# Are investors risk tolerant? - Study among equity shareholders in Kerala

Dr. Jaseela KB

Assistant Professor, Mar thoma College Chungathara, Kerala, India.

**Abstract**

*In the context of stock market, anomalies have been happening due to several national, international and global reasons, and the regular fluctuations in stock prices. Therefore risk is inevitable in stock market. The present study is an attempt to assess the risk tolerance level of equity holders of Kerala with respect to age, income and occupation. The study examined 390 equity holders using judgement sampling method. The major findings pointed out that high risk tolerance level is found among equity holders within the age category 31 and 40 years. As regards to occupation, salaried investors have better risk tolerance level. While comparing with income of the respondents, a high risk tolerance level is found among investors whose annual income is above 12 lakh.*

**Keywords :** *Equity holders, Risk tolerance level, Age group, Income, Occupation, salaried non salaried, Length of investment experience*

## 1. INTRODUCTION

Stock market is always anomalous in terms of return thus it is always risky as regars to investors. Several reasons can be found for market fluctuations that lead to various trends and market situations. These market trends include bullish trend, bearish trend, etc. If prices tend to show an upward trend, it is a bull market and if the prices are going on a decline, it is termed a bearish trend. Investing in the stock market makes people ambiguous about the return and they tend to be speculative in trading. Risk refers to the possibility of loss of the principal amount. Risk tolerance level is one of the key factors that affect investment decision and it ultimately affects the outcome of investment. Five statements namely 'don't bother about risk', 'sell riskier stocks in negative trend', 'high risk tolerance during pleasant situation', 'low risk tolerance during unpleasant situations' and risk tolerance vary with financial situations were used in order to measure the risk tolerance level of equity holders.

Kahneman and Tversky (1979) claimed that there are two phases for human decision making. the framing or editing phase and phase of evaluation. The theory explains the irregular nature of human behaviour in managing risk under uncertain situations. It says that human beings are not always risk-averse; they are risk-averse in gains but risk-takers in losses. People give more weight on the outcomes than mere probable outcomes. This feature is known as the *"certainty effect"*.

Barberis and Thaler (2002) stated that there are broadly three limits to arbitrage; fundamental risk, noise trader risk and implementation costs Fundamental risk is when bad news about a company causes the fundamental value of the stock to fall, arbitrageurs can try to protect themselves against these possible losses with substitute securities. For example if they buy a certain stock that faces a price decrease, they should short sell a stock that is a substitute for the bad stock. Unfortunately those substitute stocks are rarely perfect.Another limit to arbitrage is about noise trader risk. Arbitrageurs can anticipate on stock price deviations, but sometimes noise trader behaviour causes even more price divergence than the arbitrageurs could expect. The last form of arbitrage limits is implementation costs. There are many implicit costs that can make arbitrage less profitable. Implementation costs can be transaction costs like commissions and bid-ask spreads but also short-sales constraints. It can be just too costly, but sometimes there are even legal constraints that restrict short-selling. Another kind of costs that can be substantial is the costs of finding a mispricing and the cost of the resources needed to exploit it.

## 2. OBJECTIVE OF THE STUDY

- To analyse the risk tolerance level of equity holders of Kerala with regard to demographic factors

## 3. DATA BASE AND METHODOLOGY

This section proposes to present a detailed account of research design, data sources, population and sample, sampling procedure, selection of investors, pilot study, research instruments used, reliability of the instrument and normality of the collected data

### 3.1 Research Design

The present study is descriptive cum analytical in nature.

### 3.2 Data Sources

The data for the study were collected from both primary and secondary sources.

#### 3.2.1 Secondary Data

The secondary data regarding various theoretical aspects of behavioural finance and behavioural biases were collected from different journals of finance, behavioural finance, books on portfolio management and behavioural finance, financial magazines and from websites.

#### 3.2.2 Primary Data

The primary data were collected from the equity holders of Kerala by using a structured questionnaire. The sample survey was conducted during the period December 2016 to October 2017.

### 3.3 Sampling Design

Survey method has been applied using a structured questionnaire. The present study has been conducted among the three zones of Kerala namely south, central and north. From these zones, three districts namely Trivandrum, Ernakulam, and Calicut were selected respectively.

