1.1 Introduction

The traditional finance paradigm believes in market efficiency, which means that the price of the stocks/securities coincides with their fundamental values. That is the security prices were based on unbiased estimate of its intrinsic values. It was under this paradigm that the financial market models were developed. This assumption was based on the concept of rationality. Rationality means two things: first when the agents receive new information, they update the information logically in the manner dictated by Bayes’ Law. Secondly, given the new information, agents make choices based on Subjective Expected Utility (SEU). The Subjective
Expected Utility Theory was an advanced theory of decision making based on choice based subjective probabilities. Savage (1954) produced a set of axioms to SEU which were equivalent to the propositions that preferences were based on expected utility - maximizing. According to the Subjective Expected Utility Theory, in making decision people will seek to maximize pleasure (referred to positive utility) and to minimize pains (referred to negative utility). This traditional framework was appealingly simple, and it would have been very satisfying had the predictions agreed with the results. Unfortunately, it has become clear that human beings were not very rational in their decision making processes under conditions of uncertainty and act irrationally under stress.

The Portfolio Market Theory considers the investors to be rational and therefore take their decisions based on their risk aversion. The risk aversion is measured by mean and variance of the returns. The theory of Mean Variance Portfolio was formulated by Harry Markowitz in 1952. It was the first systematic financial theory in portfolio selection. This theory was popularly known as “Modern Portfolio Theory” (MPT) (Markowitz, 1952). The theory assumes that human beings are rational and markets were efficient. According to the theory two portfolios that offer the same expected return, investors will prefer the one that has the lesser risk. Thus, an investor will consider taking increased risk only if he is compensated by higher expected returns. Conversely, an investor who desires higher expected returns must accept more risk. The exact trade-off will be the same for all investors, but different investors will evaluate the trade-off differently based on individual risk aversion characteristics.
The investment choices, which termed as financial instruments designed and developed by the financial intermediaries with varying level of risk and return. Modern Portfolio Theory (MPT) is a quantitative approach in evaluating the financial decisions by considering the trade-off between risk and return. The theory is considered to be a normative theory which describes the standard behavior of an investor while constructing his portfolio.

“The assumption of risk aversion has played a central role in economic theory. Just as the concavity of the value of gains entails risk aversion, the convexity of the values of losses entails risk seeking” (Kahneman & Tversky, 2000). Therefore attitudes of investors when they were looking at gains and when they were looking at losses will be totally different. This shows that the decision making of agents (investors) do not base their decisions on any statistical or rational measures. Even when investors want to take decisions rationally, they fail to do so due to emotions of fear and greed. More over the information available to an investor was never comprehensive. In fact there was a boundary to the information he has. As a consequence there was a mismatch between the decision making environment and the choices of decision makers. This mismatch was termed as ‘bounded rationality’ (Simon, 1996) i.e residual systematic deviations from rational choices. Bounded rationality is a school of thought about decision making that developed from dissatisfaction with the ‘comprehensively rational’ economic and decision theory model of choice (Jones, 1999). The subjective expected utility variant of rational choices integrates risk and uncertainty into the model by associating estimated probability of outcome. Unlike “comprehensively rationality”,

Risk Model and Portfolio Selection: A Behavioral Approach for Optimization of Returns
bounded rationality assumes that investors were goal oriented and takes into account the cognitive limitations of decision making in achieving those goals. Therefore bounded rationality adopts an explicit behavioral stance by examining the behavioral patterns of decision making. The concept of bounded rationality lays foundations to the Behavioral Decision Theory. The financial economists have incorporated decision making models based on heuristic shortcuts and emotions (Lux, 1995)\textsuperscript{6}, (Lux, 1998)\textsuperscript{7}.

