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An Empirical Study of Indian Individual Investors' Behavior

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ABSTRACT **- Indian investor today have to endure a lethargic economy, the unreasonable market declines encouraged by worsening revenues, upsetting reports of scandals ranging from illegal corporate accounting practices. Stock market's performance is not simply the result of intelligible characteristics but also due to the emotions that are still baffling to the analysts. Despite loads of information bombarding from all directions, it is not the freezing calculations of financial wizards, or company's performance or widely accepted measure of stock performance but the investor's irrational emotions like overconfidence, fear, risk aversion, etc., seem to with certainty decisively take and dictate the fortunes of the market. This paper while discussing the characteristics of the Indian individual investors along makes anchallenge to discover the relationship between adependent 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, independent in making investment decisions and resistant to change to investors. From the empirical study it was found that inspite 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 theinvestor. 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.**

Keywords : Indian Investor, economy, Market, investment, Correlation

1. INTRODUCTION OF THE STUDY

At present time BSE Sensex was at peck around the 21000 levels in the month of January 2011, irrational abundance was the order of the day. Then, few investors would have foreseen a fall of over 70% in the subsequent 12 months period. Expectedly, the exuberance has been forgotten and depression has set in. The market is so volatile that its behavior is not foreseen. In the past couple of years, the movement of share prices exceeded all the limits and had gone remarkably low and high levels. These dramatic prices of the shares ruin the concept of intrinsic value and rational investment behavior. The traditional finance theories assume that investors are rational but they are unable to explain the behavior and pricing of the stock market completely. Indian Investors have to endure a lethargic economy, the steep market declines prompted by deteriorating revenues. TheStock market's performance is simply the result of intelligible characteristics of the investor is the question that still confusing the analysts. Despite loads of information affecting from all directions, it is not the cold calculations of financial wizards, company performance or widely accepted criterion of stock performance but the investor's irrational emotions like overconfidence, fear, risk aversion, etc., seem to decisively driving and dictating the fortunes of the market is increasingly realized by the analysts.

2. NEED FOR THE STUDY

Stock market has been subjected to abstraction and inefficiencies, which are of no endto the rationality of the investor. Traditional finance theory is based on the twoassumptions. Firstly, investors' make acceptable decisions; and secondly investors areimpartial in their predictions about future returns of the stock. However financialeconomist have now realized that the long held assumptions of traditional financetheory are wrong and found that investors can be irrational and make predictableerrors about the return on investment on their investments. This empirical study on Individual Investors' Behavior is an attempt to know theprofile of the investor and also know the characteristics of the investors so as to knowtheir preference with respect to their investments. The study also tries to unravel theinfluence of demographic factors like gender and age on risk tolerance level of theinvestor.

3. OBJECTIVES OF THE STUDY

(1) To develop a profile of sample Indian individual investor in terms of theirdemographics.

(2) To identify the objective of investment plan of an Indian individual investor.

(3) To know the preferred investment avenues of the Indian individual investor.

(4) To know the extent of financial literacy of individual investors

(5) To identify the preferred sources of information influencing investmentdecisions.

(6) To know the risk tolerance level of the individual investor and suggest asuitable portfolio.

(7) To study the dependence/independences of the demographic factors (Genderand Age) of the investor and his/her risk tolerance level.

4. SAMPLE DESIGN

Many investors were unwillingness to expose their investment details especially theamount of money invested so; referral sampling method is used for this empiricalstudy. It has been carried out with a sample size of 250 investors.

5. METHODOLOGY

Based on the responses of the questionnaire, analysis has been carried out. Statisticalmethods such as Chi-square test of independence of attributes and Correlation havbeen used to uncover relationships among the variables.

