Conversations		

Affiliate		
<b>Investment related knowledge</b>		
Very little	12	14.6
Little	21	25.6
Average	30	36.6
Sufficient	18	22
Great Deal	1	1.2
<b>Total</b>	<b>82</b>	<b>100</b>
<b>Factors of Investment today</b>		
Fundamental analysis	27	
Recommendations	39	
Past Performance	31	
Newspaper / T.V.	22	
Internet	9	
Personal Friend	21	
Colleagues	14	
Own Intuition	15	

Table 1 shows that respondents mostly consider factors like Recommendations, advice and forecasts from professional investors', 'The overall past performance of the market seen from a historical perspective', 'Information from the company as a basis for a fundamental analysis', 'Information from newspapers/T.V.', 'Discussion with personal friends', etc. before making any investment decision.

Most investors invest to safeguard their future and as investments have the potential for financial gain. Only a negligible number of investors choose the options 'It is your hobby' and 'You like to analyze problems, look for new constructions and learn'. No one opted for the options 'You like to participate in investment related conversations with others' and 'You like to affiliate with other investors'.

To decide the investment knowledge and experience of the investors, five options were provided to the respondents – 'I have very little knowledge/experience', 'I have little knowledge/experience', 'I have an average amount of knowledge/experience', 'I have sufficient knowledge/experience' and 'I have great deal of knowledge/experience'. Most of the respondents in this study, possess either little or average knowledge and experience of investment.

To know which of the following instruments investors have already invested in, we provided them with various investment instruments like – Only Equity, Equity & Debentures, UTI Scheme, Mutual Fund, Fixed Deposit, Only Bonds, EPF / PPF, LIC, Chit Funds, Recurring Deposits (RDs) in Post Office, IVP/NSS/NSC, Preference Shares, Commodities and Derivatives, Real estate and Others. From table 1 it can be clearly seen that for investors, insurance policies from LIC is the most preferred option. Apart from investment in LIC most of the investors invested in Mutual Funds,

Fixed Deposits, EPF/PPF and IVP/NSS/NSC. In terms of other options the responses from the respondents are moderate.

#### Detailed Analysis of the Collected Data

Now to analyze quantitatively to make this research more meaningful, first we have taken ‘% of equity’ and ‘% of debt’ as dependent variables. Percentage of equity denotes the proportion of investments in equity related instruments. Percentage of debt denotes the proportion of investments in fixed income instruments. Male dummy (1 = male, 0 = female), married dummy (1 = married, 0 = unmarried), trust dummy (1 = if individuals trust their bank official or broker, 0 = if they are either very careful in dealing with or they don't trust their bank official or broker), good things dummy (1 = if individuals are optimistic and believe that good things happen to them, 0 = if individuals are pessimistic and believe that good things never happen to them) are used as independent variables. To test if there is any significant difference between male and female, married and unmarried, individuals who trust other people and individuals who don't trust other people and optimistic investors and pessimistic investors with respect to dependent variables, we have used ANOVA methodology with SPSS software. The output from SPSS is given below.

**Table 2: Comparative Descriptive Statistics between % of Equity and % of Debt (Male/Female Segregation)**

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
% of Equity	Female	14	13.29	21.709	5.802	.75	25.82	0	60
	Male	68	8.65	15.990	1.939	4.78	12.52	0	70
	Total	82	9.44	17.035	1.881	5.70	13.18	0	70
% of Debt	Female	14	22.50	27.856	7.445	6.42	38.58	0	80
	Male	68	20.88	30.148	3.656	13.58	28.18	0	100
	Total	82	21.16	29.610	3.270	14.65	27.66	0	100

**Table 3: ANNOVA between % of Equity and % of Debt (Groups Segregation)**

		Sum of Squares	df	Mean Square	F	Sig.
% of Equity	Between Groups	249.809	1	249.809	.859	.357
	Within Groups	23256.387	80	290.705		
	Total	23506.195	81			
% of Debt	Between Groups	30.380	1	30.380	.034	.854
	Within Groups	70984.559	80	887.307		
	Total	71014.939	81			

In Table 3, the p-values are greater than 0.05. Hence we can state that there is no significant difference for “% in equity investment” as well as for “% in debt investment” between Gender (male and female).