Psychologists and other social scientists have made great strides in understanding how individual and group behavior, shape the decision making process. The present finance theory considers two fundamental aspects: Rationality and Irrationality. The finance theory has two aspects: Traditional finance and Modern finance. The traditional finance explains the rationality of the investor and decision making based on Expected Utility (EU) Hypothesis (Neumann & Morgenstern, 1944)\textsuperscript{8}. Whereas in modern finance, the underlying concept was to maximize the utility function of wealth based on informal efficiency of the markets. The following theories of rational finances were formed: Modern Portfolio Theory (MPT) (Markowitz, 1952)\textsuperscript{9}, Life Cycle Hypothesis (Modigliani & Brumberg, 1954)\textsuperscript{10}, Permanent Income Hypothesis (Friedman, 1957)\textsuperscript{11} Efficient Market Hypothesis (EMH) by (Fama, 1991)\textsuperscript{12}. The key assumption of all these theories was that activities of economic human beings were rational and their main goal is profit maximization.
The evolutionary process of finance theory is illustrated in the Figure 1.1.

![Figure 1.1: Evolutionary Process of Finance Theory](source)

The studies show that individuals’ behavior is different from what modern financial theories draw for rational human behaviors (Fernandes, Pena, & Benjamin, 2009). “Modern Portfolio Theory” applies mean variance approach, where as the alternative approach – behavioral finance incorporates psychological and sociological issues while investigating market anomalies and selection of portfolio.

Behavioral finance uses insights from other science and business disciplines to understand the decisions an investor makes. Psychologists and other social scientists have been studying human behavior for a long time and have accumulated considerable evidence on how people make decisions.
The key differences between “Traditional Finance” and “Behavioral Finance” are as follows:

- Traditional finance assumes that investors are rational and they process the data correctly as per Efficient Market Hypothesis. In contrast, behavioral finance recognizes that the data processed by the investors are based on heuristics which induce biases and imperfect decisions.

- Traditional finance is a normative approach whereas behavioral finance is a descriptive approach concerned with the manner in which real people actually make decisions.

- Traditional finance assumes investors are guided by logic and independent judgment. While behavioral finance recognizes that emotions and herd behaviors are important influential factors in decision making.

- Traditional finance argues that markets are efficient and each security price is based on unbiased estimate of its intrinsic value. In contrast, behavioral finance contends that heuristics driven biases and errors influence the discrepancy between market price and fundamental value.

Indian economy is one of the fastest and growing economies in the world. In spite of the global financial crisis of 2008, and subsequent recession in the US and Europe, India continues to be one of the fastest growing nations in the world. A stable democratic Government, an excellent banking system, independent judiciary and prudent monetary policies of Reserve Bank of India make this nation the best investor
destination in the World. A wide range of investment options are available in the financial market place in India. According to the report published by National Stock Exchange of India, in the year 2013-14, the Indian economy faced slow growth, high inflation and exchange rate instability on account of capital outflows creating imbalances in balance of payments and current accounts resulting in lower investment (ISMR, 2014)\textsuperscript{15}.

The ISMR (2014) states that in the two successive years of financial crisis, the GDP growth decelerated and reached 4.5 percent in FY 2013 and improved marginally to 4.7 percent in FY 2014. This was due to rebound growth in the agricultural sector and a pick up in a net export due to rupee depreciation and policies to curb global import.

India’s financial market- particularly the secondary securities market were positively impacted by the modest recovery in global and domestic growth as reflected in some of the following indicators (ISMR,2014)\textsuperscript{16}

- The market cap to GDP ratio increased to 64.1 percent by end of March 2014 from 62.2 percent in the last year.
- The volatility in the equity market has also declined as reflected in a fall in volatility of the benchmark index CNX Nifty from 28\% in September 2013 to 16\% in September 2014.
- National Stock Exchange of India ranks 11th among the world’s stock exchanges as measured by market capitalization of listed companies at the end of October 2014. According to World Federation of Exchanges, the market value of companies listed on Indian stock exchanges has risen by more than 40\% during the last one year, as investors think that Indian companies will
benefit from a host of reforms expected from the new government that came to power in May 2014.