- For measuring the risk tolerance level cumulative scale has been used.
- To study the dependency/Independency of the factors Chi-square test ofindependence of attributes was used.
- Correlation is used to know the relationship between Risk tolerance level andthe Age of the investor

The questionnaire consists of 32 questions of which first 10 questions werefocused to know the demographic characteristics of the investor. Next 16 questions tofind the risk tolerance level of the investor and the rest were focused to accomplishthe other objectives of the study

6. LITERATURE SURVEY

Literature suggests that major research in the area of investors' behavior has been done by behavioral scientists such as Weber (1999), Shiller (2000) and Shefrin(2000). Shiller (2000) who strongly advocated that stock market is governed by themarket information which directly affects the behavior of the investors. Severalstudies have brought out the relationship between the demographics such as Gender,Age and risk tolerance level of individuals. Of this the relationship between Age andrisk tolerance level has attracted much attention.Horvath and Zuckerman (1993) suggested that one's biological, demographic andsocioeconomic characteristics; together with his/her psychological makeup affectsone's risk tolerance level. Malkiel (1996) suggested that an individual's risk toleranceis related to his/her household situation, lifecycle stage and subjective factors. Mittra(1995) discussed factors that were related to individuals risk tolerance, whichincluded years until retirement, knowledge sophistication, income and net worth.Guiso, Jappelli and Terlizzese (1996), Bajtelsmit and VenDerhei (1997), Powelland Ansic (1997), Jianakoplos and Bernasek (1998), Hariharan, Chapman andDomain (2000), Hartog, Ferrer-I-Carbonell and Jonker (2002) concluded that malesare more risk tolerant than females.Wallach and Kogan (1961) were perhaps the first to study the relationshipbetween risk tolerance and age. Cohn, Lewellen et.al found risky asset fraction of theportfolio to be positively correlated with income and age and negatively correlatedwith marital status. Morin and Suarez found evidence of increasing risk aversion withage although the households appear to become less risk averse as their wealthincreases. Yoo (1994) found that the change in the risky asset holdings were notuniform. He found individuals to increase their investments in risky assets throughouttheir working life time, and decrease their risk exposure once they retire. Lewellenet.al while identifying the systematic patterns of investment behavior exhibited byindividuals found age and expressed risk taking propensities to be inversely relatedwith major shifts taking place at age 55 and beyond.Indian studies on individual investors' were mostly confined to studies on shareownership, except a few. The RBI's survey of ownership of shares and L.C. Gupta'senquiry into the ownership pattern of Industrial shares in India was a few in thisdirection. The NCAER's studies brought out the frequent form of savings ofindividuals and the components of financial investments of rural households. TheIndian Shareowners Survey brought out a volley of information on shareowners.Rajarajan V (1997, 1998, 2000 and 2003) classified investors on the basis of theirdemographics. He has also brought out the investors' characteristics on the basis oftheir investment size. He found that the percentage of risky assets to total financialinvestments had declined as the investor moves up through various stages in lifecycle. Also investors' lifestyles based characteristics has been identified. The abovediscussion presents a detailed picture about the various facets of risk studies that havetaken place in the past. In the present study, the findings of many of these studies areverified and updated.

7. ANALYSIS OF THE SURVEY

Table 1 and Table 2 shows the Demographics and other characteristics of the sampleInvestors.

Table 1: Demographics of the Sample Investor:

Parameter	Number of investors	Percentage
Male	170	68.00
Female	80	32.00

Total	250	100.00

The table shows the age :

Age (in years)	Number of investors	Percentage
Above 20	60	24.00
21-40	88	35.20
41-60	67	28.80
Above 60	35	14.00
Total	250	100.00

The table shows the marital status:

Marital status	Number of investors	Percentage
Unmarried	152	60.80
Married	98	39.20
Total	250	100.00

The table shows the employment status:

Employment status	Number of investors	Percentage
salaried	125	50.00
Self emploment	85	34.00
Retired(others)	40	16.00
Total	250	100.00

The table shows the monthly earnings:

Monthly earnings	Number of investors	Percentage
Up to 10,000	0	0
10,001 to 20,000	77	30.80
20,001-30,000	98	39.20
Above 30,000	75	30.00
Total	250	100.00

The table shows the education level

Education leval	Number of investors	Percentage
Under graduate	132	52.80
Gradute	65	26.00
Post graduate above	53	21.20
Total	250	100.00

The table shows the financially responsible.

