CHAPTER - III

RESEARCH METHODOLOGY

Research methodology is a way to solve the research problem systematically. It includes the methods required for systematic analysis and logical interpretation of empirical evidence. So, it covers the scope/population of the study, sample size, selection of sample, source of data collection, tools and techniques used for the analysis, interpretation and presentation of data and limitations of study.

3.1 Objectives of the Study are:
1. To examine the role of merchant banking in promoting capital market in India.
2. To study the rules and regulations of SEBI for merchant bankers as issue managers.
3. To evaluate the performance of the merchant bankers.
4. To study the marketing aspects of the merchant bankers relating to the issue.
5. To study the effectiveness of pricing of the ‘issues’ (as determined by issuing company and the merchant banker).
6. To make appropriate recommendations to merchant bankers for improving their performance

3.2 Scope/Population of the Study

In order to examine the role of merchant bankers in the management of public issues in India, a period of twelve years from 1997-98 to 2008-09 has been taken. During this period, a total of 685 public issues (618 equity issues and 67 debt issues) and 330 rights issues have been floated. All these have been considered for evaluation of performance of merchant bankers. Similarly, a number of merchant bankers stood registered with SEBI at different points of time during the period under review. All these merchant bankers form the universe of the present study. Major thrust of the study has been on the performance evaluation of merchant bankers in the management of public issues.

3.3 Sample Size

All the SEBI registered merchant bankers were not involved in the issue management activities during the period under review. So the sample of merchant
bankers consists of those, who were associated with public issue management activities in any capacity during the period.

Similarly, for the analysis of pricing of public issues, 234 initial public offerings (IPOs) of equity shares listed with National Stock Exchange (NSE) during the period from 1997-98 to 2006-07 have been taken into consideration. Further public offerings (FPOs) of equity shares have been excluded for measuring the return to the investors as the shares are already listed on the stock exchange and the determination of issue price of FPOs by merchant bankers is largely influenced by the market prices prevailing at the time of issue.

Majority of previous studies on pricing performance of IPOs have been based on the BSE prices. In the present study, NSE has been selected for the measurement of return to the investors from IPOs as it has emerged as the dominant stock exchange in the country.

3.4 Collection of Data

The present study is based on secondary data. Data have been collected from the offer documents/ Red Herring Prospectuses of the issuer companies, BSE official Directories, SEBI Annual Reports, SEBI Bulletins, Handbook of Statistics on the Indian Securities Market of SEBI, Annual Reports of RBI, Reports on Currency & Finance, RBI Handbook of Statistics on Indian economy, Prime Directories, Economic Survey and NSE’s Indian Securities markets- A Review etc.

A good amount of data has also been collected from different journals like Capital Market Review, SEBI Bulletin, Dalal Street, Chartered Financial Analyst, Portfolio Organiser, Economic & Political Weekly, Economic Survey, Chartered Accountant and Finance India etc. Various financial newspapers, press notes, publications of various merchant bankers have also been consulted. Besides this, the websites of SEBI, NSE, BSE, RBI and a number of other agencies has been searched for getting the latest data and information related to the study.

3.5 Tools and Techniques used for Analysis and Presentation

In the present study, statistical tools such as average, percentage, rate of return, standard deviation, coefficient of variation and simple regression analysis have been employed for the analysis of data and to draw meaningful conclusion therefrom. A number of analytical tables and charts have been constructed for the effective
presentation of the results of analysis. Various tools and techniques used in the study have been discussed below:

### 3.5.1 Performance Evaluation in Management of Public Issues

The performance of individual Indian and foreign based merchant bankers, who acted as lead managers to the public and rights issues have been analysed with respect to number of issues handled, amount raised, percentage of total amount raised during the period under review.

Generally a single merchant banker has been appointed as lead manager to the issue. However, multiple lead managers/ book runners lead managers having equal role in the issue management activities have also been appointed in a number of large issues. In order to avoid duplication in such cases, the amount raised has been apportioned equally to all lead managers and the number of that particular issue has been assigned to the first lead manager in the list of such lead managers.

### 3.5.2 Performance of Merchant Bankers in Underwriting of Public Issues

Under this part of the study, pattern of underwriting of public issues has been analysed. The offer documents of companies stated the actual amount underwritten by different merchant bankers in a particular issue. Year wise total amount and percentage of this amount to total amount underwritten has been found for individual merchant bankers in the category of Indian and foreign based merchant bankers. The merchant bankers have been ranked on the basis of total amount and proportion of total amount underwritten during the period under review.