### 3.4 Population and Sample Size

Population of the study consists of the individual investors of Kerala who invest in equity shares. Since the population of the study could not be identified, the technique Raosoft sampling for selecting sample size under infinite population (Raosoft, 1991) was adopted. Hence the sample size selected is 390**.**

### 3.5 Sampling Procedure

Since the population is unknown, the purposive sampling method has been administered. The criterion of sampling is length of investment experience in years. Data were collected from equity holders of three different group namely short-term investment experience, medium-term investment experience and long-term investment experience. From the available list, individual equity holders belong to 3 categories of investment experience were selected non randomly as given in the table 1

**Table1**
**Sample Design**

| **Districts** | **Total available sample** | **Investment experience in years** | | | **Total samples selected** |
|---|---|---|---|---|---|
| | | **Below 5** | **5 to 8** | **Above 8** | |
| Trivandrum | 400 | 43 | 43 | 43 | 390 |
| Ernakulum | 420 | 44 | 44 | 44 | |
| Calicut | 400 | 43 | 43 | 43 | |
| Total | 1220 | 130 | 130 | 130 | |

### 3.6 Reliability of the Questionnaire

The variables in the questions are divided into two categories namely, independent, optional type and statements in Likert's five-point scale. The reliability is checked for both the types of variables using normal distribution method and Cronbach alpha method respectively. It is showed that the socio economic variables have the skewness in the normal distribution. Special care has been taken for these variables to ensure representation rationally. In the case of Likert's five-point scale all the statements showed the Cronbach alpha coefficients greater than 0.75 to ensure high reliability**.**

### 3.7 Normality of the Data Collected

To test the normality of the data, the 'Kolmogorov-Smirnov' test is used. If p-value is greater than 0.05, the data are assumed to be normal. Since the p- value for all the variables are less than 0.05, it can be concluded that the data are normal.

### 3.8 Tools for Data Analysis

The collected data were processed and analysed with the help of statistical package –SPSS. Different arithmetic and statistical techniques were used for analyzing the data. The statistical tests used for the study were chi-square, independent sample t test, ANOVA, MANOVA, LSD test etc.

## 4. RESULTS AND DISCUSSION

In order to measure risk tolerance level five statements namely 'don't bother about risk', 'sell riskier stocks in negative trend', 'high risk tolerance during pleasant situation', 'low risk tolerance during unpleasant situations' and risk tolerance vary with financial situations were constructed and measured in Likert's five point scale

### 4.1 Analysis of Risk tolerance level with Age group

**H0:** There is no significant difference among age groups with respect to risk tolerance level

**Table 2 Analysis of Risk tolerance level with Age group**

| **Age Group** | **N** | **Statistics** | | **ANOVA** | |
|---|---|---|---|---|---|
| | | **Mean** | **SD** | **F** | **P value** |
| Below 30 | 99 | 3.27 | 0.48 | 7.90 | 0.00 |
| 31 to 40 | 108 | 3.34 | 0.51 | | |
| 41 to 50 | 92 | 3.01 | 0.55 | | |

| | | | | | |
|---|---|---|---|---|---|
| Above 50 | 91 | 3.20 | 0.43 | | |
| Total | 390 | 3.21 | 0.51 | | |

Source: Primary data

Since p value is less than 0.05, the null hypothesis is rejected at 5 percent significance level and concluded that there is significant difference among age groups with regard to risk tolerance level. Based on mean score, age group 31-40 has better opinion (3.34) on risk tolerance level.

From ANOVA it is understood that there is significant difference with age. Thus LSD Multiple comparison test was applied in order to make comparison between all possible pairs of age categories. Table 3 depicts that there is significant difference between below 30 and 41 to 50, 31 to 40 and 41 to 50 and; above 50 and 41 to 50. No other pairs are significant.