Financially responsible	Number of investors	Percentage
only your self	0	0
1 person in addition to yourself	77	30.80
2 to 3 person in addition to yourself	98	39.20
4 to 5 person in addition to yourself	75	30.00
More than 5 persons besides yourself	250	100.00
Total	250	100.00

The table shows the occupation

Occupation	Number of investors	Percentage
Accounts, finance and investment	112	44.80
professionals	98	39.20
others	40	16.00
Total	250	100.00

A. Interpretation

Table 1 above shows, that 170 (68%) of the investors are men and the rest 80(32%)are females. Generally males bear the financial responsibility in Indian society, and therefore they have to make investment (and other) decisions to fulfill the financialobligations. When it comes to age, it was found that 24% are young and significantnumber (35.20%) of them is in the age group of 21 to 40. The marital status of 39.20% ofthe investors was found to be married and the rest are unmarried. This is because amarried individual is considered to have dependents so relatively more invested andinvolved in making financial investments. Nearly 50% of the investors belong to thesalaried class, 34% were business class and the rest were retired. It was found that75(30%) of investors whose monthly earnings above rupees 30000 are interested ininvestments since these people have surplus amount due to which they are able tothink of investments. 53(21.20%) of the individual investors covered in the study arepostgraduates; 65(26%) investors are graduates and 132(152.80%) of the investors areunder-graduates. From table 1, it is interesting to note that most investors (covered inthe study) can be said to possess higher education (Bachelor Degree and above), andthis factor will increase the reliability of conclusions drawn about the matters underinvestigation. 65(26%) of the investors covered in the study have been found to be in professions related to finance, accountancy, investment, banking, broking,and financial management etc and 98(39.20%) of the respondents are software engineers,architects, medical and dental practitioners, teachers, lawyers etc. 4(16%) of therespondents can be said to belong to 'non-accounting or non-financial' occupationsand the other occupations

Table 2:Other Characteristics of Sample Investor

Parameter/reading behavior	Number of investors	Percentage
4 or more sources	107	42.80
2-3 sources	75	30.00
Only 1 source	68	27.20
Total	250	100.0

Investment decision are based	Number of investors	Percentage
Take on own imitative	120	48.00
Take on own imitativebut with help from an expert	83	33.20
Made by expert on investors behalf	47	18.80
total	250	100.00

Regularity of investment decisions	Number of investors	Percentage
Fequently	160	64.00
Not so frequently	90	36.00
total	250	100.00

Interpretation

The study has attempted to enquire about other characteristics ofinvestor such as the reading behavior of the Investors. From table 2, it is noteworthyto find that 107 (42.80%) of the investors read four or more sources, 75 (30%) of theinvestors read two to three sources, 68 (27.20%) of the investors only one source. Onemay infer from the figures of table 2 that most investors tend not to depend uponexpert advice and help while making investment decisions. However, the majority ofthe investors 120 (48%) make investment decisions without the help and advice fromexperts; only 83(33.20%) investors consult some experts, for advice in investmentdecisions. And 47 (18.80%) of the investors allow the expert to take decision on theirbehalf. Most of the investors 160 (64%) make investment decisions on a regular basis.

8. OBJECTIVE OF INVESTMENT PLAN

When investor was queried about his/her objective behind any investment, given thatall the available investment avenues available to him will assure safety, liquidity andtax benefit, the objective of investment plan of the investors is shown in the following

Table 3:Objectives of investment plan.

Objective of investment plan	Number of investors	Percentage
Capital appreciation	125	50.00
Balance of capital appreciation and current income	68	27.20
Supplement to their current income	57	22.80
total	250	100.00

Based on table 3, we can conclude that the investors' objective of investment plans capital appreciation or balance of capital appreciation and current income. It is clearthat investors invest to accumulate wealth rather as an avenue to supplement theirincome.

9. PREFERRED INVESTMENT AVENUES

Based on the quantity of risk, the investment avenues are classified as follows – FixedDeposits/Bonds, Insurance schemes, Mutual Fund Schemes, Equities, Commodities and Real Estate. Investors were asked to choose preferred avenues. The resultantobtained, based on Weighted Mean Value is given in table 4

Table 4:Preferred Investment Avenues

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Investment avenues	WMV	RANK
Fixed deports/ bonds/ PPF	5.2	I
Insurance fund schemes	4.9	II
Mudual funds schemes	3.9	IV
Equities	4.2	III
Commodities/ derivatives	1.8	V

Real estate	1.0	VI

From table 4, it can be concluded that the investors prefer FD's/Bonds/PPFsavenues than insurance schemes next to Equities and Mutual Funds. It was interestingto know that Indian individual investors still prefer to invest their surplus amount inrisk free investment avenues next to insurances schemes. Table 4 confirms that Indianinvestors are conservative investors.