1.2 Structure of Households’ Gross Savings Pattern in India

The savings and the investment patterns of the investors are based on the varying pattern of income distribution. According to the Report of the Working Group on Savings during the Twelfth Five-Year Plan (2012-13 to 2016-17), published by RBI India’s household saving rates are gradually going up by 0.4% per year. Table 1.1 shows the evidence that the projected household savings rate will increase from 23.2 per cent in 2011-12 to 25.2 per cent in 2016-17, giving an average of 24.4 per cent during the Twelfth Plan17.

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<tr>
<td>Household savings rate</td>
<td>23.2</td>
<td>23.6</td>
<td>24.0</td>
<td>24.4</td>
<td>24.8</td>
<td>25.2</td>
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Source: RBI (Report of the Working Group on Savings during the Twelfth Five-Year Plan (2012-13 to 2016-17))

Table 1.2 shows the components of household savings figures released by RBI. It shows that around 9% of the household savings of average 24% of GDP are placed in bank deposits in the year 2013-14. These are fixed income securities. Investment in shares and debentures remains constant at 1.3% of the domestic savings. When compared to this insurance gets 3% of the savings while pension funds get 1.8%. These figures show clearly the total risk aversion of Indian investors.
Table 1.2: Baseline Projection of the Components of Household Savings over the Twelfth Plan

(As per cent of GDP at current market prices)

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<td>1 Currency</td>
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<td>1.7</td>
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<tr>
<td>2 Bank deposits</td>
<td>8.6</td>
<td>8.8</td>
<td>8.9</td>
<td>9.1</td>
<td>9.2</td>
<td>9.4</td>
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<td>3 Non-banking deposits</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
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<tr>
<td>4 Life insurance fund</td>
<td>2.9</td>
<td>2.9</td>
<td>3.0</td>
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<tr>
<td>5 Provident and pension fund</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>1.8</td>
<td>1.8</td>
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<td>6 Claims on Government</td>
<td>0.8</td>
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<td>0.9</td>
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<td>7 Shares &amp; debentures</td>
<td>1.2</td>
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<td>8 Gross Financial Assets (1 to 7)</td>
<td>16.8</td>
<td>17.1</td>
<td>17.4</td>
<td>17.6</td>
<td>17.9</td>
<td>18.2</td>
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<td>9 Gross Financial Liabilities</td>
<td>5.1</td>
<td>5.2</td>
<td>5.3</td>
<td>5.4</td>
<td>5.5</td>
<td>5.5</td>
<td>5.4</td>
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<tr>
<td>10 Net Financial Savings (8 – 9)</td>
<td>11.7</td>
<td>11.9</td>
<td>12.1</td>
<td>12.3</td>
<td>12.5</td>
<td>12.7</td>
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<tr>
<td>11 Physical Savings</td>
<td>11.5</td>
<td>11.7</td>
<td>11.9</td>
<td>12.1</td>
<td>12.3</td>
<td>12.5</td>
<td>12.1</td>
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<tr>
<td>12 Household total Savings (10+11)</td>
<td>23.2</td>
<td>23.6</td>
<td>24.0</td>
<td>24.4</td>
<td>24.8</td>
<td>25.2</td>
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Source: RBI

The above details were extracted from the Report of Working Group on Savings during the Twelfth Five Year Plan (2012-13-2016-17), page no : 1173-1176.

1.3 Indian Securities Market

The Indian securities market continues to evolve with various policy measures aimed to preserve and maintain a safe and fair market to protect the interest of investors. The securities market, which observed gains during
the early part of the year, got disrupted owing to global headwinds. The number of investors in the country has also increased manifold. At present, India is the second fastest growing country in the world next to China. With increase in per capita income, the households were left with more investible resources.