**Table 3 Least Significant Difference Test**

| **Age group** | | **Mean Difference** | **Sig.** |
|---|---|---|---|
| Below 30 | 31 to 40 | -0.0625 | 0.366 |
| | 41 to 50 | .26403* | 0.00 |
| | Above 50 | 0.07053 | 0.328 |
| 31 to 40 | Below 30 | 0.06246 | 0.366 |
| | 41 to 50 | .32649* | 0.00 |
| | Above 50 | 0.13299 | 0.06 |
| 41 to 50 | Below 30 | -.26403* | 0.00 |
| | 31 to 40 | -.32649* | .000 |
| | Above 50 | -.19350* | 0.009 |
| Above 50 | Below 30 | -0.0705 | 0.328 |
| | 31 to 40 | -0.133 | 0.06 |
| | 41 to 50 | .19350* | 0.009 |

Source: Primary data

**4.2 Analysis of Risk tolerance level with Occupation**

**H0:** There is no significant difference among salaried and non salaried equity holders with respect to risk tolerance level

**Table 4 Analysis of Risk tolerance level with Occupation**

| **Occupation** | **N** | **Statistics** | | **Independent Sample t test** | |
|---|---|---|---|---|---|
| | | **Mean** | **SD** | **T** | **P value** |
| Salaried | 193 | 3.27 | 0.47 | 2.29 | 0.04 |
| Non salaried | 197 | 3.15 | 0.54 | | |

Source: Primary data

Since P value is less than 0.05, null hypothesis is rejected and concluded that there is significant difference among salaried and non-salaried equity holders with respect to risk tolerance level. Based on mean score, salaried group has better risk tolerance (3.27).

**4.3 Analysis of Risk tolerance level with Income**

**H0:** There is no significant difference among income groups with respect to risk tolerance level

It is evident from table 5 that, there is significant difference among income groups about risk tolerance level because the p value is less than 0.05. That is the null hypothesis formulated is rejected at 5 percent significance level. Based on mean score, equity holders in the income group above 12 lakhs have better opinion (3.33) on risk tolerance than other categories.

**Table 5 Analysis of Risk tolerance level with Income**

| Income | N | Statistics | | ANOVA | |
|---|---|---|---|---|---|
| | | Mean | SD | F | P value |
| Below 4 lakh | 149.00 | 3.26 | 0.41 | 2.64 | 0.05 |
| 4 to 8 lakh | 123.00 | 3.15 | 0.61 | | |
| 8 to12 lakh | 70.00 | 3.12 | 0.51 | | |
| Above 12 lakh | 48.00 | 3.33 | 0.47 | | |
| Total | 390.00 | 3.21 | 0.51 | | |

Source: Primary data

LSD Multiple comparison test was administered in order to make comparison between all possible pairs of age categories. Table 6 indicates that below 4 lakhs and 8 to 12 lakhs, 4 to 8 lakhs and above 12 lakhs and; 8 to 12 lakhs and above 12 lakhs vary significantly.

**Table 6 Least Significant Difference Test**

| Income | | Mean Difference | Sig. |
|---|---|---|---|
| below 4 lakhs | 4 to 8 lakhs | 0.10996 | 0.075 |
| | 8 to 12 lakh s | .14443* | 0.049 |
| | Above 12 lakhs | -0.0606 | 0.471 |
| 4 to 8 lakhs | below 4 lakhs | -0.11 | 0.075 |
| | 8 to 12 lakhs | 0.03447 | 0.649 |
| | Above 12 lakhs | -.17053* | 0.048 |
| 8 to 12 lakhs | below 4 lakhs | -.14443* | 0.049 |
| | 4 to 8 lakhs | -0.0345 | 0.649 |
| | Above 12 lakhs | -.20500* | 0.031 |
| Above 12 lakhs | below 4 lakhs | 0.06057 | 0.471 |
| | 4 to 8 lakhs | .17053* | 0.048 |
| | 8 to 12 lakhs | .20500* | 0.031 |

Source: Primary data

## 5. CONCLUSION

As far as a stock market is concerned risk is always there with return and it creates anomaly in return. The present study tried to realise the risk tolerance level of equity holders of Kerala in terms of three demographic variables. The study revealed that here is significant variation in the levels of risk tolerance among the different age groups of equity holders. A high risk tolerance level is found among equity holders within the age category 31 and 40 years with a mean score of 3.34 followed by equity holders below 30 years (3.27), above 50years (3.20) and between 41 to 50 (3.01) respectively. There is a clear indication that there is significant difference among salaried and non-salaried equity holders in the levels of risk tolerance. It is found that the salaried group has a better risk tolerance level. (Mean score=3.27). The difference among income groups with regard to risk tolerance level is significant and a high risk tolerance level is found among investors whose annual income is above 12 lakh.

## REFERENCE

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