

CHAPTER 3

Objectives and Research Methodology

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3.1 Introduction

Indian capital market has variety of traditional and innovative financial instruments and mutual fund is among one of them. The study employs research methodology to analyses the performance of mutual fund schemes and to show the impact of mutual funds on Indian capital market. Indian capital market is full with up and down trends that provide favorable and unfavorable return and fluctuation in return create risk, it need a research to understand the capital market.

Capital market movements depend on economic and financial information of entire globe that may be good or bad. Indian capital market was performing well in 2008 and seeing upward trend Reliance Power came with IPO that impart maximum liquidity of market and the success of Reliance Power IPO motivated other companies for IPO. But in 2009 global financial crisis started that slower the growth of Indian and global capital markets. Indian capital market benchmark index SENSEX and Nifty drop by 37% and 36% respectively. Mutual fund industry also badly affected due to slow down in capital market. The trend reversal was started in mutual fund industry in year 2010 and after a little decline its again moving upward at a faster rate. It provides an opportunity to researcher to conduct research focusing comparative structure of mutual funds.

3.2 Objectives of the Study

The objectives of the study are as under:

1. To examine the existing status of mutual fund industry in India.
2. To find out the impact of Equity funds in growth of capital market in India.
3. To evaluate the impact of Debt funds in growth of capital market in India.
4. To study the relationship between Balance funds investment and growth of capital market in India.
5. To investigate the factors affecting investor's behavior on selecting Equity, Debt and Balance Funds.
6. To analyze and compare the performance of selected Equity, Balance and Debt Mutual Funds.

3.3 Problem Identification

Past studies related with the performance of mutual funds found in research papers and articles. But the changing financial environment and investor perception make essential to do more research in particular area to understand dynamic of capital market and investor perception towards investment. The research is related with particular area that helps the financial intuition and fund managers to understand the investors' perception and also helps investors during decision making. The research further helps in understanding of Indian capital market and mutual funds and its relation and impact of mutual funds on capital market. Because capital market is full of risk and uncertainty and it's very much crucial to predict with certainty with low risk that require so many

statistical tools and techniques to forecast the capital market like fundamental analysis, technical analysis factor analysis, correlation and regression analysis.

Here research includes specific financial and statistical tool to analyze the impact of mutual funds on Indian capital market. The performance of mutual funds measured with Sharpe, Treynor and Jensen model. Sharpe's performance model shows the relation between risk premium to standard deviation it means amount of risky return yield by taking a single unit of risk. Treynor's performance model also shows the relation with risk premium with beta. Risk premium is the difference of portfolio return and risk free rate of return. Jensen's model also measure the performance of mutual funds by measuring the value of alpha. Higher ratio of Sharpe, Tryenor and Jensen indicates good performance the study measure the performance of selected equity, debt and balance funds performance.

3.4 Research Design

Designing framework to carry out a research is called research design that includes out line of data collection, measurement of data, application of financial and statistical techniques and analysis of data. Research design comprises researcher's course of actions from formulation of hypothesis, and functional feasibility to data analysis. Research design deal with what, when, how much and by what extant an inquiry will set up it further deal with collection of data that serve research objective with economy. In research design researcher indentify the variables and variable further defined as independent and dependent variable. A detailed research design is given as follows:

3.4.1 Sampling

Universe

All Assets Management Companies (AMC) in India, Indian capital market and investors of mutual funds in India are constituents of universe of the study.

3.4.1.1 Sampling Units

The sampling unit includes BSE-Sensex, NSE-Nifty, Broad Index, Equity Schemes growth Funds, Balanced Schemes funds, Debt Schemes funds and Mutual funds individual investors. All the schemes are constant performer funds ranked by CRISIL

3.4.1.2 Source List

Sample collected from primary and secondary sources. Secondary sources includes the mutual fund companies, AMFI, RBI, BSE, NSE, CCIL, and magazine, journals, articles, books and the published and unpublished source of the mutual funds considered in the research

3.4.1.3 Sampling Period

Sample of study are taken from January 2010 to January 2016 only because the availability of data was only up to January 2016 at the time of data collection.

3.4.1.4 Sample Size

Detail information of primary data is given in Chapter-7 and sample size of the secondary data is given below:

Table.3.1 Equity Mutual Funds

FUNDS	CRISIL RANK
Birla Sun Life India Gen Next Fund	1
Birla Sun Life MNC Fund	1
Birla Sun Life Top 100 Fund	1
DSP Black Rock Micro Cap Fund	1
Franklin India High Growth Companies Fund	1
Franklin India Smaller Companies Fund	1
SBI Blue Chip Fund	1
Tata Ethical Fund	1
UTI MNC Fund	1

Source: CRICIL 2016

Table.3.2 Balance Mutual Funds

FUNDS	CRISIL RANKS
Tata Balanced Fund	1
HDFC Balanced Fund	2
Franklin India Balanced Fund	3
HDFC Prudence Fund	3
SBI Magnum Balanced Fund	3
Birla Sun Life Balanced 95 Fund	4
DSP Black Rock Balanced Fund	4
UTI Balanced Fund	5

Source: CRICIL 2016

Table.3.3 Debt Mutual Funds

FUNDS	CRISIL
IDFC Dynamic Bond Fund	1
HDFC High Interest Fund	2
UTI Bond Fund	2
Birla Sun Life Income Plus	3
HDFC Income Fund	3
IDFC Super Saver Income Fund	3
SBI Magnum Income Fund	3
Tata Income Fund	3

Source: CRICIL 2016

3.4.2 Hypotheses

The hypotheses for the study are as under:

H₀₁: There is no significant impact of Equity Funds on Capital Market.