The stock exchanges in the country offer screen-based trading system. There were 9,411 trading members registered with SEBI at the end of March 2014. The market capitalization has grown over the period, indicating that more companies are using the trading platform of the stock exchange. The market capitalization across India was around Indian Rupee 74,152,960 million (US $1,237,169 million) at the end of March 2014. Market capitalization ratio is defined as the market capitalization of stocks divided by the GDP. It is used as a measure that denotes the importance of equity markets relative to the GDP. It is of economic significance since the market is positively correlated with the ability to mobilize capital and diversify risk.

1.4 Risk and Investment Management

Risk models provide a basis for decision making process. The process of decision making is a complex task, with various investment avenues and varying risks associated. The risk modeling techniques quantify “the expected portfolio returns” and “the acceptable level of portfolio risk”. The acceptable level of portfolio risk differ from investor to investor on the basis of various factors like socio demographic factors which includes socio-economic background, educational attainment level, age, and sex. These factors are the variables used while analyzing the risk tolerance level
of an investor as well as the behavioral factors affecting decision making. The estimation of risk tolerance level, investment objective and the expected return will help determine an optimum portfolio for an investor by incorporating behavioral biases.

1.4.1 Investment Management

Investment management is a process encompassing many activities of investment in financial assets and securities. It is a dynamic and flexible concept which involves regular and systematic analysis, judgment and action. A portfolio is a combination of different investment assets mixed and matched for the purpose of achieving an investor's goals. The asset mix chosen by the investor according to their aims and strategy will determine the risk and expected return of their portfolio.

Portfolio construction refers to the allocation of surplus funds in hand among a variety of financial assets open for investment. Portfolio theory concerns itself with the principles governing such allocation. The modern view of investment is oriented towards the assembly of proper combination of individual securities to form an investment portfolio.

The modern theory is the view that the risk can be reduced by diversification of investments. Diversification can be made by the investor either by having a large number of shares of companies from different industries or those producing different types of product lines. Modern theory believes in the perspective of combination of securities under constraints of risk and returns.
Chapter 1

Portfolio management is an on-going process involving the following basic tasks:

i) Identification of the investor’s objectives, constraints and preferences.

ii) Strategies developed and implemented in tune with investment policy formulated.

iii) Review and monitoring of the performance of the portfolio.

iv) Periodical evaluation of the portfolio and adjustments for the future.

1.4.2 Investment Preference (objectives)

Investors’ investments were based on their individual needs and preference, which is termed as investment objectives. The objectives are derived from personal and financial needs. Personal objectives can be family commitment, construction of a house or buying a new car, educational requirements, provisions for retirement, contingency fund or capital appreciation. Financial objectives can be safety, liquidity and profitability. However the investment is based on the risk –return trade off. The various elements of investments are listed below:

a) **Return**, which includes both current income and capital gains or losses which arises by the increase or decrease of the security price.

b) **Risk**, chances of loss due to variability of returns on investment.

c) **Time**, it depends on the attitude of investor who follows hold and buy policy.

d) **Liquidity**, the ability of an investment to be converted into cash as and when required.
1.4.3 Investment Avenues

There are a wide variety of investment avenues available for investors in India. This study is limited to investment avenues available in Indian Capital Market. The investment avenues were generally classified as two types, viz, financial assets and real assets. Financial assets comprise of equity, debenture/bonds, mutual funds, fixed deposits with bank, post office saving scheme, government securities, currency and derivate instruments. Real assets are categorized into real estate, gold, precious stones and art objects.

Investors were free to select any of these alternative avenues for designing their portfolio depending upon their needs and preferences. All categories of investors were equally interested in safety, liquidity and return from their investment.

1.4.4 Risk Management in Portfolio

Baker & Nofsinger (2002)\textsuperscript{19} explains how effectively we can utilize the assessment of behavioral factors and risk tolerance level of individual investors in maintaining a better portfolio for an investor.

1) Understand and avoid behavioral bias: it is very important to identify the behavioral characteristics of an investor that affects their investment decision. This will help to understand the general mistakes of an investor and to provide a better suggestion that improvises the wealth of an investor.