**Table 4: Comparative Descriptive Statistics between % of Equity and % of Debt (no good thing and good thing segregation)**

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		

% of Equity	Nogood things	9	4.44	8.819	2.940	-2.33	11.22	0	20
	Good things	73	10.05	17.729	2.075	5.92	14.19	0	70
	Total	82	9.44	17.035	1.881	5.70	13.18	0	70
% of Debt	Nogood things	9	17.22	25.874	8.625	-2.67	37.11	0	80
	Good things	73	21.64	30.162	3.530	14.61	28.68	0	100
	Total	82	21.16	29.610	3.270	14.65	27.66	0	100

**Table 5: ANNOVA between % of Equity and % of Debt (Groups Segregation)**

		Sum of Squares	df	Mean Square	F	Sig.
% of Equity	Between Groups	252.192	1	252.192	.868	.354
	Within Groups	23254.003	80	290.675		
	Total	23506.195	81			
% of Debt	Between Groups	156.644	1	156.644	.177	.675
	Within Groups	70858.295	80	885.729		
	Total	71014.939	81			

In Table 5, we can see that in this case also the p-values are greater than 0.05. Hence it can be stated that there is no significant difference for “% in equity investment” as well as for “% in debt investment” between individuals who are optimistic and individuals who are generally pessimistic.

**Table 6: Comparative Descriptive Statistics between % of Equity and % of Debt (Trust/Don't Trust Segregation)**

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
% of Equity	Dont trust	50	10.12	18.548	2.623	4.85	15.39	0	70
	Trust	32	8.38	14.580	2.577	3.12	13.63	0	60
	Total	82	9.44	17.035	1.881	5.70	13.18	0	70
% of Debt	Dont trust	50	17.90	26.994	3.817	10.23	25.57	0	100
	Trust	32	26.25	33.093	5.850	14.32	38.18	0	100
	Total	82	21.16	29.610	3.270	14.65	27.66	0	100

**Table 7: ANNOVA between % of Equity and % of Debt (Groups Segregation)**

		Sum of Squares	df	Mean Square	F	Sig.
% of Equity	Between Groups	59.415	1	59.415	.203	.654
	Within Groups	23446.780	80	293.085		

	Total	23506.195	81			
% of Debt	Between Groups	1360.439	1	1360.439	1.562	.215
	Within Groups	69654.500	80	870.681		
	Total	71014.939	81			

From Table 7, we can see that here also the p-values are greater than 0.05. Hence it can be stated that there is no significant difference for “% in equity investment” as well as for “% in debt investment” between individuals who trust other people and individuals who do not trust other people.

**Table 8: Comparative Descriptive Statistics between % of Equity and % of Debt (Unmarried/Married Segregation)**

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
% of Equity	Unmarried	30	8.03	16.175	2.953	1.99	14.07	0	70
	Married	52	10.25	17.616	2.443	5.35	15.15	0	60
	Total	82	9.44	17.035	1.881	5.70	13.18	0	70
% of Debt	Unmarried	30	15.50	25.439	4.645	6.00	25.00	0	100
	Married	52	24.42	31.540	4.374	15.64	33.20	0	100
	Total	82	21.16	29.610	3.270	14.65	27.66	0	100

**Table 9: ANNOVA between % of Equity and % of Debt (Groups Segregation)**

		Sum of Squares	df	Mean Square	F	Sig.
% of Equity	Between Groups	93.478	1	93.478	.319	.574
	Within Groups	23412.717	80	292.659		
	Total	23506.195	81			
% of Debt	Between Groups	1514.747	1	1514.747	1.744	.190
	Within Groups	69500.192	80	868.752		
	Total	71014.939	81			

In Table 9, we can see that p-values are greater than 0.05. Hence we can state that there is no significant difference for “% in equity investment” as well as for “% in debt investment” between married and unmarried individuals.

After doing the previous analyses, again we have taken “% of long term investment” and “% of short term investment” as dependent variables. Percentage of long term investment denotes the proportion of investments with horizon greater than 5 years. Percentage of short term investment denotes the proportion of investments with horizon less than 5 years. All the respondents of our sample did not provide clear information regarding these dependent variables; hence at the time of this analysis mentioned in the tables given below, we have considered a sample size of 59. Male dummy, married dummy, trust dummy and good things dummy are used as independent variables. To test if there is any significant difference between male and female, married and unmarried, individuals who trust and individuals who don't trust and optimism and pessimism of investors, we have used ANOVA methodology with SPSS software. The SPSS output is given below.

