9.1 Cross Verification of Objectives with the Results

The following steps were taken for achieving the objectives of the study:

Objective 1: To evaluate the behavioral aspects that determines the investment decision of the individual investors in portfolio management

Five point likert scale was used to determine the behavioral aspects of the investors. Using Exploratory Factor Analysis, five behavioral factors was extracted. The extracted variables were:

- Representative bias
- Overconfidence
- Regret aversion
- Mental accounting
- Herd behavior

The details of the analysis were explained in chapter 5.
Objective 2: To explore the influence of investor psychology of risk tolerance and investment choice

Investor segmentation was done using the risk profile and risk attitude of the investors. Using the risk profile investors were segmented as aggressive investors, moderate investors and conservative investors. The risk attitude was measured by identifying the willingness of investors to take risk - risk takers and non risk takers. Finally discriminant analysis was carry forwarded using the behavioral factors extracted from Objective 1 and discriminant model was developed as “investors psychology on risk tolerance” (Chapter 6).

Objective 3: To analyze the strategies used by the investors of Kerala for investment decision making

Exploratory factor analysis was carry forwarded to identify the investment strategy (tools). The four factors extracted from the analysis were:

- Financial statement analysis
- Corporate social regulations
- Technical chart analysis
- Opinion analysts

The details of the analysis were explained in chapter 5.

Objective 4: To build behavioral model for portfolio selection using psychology and strategy variables for investment decision.

The five behavioral factors (Objective 1) and the investment strategy (Objective 3) was taken as the base for developing a “behavioral portfolio designed model”. In order to achieve the objective, discriminant
analysis was done in order to identify the discriminant variability of the
nine variables. Based on which a discriminant model was developed
(Investor Model on Investment Decision, Chapter 7: Figure 7.1). Finally by
incorporating the two model (Model 1: Investor psychology on risk
tolerance (Chapter 6); Model 2: Investor Model on Investment Decision
Chapter 7)), Behavioral Portfolio Designed Model was developed for
portfolio selection and optimization of returns (Figure 8.1).

9.2 Conclusion

This thesis attempted to develop a descriptive model on investment
based behavioral approach of investors. The research problem covered in
the study were: (1) the relevant aspects of investment behavior of
individual investor; (2) investors psychology on risk tolerance; (3) decision
making tools and techniques used by investors in portfolio selection. Using
the method of snow ball sampling, the sample was extracted from the
investors across Kerala. The study focused on four aspects such as
investment behavior, investment strategy, investment preference and the
risk tolerance level to develop the risk model on investor behavior.

The study found that, investors suffered from all biases in a
significant manner. It is evident from the analysis that investment behavior
is the results of various cognitive errors and heuristics. The statistical
analysis had shown that all the investors are affected by the various biases
while making investment decisions. The various biases found among the
investors of Kerala are (1) representative bias (2) overconfidence bias
(3) regret aversion (4) mental accounting and (5) herd behavior. The
identified investment strategies employed by investors in portfolio
selection are (1) financial statement analysis (2) corporate social regulations (3) technical chart analysis and (4) opinion analyst. Among all the behavioral factors, representative bias has more effect on the investment decision of the investors. This explains two level of typology on decision making influencing the investors which oppose the concept of rational behavior.

From the analysis of behavioral approaches, investors risk tolerance level was analyzed using the demographic variables. This helps in segmenting investors into three categories based on their willingness to take risk. However the study reveals the factor that the investors were having a characteristic of conservativeness in their risk taking attitude. Chi-square analysis was used to test the effect of socio demographic variables on the risk tolerance level of the investors. The statistical testing revealed that the age group, marital status, educational qualification and sources of investment have strong relationship with the risk tolerance level of the investors. The significant factor identified in the analysis was that unlike the previous studies there exist no gender differences among the risk tolerance level of the investors in Kerala.

The investors’ psychology on risk tolerance was analyzed by applying One Way ANOVA for hypothesis testing. The study reveals that representative bias, regret aversion, and mental accounting are the psychological bias affecting the risk tolerance of the investors. The discriminating power of the psychological variables is established using discriminant analysis.
Sociological and economic factors were the two psychographic factors undertaken to study the decision making for the investors. Chi square analysis helps in analyzing the association of variables. However the notable factor from the analysis is insignificance of gender differences. Female investors found to be equally competent with male investors. This proves that women have an important role in financial decision making.

The diversification strategies of the investors are analyzed using their investment preference, investment strategy and investment behavior. The investors’ future plan on investment is analyzed by giving two options to the investors either to buy or hold/sell strategy. The study proposes a prescriptive model of investment behavior of investors on decision making process. The five behavioral factors and the four investment strategy were taken to build the risk model. The model was developed by establishing the relationship between investment behavior and investment strategy. Investment behavior is the psychological factor used to study the behavioral approach of the investor on portfolio selection. The investor model is built by using the discriminant function. Incorporating the two models, the researcher has developed a “behavioral portfolio designed model”.

9.3 Contribution of the Study

a) Large number of demographic variables was taken for the study: The study on demographic factors and its influences on behavioral factors were limited, especially among the investors of Kerala. Demographic factors studied across the research were age, gender, education, occupation, race, etc. But here the
Chapter 9

researcher incorporated socio economic variables for the study. This inclusion will give large perspective on demographic factors and its linkage to investment decisions.

b) Inclusion of new variables: Considering the complexity in decision making, the researcher incorporated behavioral factors and investment strategy variables into the study.

c) In this research cross variation study was conducted across the demographic factors by intrinsically incorporating behavioral factors. This model will help the financial intermediaries to develop a optimum portfolio for the investors.

Most of the well known empirical studies on portfolio selection in India are based on secondary data, which does not capture the behavioral factors contributing to portfolio selection. Hence this study will help financial intermediaries to develop a model based on investor behavior. The investment preference, behavioral factors and investment strategy will guide the financial intermediaries and advisors to design an optimum behavioral portfolio for the investors. The psychology on risk tolerance is an add-on towards behavioral portfolio selection.

9.4 Scope for Further Research

Behavioral finance is a rapidly growing field. Behavioral finance, as a discipline of finance explain why and how the market become inefficient and how emotions and mental error causes stocks to be overvalued or undervalued. This area of discipline has only limited study in Indian Financial market as compared to other economies. It has tremendous
possibilities for the researchers in terms of exploring behavioral bias and developing behaviorally adjusted risk models. The present study concentrates only on five behavioral biases affecting the investors of Kerala, using primary data. Results from the study are more indicative in nature than confirmative. However, there is wide scope of future research for the researchers to use secondary data. The study based on secondary data will be helpful for possible market indicators. The present study concentrates only high risk taking salaried investor groups. The study can be further extended to all the classes of investors.

Investor behavior involves a lot of complexities and researchers still have a long way to go before they understand its intricacies. This research work is a humble attempt to provide unique insights into the existing body of knowledge. If this work can make a contribution in understanding the complex investor behavior and its implications on the stock market, the untold number of trees that were required to print this thesis was not cut down in vain.

...SOOR.....