2) Identify investment objectives and constraints: in order to reduce the impact of behavioral bias a realistic investment objective in terms of expected return and risk tolerance level has to be established.
3) Develop quantitative investment criteria: by developing a set of quantitative investment criteria, the investor can avoid investing on emotions, rumor and stories or other psychological biases.

4) Diversify investment: portfolio diversification among various asset classes, such as equity, debentures, mutual funds, fixed deposits and real estate with different patterns of returns over time help to increase the stability of returns and this reduces risk. Proper diversification can help investors to avoid tragic losses and shield them against the psychological bias of attachment and familiarity. Ibboston & Kaplan (2000)\textsuperscript{20} shows that about 90% of overall investment returns arise from long term asset allocation decision. Therefore proper asset allocation adds much more value to investment performance than market timing and security selection.

5) Review and reallocate assets: investors should periodically review and keep track of their investments and compare the returns with investment objectives.

1.5 Statement of Problem

Traditionally it is believed that the decision makers are rational. The concept of rational decision making process was based on “Efficient Market Hypothesis” which elucidates that the security prices were fully reflected by all available information. The principal objective of every investor in their investment is to optimize returns. In reality the price deviates from the rationality due to greed, fear, emotions and belief (Evans, 2006)\textsuperscript{21}, (Thaler R., 1980)\textsuperscript{22}. The researchers call these deviations as
financial anomalies such as “January Effect”, “Weekend Effect”, “turn of the month effect”, “value anomaly” which proves the irrationality of the investors (Latif, et al., 2011)\textsuperscript{23}; (Agrawal & Tandon, 1994)\textsuperscript{24}. Further these anomalies were grouped into three basic types, namely fundamental anomalies, technical anomalies and calendar anomalies. Frankfurter & McGoun(2001)\textsuperscript{25} found that these anomalies were affecting the stock market because of the failure of traditional finance in incorporating the qualitative aspects of the phenomenon in the combination of the quantitative aspects. These challenges of traditional finance gave birth to behavioral finance which explains the psychology of investors that influences investment decisions (Sewell, 2010)\textsuperscript{26}.

Antonides et al. (1990)\textsuperscript{27} stress that: “Individual investment decision making can be seen as the outcome of the confrontation between expectations and preferences, given the restrictions imposed by the budget and the market. Our information and beliefs determine the possible outcomes foreseen and their subjective probabilities, and our wants or desires determine the values or utilities of the possible outcomes. After all, the perception of economic phenomena is governed by psychological factors”. The “expectations” of investors play a vital role in the financial market. The investors’ expectation influences the price of the securities, volume traded and other activities. The expectations of investors are influenced by investment preferences where heuristic plays a vital role in shaping the decisions.

The researcher found evidence of prevalence of such psychological biases among the investors in India. And have evidence that these
psychological biases were affecting the actual return of investors’ portfolio. Therefore this study would contribute a risk model by incorporating behavioral biases which helps in reducing errors and miscalculations in decision making process of the investors. Furthermore better understanding of behavioral factors will help the financial intermediaries to provide better wealth management tactics for middle income group.

1.5.1 Research Problem

The present study is an attempt to build a risk model for portfolio selection by incorporating the behavioral factors affecting the decision making process. The researcher studied various behavioral biases commented in behavioral finance literature and proposed a prescriptive model on portfolio selection and optimization. Empirical studies prove that the investor decisions were not purely based on statistical measures but also based on behavioral factors. Considering the behavioral factors the following research questions were framed.

The basic research problem covered in the study were the irrational factors affecting the decision making of the investors during the time of portfolio selection; and the tools used by the investors for optimizing their return.

The research questions covered in the study were: what are the relevant aspects of investment behavior of individual investor? What is their relative importance in shaping investment behavior of individual investor? What are the decision making tools and techniques used by the investors? What is the impact of determinants of investment behavior on individual investor’s investment decision making process?
1.6 Objectives of the Study

1) To evaluate the behavioral aspects that determines the investment decisions of individual investors in portfolio management.