Rights issues have not been considered for this purpose as only a few of the rights issues have been found to have underwritten during the period of study.

### 3.5.3 Rate of Return Analysis

Performance of individual lead managers on the basis of average return obtained by investors (difference of issue price and market price) from NSE listed IPOs at six points of time, that is, return on first trading day (listing day), after one week, one month, three months, six months and twelve months from the first trading day has been measured with the help of following steps:

(a) **Number of IPOs managed by individual merchant bankers**

Total number of NSE listed IPOs managed by individual merchant banker during the period under review has been assigned to that merchant bankers, whether
they have managed it individually or jointly with other merchant bankers. Merchant bankers acting as lead managers(s)/Book runner lead manager(s) only have been considered for this analysis.

(b) Return from individual IPO

The simple return from individual IPO of equity share has been found out at six intervals of time as stated above with the help of the following formula:

\[
\text{Simple return} = \left(\frac{\text{closing market price on return date} - \text{issue price}}{\text{Issue Price}}\right) \times 100
\]

Share prices of NSE at the return date have been taken for this purpose. When a return date happens to be a holiday or no trading day at NSE, then share prices of the next available date have been taken for finding out the return. Closing market price on the stated day has been taken for this purpose.

(c) Average return of IPOs managed by individual merchant bankers

Separate positive and negative average returns of IPOs managed by individual merchant bankers have been calculated at different intervals of time. This average has been measured with the following formula:

\[
\text{Sum of (+ve)/(-ve) annual return} \div \text{No. of IPOs showing (+ve)/(-ve) return}
\]

Further, average annual return has been calculated at each point of time for the respective lead manager (merchant banker). Then total average annual return from IPOs managed by individual merchant banker has been measured by dividing the total of average returns for the period under review at each time interval by the number of years, individual merchant banker participated as lead manager in sample IPOs.

(d) Average Market Return from NSE IPOs

For this purpose, first of all annual average return from total NSE listed IPOs have been calculated for each time intervals, that is, return on first trading day (listing day), after one week, one month, three months, six months and twelve months from the first trading day. Then total average return is calculated by aggregating the average annual return at each point of time and dividing it by the number of years of study i.e. ten. This has been shown in the annexure.
(e) **Average annual index return (based on NIFTY)**

Average annual index return for each financial year during the period under review (based on NIFTY) for the purpose of comparative analysis has been calculated as follows:

\[(\text{Index at the close of the year} - \text{Index in the opening of the year}) \times 100 \]

\[\text{Opening Index}\]

(f) **Simple linear regression Analysis**

Regression is the determination of a statistical relationship between two or more variables. A simple linear regression is confined to two variables only. In this type of regression analysis, the value of one variable is estimated on the basis of the value of another variable. In the present study, this analysis is used to measure the impact of average annual index return and average annual market return of IPOs on the average annual returns of IPOs managed by individual merchant bankers. The regression equation takes the form of:-

\[Y = bo + bi X\]

Where \(Y\) represents average annual return from IPOs managed by individual merchant bankers (dependent variable), ‘\(X\)’ the average annual index return and annual market return of IPOs (independent variable), ‘\(bo\)’ is the intercept and ‘\(bi\)’ is the regression co-efficient of independent variable in the regression model.

3.5.4 **Analysis of Investors’ response to the Public Issue**

Year wise and lead manager wise subscription ratio (number of times issue subscribed) have been analysed separately by retail investors and by all categories of investors with the help of following statistical tools:

(a) **Arithmetic Mean**

It is the most common measure of central tendency and may be defined as the value which is obtained by dividing the sum of the values of various given items in a series by the total number of items.

\[X \text{ (Arithmetic Mean)} = \frac{X_1 + X_2 + X_3 + \ldots \ldots \ldots X_n}{N}\]

Where

\[X_1, X_2 \ldots \ldots \ldots X_n = \text{Value of items}\]

\[N = \text{total number of items}\]
This method has been used to measure the year wise and merchant banker wise subscription ratio of public issues of equity by retail investors and by all categories of investors. Subscription ratio has been calculated as follows:

Annual Subscription Ratio = Sum of number of times oversubscription of all public issues in a year ÷ Number of Public Issues in a year.