H₀₂: There is no significant impact of Balance Funds on Capital Market.

H₀₃: There is no significant impact of Debt Funds on Capital Market.

H₀₄: There is no significant impact of factors affecting investor's behavior of Equity, Balance and Debt Funds.

3.4.3 Data Collection

The study is based on primary and secondary data. The secondary data related with NAV, SENSEX, NIFTY, T-Bill Rate and Bond Index, collected from specific mutual fund and

BSE, NSE, RBI and CCIL websites. The data is also taken from Journals, Articles, Books, News Papers, Published and unpublished sources in research for analysis purpose. Primary data collection methodology is given in chapter seven.

3.4.4 Financial and Statistical Tools for Measurement

The Statistical and Financial tool used to analyze the primary and secondary data to find the impact and performance of mutual fund on Indian capital market. The Tools are as under:

NAV:-Net assets Value means current market value of a mutual fund unit in other notion its value of a unit on which funds traded in market. The calculation of NAV is as under:

$$\text{NAV} = \frac{\text{Market value of Assets} + \text{Accrued Income} - \text{Liabilities} - \text{Accrued Liabilities}}{\text{Units outstanding}}$$

Mean:-Mean value represents the average of the numeric data.

σ :-Standard deviation explains the risk and its higher value indicate high risk and lower value indicate lower risk. The standard deviation explain how for value is from its mean value.

β :-Beta measure the relation between security return and market return it's a relative measurement. Beta measure the uncontrolled risk it show amount of change in security return if one unite change in market return. Beta value may be 1,>1, and<1 and beta value

greater than one indicates particular stock is riskier than market and beta value less than one present stock is less riskier than market. Beta value measures the uncontrolled risk it includes market risk, political risk, inflation risk and interest rate risk.

R^2 : - **R^2** – Show the percentage of variance explained by independent variable on dependent variable. The value of R^2 range between 0 to 1.

Fisher's F-Test

Fisher's F - Test is called ANOVA Test which was pioneered by R. A. Fisher. ANOVA indicate two independent estimates of population variance are significantly different or not or two samples are drawn from normal population. The ANOVA Test is based on ratio of variance. F-Test measures the variance of rows and columns on specified level of degree of freedom.

Factor Analysis

Factor analysis is a data reduction technique that reduces the variable on small level and that small numbers of variables are capable enough to explain the large amount of variance in total variance. Communalities explain the variance explained by each variable in relation to all factors. Principal component analysis used for extraction in calculation of communalities. The extraction of variable is done by principal component analysis method. Variable with higher correlation value is considered good. Return from investments, Safety of Investment, Full Disclosure of Information regarding Scheme / Fund (like objective, periodicity of valuation, scheme's sale/ repurchase etc.), Capital

Appreciation, Reputation of Sponsor, Sponsor's Expertise (in managing money), Favorable Credit Rating of Scheme / Fund, Liquidity of investment, Fringe Benefits (like Tax Benefits, Free Insurance, Free Credit Card, Loans on Collateral etc.), Regular Updates on every trading day (regarding investment, NAV etc.) Promptness in Service, Charges (Entry Load and Exit Load), Redress of Investor's Grievances, Early Bird Incentives, SEBI regulation, Peer group, experts' opinion, advisor convincing power, Annual income of investors, and Knowledge about financial instrument are variables used in analysis.

Sharpe's Performance Index

To measure the performance of mutual fund Sharpe used relative measure that results single numeric value called Sharpe's index. Sharpe's index measure the relation with risk premium to standard deviation that shows amount of funds return by bearing one unit of risk(Standard deviation as a measure of risk).As per index value funds are ranked the fund having high index value ranked one and last rank assigned to lest performer fund having lowest index value. Sharp's index measure given as under:

$$S_t = \frac{R_p - R_f}{\sigma_p}$$

S_t =Sharpe's index

R_p = Funds mean return

R_f = risk less rate of return

σ_p = Standard Deviation of the Funds return.

Treynor's Performance Index

The Treynor's index measure the performance of mutual funds it shows a single value that indicate the relation between risk premium and beta a measure of systematic risk.

The calculated index shows amount of return with per unit of risk. The fund with high index value is known as best performer fund and funds ranks are assigning as per index value. Ranks one assign to highest index value and last rank to list performer fund

Treynor's ratio is given below.

$$T_n = \frac{R_p - R_f}{\beta_p}$$

R_p =Funds mean Return

R_f =Risk less Rate of Return

β_p =Beta of Funds

Jenson's Measure

The absolute measure of mutual fund performance was pioneered by Michael Jensen (1968) that also known as Jenson's measure. It's an absolute measure because the calculated value compare with pre define standard and that standard show the manager's predictive ability. The Jenson's measure of performance is used in many researches globally. Jenson's Measure is as under:

$$R_p = R_f + \beta (R_m - R_f)$$

R_p = Average return of portfolio

R_f = Risk less rate of return

β = A measure of systematic risk

R_m = Average market return

3.5 Limitations of the Study

1. The study is based only on selected mutual funds which were constant performer during the study period.
2. The findings and results are based on the past performance of the only selected Equity, Debt and Balance schemes.
3. The whole study is based on SENSEX and NIFTY indexes which are fluctuating in nature.
4. Performance measurement techniques may not give equal weightage to each scheme.
5. Sharpe's performance evaluation is based on Standard Deviation which does not cover total risk.