2) To explore the influence of investor psychology of risk tolerance and investment choice.

3) To analyze the strategies used by investors of Kerala for investment decision making.

4) To build a behavioral model for portfolio selection using psychological and strategy variables for investment decisions.

1.7 Conceptual Definitions

1. **Investment**: Investment is defined as any form of employment of fund in investment avenue for achieving specific goals.

2. **Capital market**: Capital market is a market where buyers and sellers engage in trade of financial securities.

3. **Behavioral finance**: Behavioral finance is the part of finance which explains the implication of psychological aspects in investment decision making process. Behavioral finance is the study of how psychology affects financial decision making and financial markets.”

   (Shefrin H. , 2000)\(^{28}\), (Fromlet, 2001)\(^{29}\)
4. **Investor**: An individual who invests his/her money in Indian capital market for personal use.

5. **Portfolio**: An investment or combination of investment into the following asset class such as equity, debenture, post office savings schemes, currency, government securities, real estate and gold.

6. **Investment behavior**: Investment behavior refers to the psychological aspects of investment decision-making process of the investor.

7. **Heuristics**: Heuristics are the mental short cuts used by the brain to reduce the complexity of information bias. Most often people need to assess the probability of an uncertain event or the value of an uncertain quantity. Instead of making complex mathematical calculations human mind uses certain rules of thumb to make a decision.

8. **Overconfidence**: Overconfidence is summarized as undue faith in one’s intuitive reasoning, judgments and cognitive abilities. It shows how investor overestimates their capabilities usually with respect to the capabilities of others on an average.
9. **Representative bias**: A representative bias is defined as human tendency to associate an event as a base for decision making. The event can be current performance of the stock price or the trend of price movement. Shefrin (2000) explains the representativeness as the tendency of investor to buy stock that represents desirable qualities such as strong earnings, high sales growth and good management.

10. **Mental accounting**: The term “mental accounting” is defined as the process by which the investor is assigning the weight of investment based on investment objectives.

11. **Regret aversion**: Regret aversion is defined as emotional reaction of an investor after implanting the decisions. It anticipates regret if the investors make wrong choices and take this consideration when making decision.

12. **Herd behavior**: Herd behavior refers to lack of individuality in decision making. The investment decisions will be based on recommendations, opinions or from other information. That is an investor behavior or tendency to mimic the actions of others.
13. **Risk tolerance**: The demographic characteristic of an investor which defines the maximum amount of risk an investor can afford with respect to the investment decision.

14. **Investment strategy**: Investment strategy is defined as the tools and techniques used by the investor in selecting an investment avenue.

15. **Financial statement analysis**: It is a quantitative indicator and an investment tool employed by investor to evaluate the financial aspects of the company based on financial ratios and other financial statements.

16. **Corporate social regulations**: It is a qualitative indicator and a tool for evaluating a company based on its corporate values.

17. **Technical chart analysis**: Technical chart analysis are those who adopts investment tool as the price movement and volume traded of the security.

18. **Opinion analyst**: Opinion analyst are those who adopts investment tools as “trust heuristics”.

1.8 **Methodology**

The main aim of the study is to find out the behavioral approach of investors in portfolio selection and strategies applied for optimization of returns. The first phase of the study was estimating the various variables.
for the study. An exploratory research was carried out in the first stage of
the study. The variables and elements were extracted from an extensive
literature review. Secondary data from the publications of Government of
India, Government of Kerala, Central Statistical Organization (CSO),
Reserve Bank of India (RBI), National Council of Applied Economic
Research (NCAER), National Stock Exchange and from relevant studies,
reports and working papers were collected and analyzed.

In the second stage, the primary data have been collected from the
individual investors of Kerala through a structured questionnaire. A sample
of 916 investors from Kerala has been selected for the study using snow ball
sampling method. The questionnaire elicits information on demographic
profile, socio economic profile, the current investment pattern, investment
strategies and the factors affecting the investment decision.