Subscription ratio of public issues managed by individual merchant banker has been calculated as:

Sum of times of subscription of all public issues managed by individual merchant banker ÷ No. of public issues managed by particular merchant banker.

(b) **Standard Deviation**

Standard deviation is the commonly used measure of dispersion. It is defined as the square root of the average of squares of deviations, when such deviations for the values of individual items in a series are obtained from the arithmetic mean. It is calculated as under:

\[
\sigma = \sqrt{\frac{\sum (x - \overline{x})^2}{N}}
\]

Where

- \(\sigma\) = the standard deviation
- \(X\) = each value in the population
- \(\overline{X}\) = the mean of the values
- \(N\) = the number of values (the population)

This method has been used to measure the dispersion in the subscription (scatterness in the level) of public issues. It has been calculated on yearly basis separately for subscription level of retail investors and for all categories of investors.

Similarly standard deviation and co-efficient of variation of subscription level of public issues managed by individual merchant bankers during the period under review has also been calculated for retail investors and for all categories of investors.
(c) **Co-efficient of Variation**

Coefficient of variation is a relative measure of dispersion and is often used for comparing the similar measures of other series. It is calculated as follows:

\[
\text{Co-efficient of Variation} = \frac{\text{Standard deviation}}{\text{Arithmetic Mean}} \times 100
\]

The standard deviation along with relative measure like co-efficient of variation is regarded as a very satisfactory measure of the scatteredness of a series. It has been used to measure the year wise and merchant wise scatterness in the subscription of public issues during the period under review. A high degree of standard deviation and coefficient of variation in the subscription ratio of public issues indicates that wide variation in the subscription of different public issues in a year and also by different public issues managed by individual merchant bankers.

### 3.6 Presentation of Data

In the present study, the data has been presented in the following ways:

(a) **Tabular Form**

Simple as well as two-way frequency tables along with percentage and average have been prepared to analyse the data relating to the primary market and performance of merchant bankers in the management of public issues.

(b) **Bar Charts**

Bar charts have been constructed to present the number of issues floated, amount raised through public issues and the average return obtained by investors through different merchant bankers (lead managers) at different points of time covered by the study.

(c) **Pie Chart**

Pie charts have been prepared to show the amount of public issues underwritten by various categories of underwriters and by Indian and foreign based merchant bankers, percentage of amount of equity issues managed by Indian and foreign based merchant bankers etc.

### 3.7 Chapter Scheme

The present study is an endeavour to evaluate the role of merchant banks as ‘issue manager’ in India. The analysis and evaluation is based on secondary data. The present study has been divided into eight chapters.
Chapter one is introductory in nature and discusses the origin and growth of merchant banking in India especially after 1997. It further provides the overview of primary market in India with special reference to the period from 1997-98 to 2008-09.

The reviews of the selected studies in India and abroad covering various aspects of primary market and the role of merchant bankers in primary market has been covered in the second chapter.

Chapter three entitled ‘Research Methodology’ explains the scope of the study, data collection and statistical tools for analysis and limitations of study.

Chapter four evaluates the performance of merchant bankers with respect to management of public and rights issues.

Performance of merchant bankers with respect to underwriting activities of Indian and foreign based merchant banker has been covered in the fifth chapter.

Chapter six examines the pricing mechanism of public issues by merchant bankers. It evaluates the performance of different lead managers with respect to determination of issue price of IPOs listed at National Stock Exchange. Average return from IPOs earned by investors from IPOs managed by Individual merchant bankers have also been analysed at different points of time in the chapter.

Management aspect of merchant bankers relating to marketing aspects of public issues and investors’ response to public issues in India has been explained in chapter seventh.

Chapter eight entitled ‘Findings and Suggestions’ summarises the findings of the study. An attempt has been made to draw the conclusions from the present study and suggest measures to improve the working of merchant bankers with respect to issue management activities.

3.8 Limitations of the Study
The followings are the limitations of the present study:

1. The study is based on secondary data. So, the limitations of secondary data may also creep in and have an impact on the present study also.

2. Merchant bankers perform a variety of functions. The present study is limited to the role of merchant bankers in the management of public issue only.

3. The study covers the public issues of equity and debt in India. Private Placement and Euro issues have not been covered by the study.

4. All the figures have been taken at current prices. The impact of price level accounting has not been taken care of.