**Table 10 : Comparative Descriptive Statistics between % of Equity and % of Debt  
(% of long term investment" and "% of short term investment Segregation)**

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
percntlong	Female	53	54.70	31.107	4.273	46.12	63.27	0	100
	Male	6	89.17	12.416	5.069	76.14	102.20	75	100
	Total	59	58.20	31.484	4.099	50.00	66.41	0	100
percntshort	Female	53	25.15	23.992	3.296	18.54	31.76	0	100
	Male	6	10.83	12.416	5.069	-2.20	23.86	0	25
	Total	59	23.69	23.418	3.049	17.59	29.80	0	100

**Table 11: ANNOVA between % of Equity and % of Debt  
(Groups Segregation)**

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
percntlong	Between Groups	6403.556	1	6403.556	7.144	.010
	Within Groups	51090.003	57	896.316		
	Total	57493.559	58			
percntshort	Between Groups	1104.883	1	1104.883	2.051	.158
	Within Groups	30703.626	57	538.660		
	Total	31808.508	58			

In Table 11, we can see that the p-value for between groups is less than 0.05, i.e. 0.010. Hence it can be suggested that there is a significant difference in the percentage of long term investment between Gender. Table 10 shows that the mean value of male investor (89.17) is more than the mean value of the female investor (54.70). Therefore it can be stated that male investors are much more interested in long term investment than female investors. Now in terms of short term investment as the p-value is greater than 0.05, hence there is no significant difference between Gender.

**Table 12: Comparative Descriptive Statistics between % of Equity and % of Debt  
(Married/Unmarried Segregation)**

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
percntlong	Unmarried	11	62.36	35.452	10.689	38.55	86.18	4	100
	Married	48	57.25	30.836	4.451	48.30	66.20	0	100
	Total	59	58.20	31.484	4.099	50.00	66.41	0	100
percntshort	Unmarried	11	16.18	23.353	7.041	.49	31.87	0	60
	Married	48	25.42	23.335	3.368	18.64	32.19	0	100
	Total	59	23.69	23.418	3.049	17.59	29.80	0	100

**Table 13: ANNOVA between % of Equity and % of Debt  
(Groups Segregation)**

		Sum of Squares	df	Mean Square	F	Sig.
percntlong	Between Groups	234.014	1	234.014	.233	.631
	Within Groups	57259.545	57	1004.553		
	Total	57493.559	58			
percntshort	Between Groups	763.205	1	763.205	1.401	.241
	Within Groups	31045.303	57	544.654		
	Total	31808.508	58			

In Table 13, we can see that the p-values are greater than 0.05. Hence there is no significant difference for long term investment as well as for short term investment between married and unmarried individuals.

**Table 14: Comparative Descriptive Statistics between % of Equity and % of Debt (Trust/Not Trust Segregation)**

Descriptives									
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
percntlong	Not Trust	38	53.21	32.524	5.276	42.52	63.90	0	100
	Trust	21	67.24	28.012	6.113	54.49	79.99	0	100
	Total	59	58.20	31.484	4.099	50.00	66.41	0	100
percntshort	Not Trust	38	24.74	21.808	3.538	17.57	31.91	0	70
	Trust	21	21.81	26.547	5.793	9.73	33.89	0	100
	Total	59	23.69	23.418	3.049	17.59	29.80	0	100

**Table 15: ANNOVA between % of Equity and % of Debt (Groups Segregation)**

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
percntlong	Between Groups	2661.434	1	2661.434	2.767	.102
	Within Groups	54832.125	57	961.967		
	Total	57493.559	58			
percntshort	Between Groups	115.902	1	115.902	.208	.650
	Within Groups	31692.607	57	556.011		
	Total	31808.508	58			

In Table 15, we can see that the p-values are greater than 0.05. Hence in this case also there is no significant difference for percentage in long term investment as well as for percentage in short term investment between individuals who trust other people and individuals who don't trust other people.

**Table 16: Comparative Descriptive Statistics between % of Equity and % of Debt (Optimistic/Pesimistic Segregation)**

Descriptives									
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
percentlong	Not Good Things	9	36.56	32.431	10.810	11.63	61.48	0	80
	Good things	50	62.10	30.001	4.243	53.57	70.63	0	100
	Total	59	58.20	31.484	4.099	50.00	66.41	0	100
percentshort	Not Good Things	9	22.78	16.791	5.597	9.87	35.68	0	50
	Good things	50	23.86	24.555	3.473	16.88	30.84	0	100
	Total	59	23.69	23.418	3.049	17.59	29.80	0	100

**Table 17 : ANNOVA between % of Equity and % of Debt (Groups Segregation)**

		Sum of Squares	df	Mean Square	F	Sig.
percentlong	Between Groups	4976.837	1	4976.837	5.402	.024
	Within Groups	52516.722	57	921.346		
	Total	57493.559	58			
percentshort	Between Groups	8.933	1	8.933	.016	.900
	Within Groups	31799.576	57	557.887		
	Total	31808.508	58			

In Table 17, we can see that the p-value for long term investment between groups is less than 0.05, i.e. 0.024. Hence there is a significant difference for percentage in long term investment between individuals who are optimistic and individuals who are generally pessimistic. It can also be seen from Table 16 that the mean value of individuals who are optimistic (62.10) is more than the mean value of those individuals who are generally pessimistic (36.56). Therefore it can be stated that individuals who are optimistic are much more interested in long term investment than individuals who are generally pessimistic. In case of percentage in short term investment the p-value is greater than 0.05. Hence there is no significant difference for percentage in short term investment between individuals who are optimistic and individuals who are generally pessimistic.