The brokers and advisors of Cochin Stock Exchange, Kotak
Securities Limited, Vertex Securities Limited, Muthoot Fincorp Ltd.,
Hedge Equities and Geojit BNP Pariabs were contacted for the initial
references during the period of data collection.

The various univariate and multivariate analysis were carried out to
achieve the objectives of the study.

1.9 Reference Period

The reference period of the study is from 2010 to 2015. However
secondary data about the statistical information about India and Kerala was
extracted during the period 2010 – 2014. The researcher collected the
primary data during the period 2012 – 2014.
1.10 Scope of the Study

The decision making of an investor is based on multidimensional factors. The current risk models available were either based on mean variance approach or based on investment behavior. Investment behavior is based on psychological factors which is basic for the behavioral portfolio theory. However less emphasis was given to the risk models which incorporate psychological factors by combining the demographic factors, risk tolerance level and the investment strategies.

Investors have various avenues to invest their funds and they choose an avenue which satisfies their needs by achieving maximum returns from their investment. Portfolio management deals with the analysis of individual securities as well as with the theory and practice of optimally combining securities into portfolios. An investor who understands the fundamental principles and analytical aspects of portfolio management has a better chance of success. The researchers have found that the decision making of investors was based on certain psychological heuristics and biases.

Therefore this study is to explore the influence of various psychological biases affecting the investment decision making. Examining individual investor behavior and explaining the underlying psychological biases are expected to contribute to our understanding of market microstructure. The role of such biases in determining individual investor behavior can be established from a centric approach to the balanced approach where individual investor views were equally significant in stock market.
Therefore purpose of the present study is to show the impact of behavioral factors of individual investor’s decision making in financial markets with reference to investors of Kerala. In order to identify the behavioral factors and to establish their relationship with investor behavior in financial market, we adopted the cognitive approach and carried out a structured survey of individual investors.

The study is based on two aspects. In the first part of the study it is envisaged to analyze behavioral aspects of the investor in determining the optimum portfolio mix. In the second part of the study, the various investment strategies for diversifying the risk by applying an investment decision model are analyzed.

1.11 Limitations of the Study

The study suffers from the following limitations.

1) Official records relating to the details of individual investors in Kerala are not available. Hence only the details of investors supplied by broker firms and investment advisors are used for the selection of samples.

2) Since the population is infinite, random assignment in sampling is not used in study. Therefore snowball sampling techniques are applied in the study.

3) Statistics relating to capital market investment in Kerala is virtually absent. Non-existence of vital data has forced the investigator to depend solely on the information collected through field survey.
4) It is not a cross sectional study. The study is limited to those exposed to high risk category (investment in equity market)

5) Reluctance of investors to provide complete information about their investments can affect the validity of responses.

1.12 Chapter Schedule

Chapter 1: gives a brief introduction about the topic- origination of the concept of behavioral finance into the finance arena- a brief narration about the Indian Security Market- introduction to risk modeling and portfolio management – statement of problem, research gap, the working definitions and the limitations of the study

Chapter 2: explains the various theoretical aspects of the study and a critical review on literature

Chapter 3: Research methodology

Chapter 4: Univariate analysis on investors of Kerala, which includes profiling of investors based on demographic, economic, trading behavior, current investment pattern and the factors affecting the investment decisions.

Chapter 5: Behavioral assessment on investment decision and portfolio management includes the analysis of behavioral factors affecting investment decisions and the investment strategy applied by investors for their decision making

Chapter 6: The risk tolerance level of investors is analyzed using demographic variables and multiple discriminant function is used to test to
find the discriminating power of behavioral factors affecting investors risk tolerance

Chapter 7: Investment decision of investors is analyzed using psychographic variables, investment strategy, and investment preference and time horizon of investment. Thereafter behavioral model was developed by incorporating behavioral factors and investment strategy variables

Chapter 8: Findings and suggestions

Chapter 9: Conclusion, contribution of the study, scope for further research.

References


Introduction


.....END.....