10. FINANCIAL LITERACY

When investors were queried about their financial literacy i.e. their ability orknowledge about financial terms or aspects of investments, it was found that most ofthe investors are financial illiterates. And the responses are shown in table 5.

Table 5:Financial literacy

Financial literates	145	58.00
Financial illiterates	105	42.00
Total	250	100.00

In spite of majority of the occupants (65) are from accounts and financial relatedjobs most of them astonishingly expressed ignorance about the mechanism ofinvestments, and the dynamics of risk and returns.

Sources of Investment Information

When investors were asked to rank their various sources of investment information,the following Weighted Mean Values were obtained which are given in table 6

Table 6:Sources of investment information.

Sources of InvestmentInformation

Sources of inverstment information	WMV	RANK
News papers/ magazines	3.6	II
Electronic media (tv)	3.9	I
Peer group /frients	3.3	III
Broker/ financial advisor	2.2	IV
internet	2.0	V

Most of the investors get their information related to investment throughelectronic media (TV-NDTV Profit, CNBC and some business news channels) nextto print media (News paper/ Business news paper/ Magazines). This could be becausePrint/Electronic media is easy and readily accessible investment information when compared to the other sources of investment information.

A. Risk tolerance level and Suggestion of Suitable Portfolio to theInvestors

The role of uncertainty and the lack of knowledge about the return on InvestmentAvenue are important components of any investment. The extent of an investor'sability to tolerate these uncertainties of return is referred as risk tolerance level of aninvestor (Schaefer, 1978). Risk tolerance tends to be subjective rather than objective.Schaefer described the relation this way: "two persons may very well agree on theriskiness of a set of gambles, but may nevertheless prefer different gambles, rank orderingthem differently according to their personal tolerance.There are two common methods of estimating investors' tolerance of risk. Thefirst method is a clear understanding of the investor and his/her history withinvestment securities. The second method is to use a questionnaire designed to elicitfeelings about risky assets and the comfort level of the investor given certain changesin the portfolio or certain investment scenarios. The second method is used to knowthe risk tolerance level of the investors.

Based on the responses to the questionnaire,the cumulative scale is constructed and scores are assigned to each investorAccordingly to categorize the respondents in to i.e. Low, Moderate and High risktolerance level. The investors are divided into 3 categories i.e., A, B and C dependingon their risk tolerance starting with Low risk tolerance, Moderate risk tolerance andHigh risk tolerance. Generally investors with a low risk tolerance act differently withregard to risk than individuals with a high risk tolerance. Investor with a high level ofrisk tolerance would be comfortable with market volatility, while low risk-toleranceindividuals require stability and are averse to uncertainties. (MacCrimmon&Wehrung, 1986). Individuals with low levels of risk tolerance require lower chancesof a loss, choose not to operate in unfamiliar situations and require more informationabout the performance of an investment (MacCrimmon&Wehrung).From the sample of 250, it has been found that 98 investors (39.20%) have low risktolerance and these investors should emphasize on capital preservation portfolio i.e.,category A asset mix is suggested to them. 69investors (27.60%) have moderate risktolerance and these in investors should emphasize on balanced portfolio i.e., categoryB asset mix is suggested to them. And 83 investors (33.20%) have high risk toleranceand these investors should emphasize on aggressive capital

appreciation portfolio i.e.,category C asset mix is suggested to them.

Table 7: Risk Tolerance level and investor.

Risk Tolerance Level No. of Investors Percentage

Risk Tolerance level	Number of investors	Percentage
Low	98	39.20
Medium	69	27.60
High	83	33.20
Total	250	100.00

The portfolio suggested to investors consists of four types of asset classes i.e.,Equities, Fixed Income Securities, Cash & Equivalents and other Alternative assetssuch as art. Depending on their risk tolerance the corresponding asset class has been increased or decreased and corresponding asset mix has been suggested to eachcategory of investor. Each category of investors asset mix has been described below.