The investors were also queried about few options which are applicable for them like “It is important to me that other people approve of the stocks that I buy”, “I identify with others by buying and/or selling the same stocks as they do”, “I get a feeling of belongingness by buying and/or selling the same stocks as others do”, “Before I buy or sell a stock, I often inform about this stock amongst family and friends” and “When I have little experience with a certain stock, I often ask friends or acquaintances about it”. Participants reported the objective of their investment in stocks by rating their agreement with statements that described different objectives of investment using a five-point Likert scale, where 1 = completely disagree, 2 = disagree, 3 = neither disagree nor agree, 4 = agree and 5 = completely agree.



dimension0	1	2.404	48.071	48.071	2.404	48.071	48.071	1.842	36.836	36.836
	2	1.195	23.900	71.971	1.195	23.900	71.971	1.757	35.135	71.971
	3	.617	12.346	84.316						
	4	.526	10.523	94.840						
	5	.258	5.160	100.000						
Extraction Method: Principal Component Analysis.										

**Table 21: Component Matrix<sup>a</sup>**

	Component	
	1	2
QUES1	.494	-.669
QUES2	.824	-.354
QUES3	.838	-.045
QUES4	.548	.658
QUES5	.692	.433
Extraction Method: Principal Component Analysis.		
a. 2 components extracted.		

**Table 22: Rotated Component Matrix<sup>a</sup>**

	Component	
	1	2
QUES1	.817	-.152
QUES2	.844	.303
QUES3	.644	.538
QUES4	-.048	.855
QUES5	.211	.788
Extraction Method: Principal Component Analysis.		
Rotation Method: Varimax with Kaiser Normalization.		
a. Rotation converged in 3 iterations.		

**Findings, Conclusion and Recommendations**

This study confirms the earlier findings with regard to the underlying factors that determine the investment decisions of individual investors in India. The findings generally suggest that in case of the individual investor, psychological factors do play a pivotal role.

This study reveals that male investors dominate the investment market in India. Most of the investors possess higher education like graduation and above. Investors in this study reported the need to safeguard their future and financial gain as the most important objectives. Their responses also confirm that they also strive to satisfy their social oriented objectives and dependence oriented objectives.

Investors are bounded in their rationality. This study once again establishes that most of them do not have sufficient knowledge and experience regarding investments. Investors, realizing that their personal knowledge and/or experience is insufficient to make correct decisions, may try to reduce the resulting feelings of uncertainty and come to a decision by deriving investment related information from knowledgeable others or observing the behavior of other investors in their social network.

This study reveals that investors mostly prefer avenues like Mutual Fund, Fixed Deposits, EPF/PPF and IVP/NSS/NSC to invest their funds next to LIC insurance policies, which is the most preferred investment avenue.

This study is also an attempt to examine the roles played by trust and optimism in investing. From the findings it is evident that individuals who are optimistic are more interested in long term investing than individuals who are generally pessimistic. Male investors are mostly longer term investors when compared to female investors. Individuals who trust other people and individuals who do not trust other people do not differ in their investment horizons.

However, we do not find evidence that trust, optimism, gender or marital status impacts the percentage of investment held in equity or percentage of investment held in debt.

This study has important implications for investment managers as it has come out with certain interesting facets of an individual investor.

### **Limitations of the Study**

The nature of our survey, however, brings along a limitation of this study. The respondents of our survey were Indian investors. According to NCAER (National Council of Applied Economic Research), in 2009, of the 222 million households in India, the absolutely poor households (annual incomes below Rs. 45,000) accounted for only 15.6% of them or about 35 million (about 200 million Indians). Another 80 million households are in income levels of Rs. 45,000 – 90,000 per year ([http://en.wikipedia.org/wiki/Poverty\\_in\\_India](http://en.wikipedia.org/wiki/Poverty_in_India), last accessed in 30<sup>th</sup> November, 2010). In the country like India investment is still a luxury for most of the individuals.

This study illustrates the relevance of using theoretical insights and methods from fields such as consumer behavior and marketing research to explain and understand individual investor behavior. This study may be relevant for the professionals in the field, like e.g. investment consultants for developing marketing strategies, new investment products, as well as in the everyday contact with clients. We are very willing to continue our research in this specific area in the coming days with more number of respondents and with much more time. The difficulties we have faced during this study are not an excuse but we will try to learn from those factors and definitely take into consideration during our further research. The sample of this study was limited to individual investors. Future studies have to determine whether specific results of this study also hold for the behavior of professional investors.

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