Category A: Aggressive Capital Preservation Portfolio

This category of investor has low risk tolerance and should emphasize aggressivecapital preservation. Suggested optimal asset mix is specified in figure 2.

Category B: Balanced Portfolio

This category of investors has moderate risk tolerance and should emphasize abalanced approach to capital appreciation and capital preservation. Suggested optimalasset mix is specified in figure 2.

Category C: Aggressive Capital Appreciation Portfolio

This category of investors has high-risk tolerance and should emphasize aggressivecapital appreciation. Suggested optimal asset mix is specified in figure 1.

Figure 1: Suitable portfolio to the various category of investor.

Hypothesis Testing

Hypothesis 1: Gender of the investor and the Risk tolerance level are twoindependent attributes of the investor.

Table 8:Gender & Risk Tolerance Level

Tolerance level	Low risk	Moderate risk	High risk	Total
Male	68	53	47	170
Female	39	18	23	80
Total	107	73	70	250

Statement of Chi square test for gender& Risk Tolerance Lev

O	E	O-E	(O-E)2	(O-E)2/E
68	72.76	-4.76	22.6576	0.3114
39	34.24	4.76	22.6576	0.6617
53	48.28	4.72	22.2784	0.4614
18	22.72	-4.72	22.2784	0.9805
49	48.96	0.04	0.0016	-
23	23.04	0.04	0.0016	-

$\sum(O-E)2/E = 2.4150$

Conducting chi square test at 5% level of significance, it is found that $\chi 2 = 2.41$asthe computed value is very less than the table value 5.99. We conclude that Genderand Risk tolerance are the two independent attributes of the investor. Howeverempirical investigation of gender differences in risk taking is inconclusive (Charnessand geenzy, 2004). While most research conducted prior to 1980 concluded thatgender difference clearly exists, more recent research studies yield mixed conclusions.In the current empirical analysis, it is found that irrespective of gender most of theinvestors are low risk tolerant or high risk tolerant rather than moderate risk tolerant.Generally, it is considered that women tend to be risk averse in comparison with men.

Hypothesis 2: Increase in Age decreases the Risk tolerance level.

Correlation between Age and risk tolerance

Attributes	Risk tolerance level
Age	-0.74

When Karl Pearson's correlation coefficient is calculated, it is found to be -0.74by which we can conclude that there is a strong negative correlation between Age andRisk tolerance. Age accounts for the major differences in risk taking decisions by theinvestors. The older an investor, the better seemed his/her performance in comparisonto the younger ones. Over-confidence in their own investment ability among theyoungsters largely accounts for the excessive trading among younger investorsleading to lower returns and this direct to decline in the risk tolerance level.

11. FINDINGS

- The study reveals that male investors dominate the investment market in India
- Most of the investors possess higher education like graduation and above.
- Majority of the Investors belong to accountancy and related employment, non-financialmanagement and some other occupations are very few.
- Most investors read two or more sources of information to make investmentdecisions.
- The investors' decisions are based on their own initiative.
- The investment habit was noted in a majority of the people who participated in thestudy.
- The objective of investment was either capital appreciation or balance of capitalappreciation and current income.
- Investors prefer to park their funds in avenues like PPF/FD/Bonds next to Equities and Mutual Funds Scheme.
- Most of the investors get their information related to investment through electronic media (TV) next to print media (News paper/ Business news paper/Magazines).
- Most of the investors are financial illiterates.
- Gender and the risk tolerance level of the investor are independent attributesof the investor.
- Increase in age decrease the risk tolerance level.

12. CONCLUSION

This study confirms the earlier findings with regard to the relationship betweengender and age, the risk tolerance level of individual investors. The Present study hasimportant implications for investment managers as it has come out with certaininteresting facets of an individual investor. The individual investor still prefers toinvest in financial products which give risk free returns. This confirms that Indianinvestors even if they are of high income, well educated, salaried, independent areconservative investors prefer to play safe. The investment product designers candesign products which can cater to the investors who are low risk tolerant and use TVas a marketing media as they seem to spend long time watching TVs.

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