1.1 BACKGROUND

Capital is one of the most important factors of production. The employment of capital in the production, its generation into cost and its subsequent recovery through recovery of cost involve a delay and there is a time lag in the process. Therefore, the owner of capital is deprived of the possession of the capital during this period and for this a price is to be paid by the firm to the investors of capital for that period. This payment is known as cost of capital. The overall cost of capital consists of cost incurred for different sources from which capital is raised by the firm. Although, a firm can raise capital from different sources, but broadly such sources may be classified into two broad heads, namely equity and debt. Internal source of funds, i.e. retained profit may be treated at par with the equity share capital. A business always tries to increase its profit by controlling and reducing the costs. So it is clear that the business will always opt for those sources of capital, which bears minimum cost to the business and minimize the outflow of funds.

For choice of preferable sources of capital the simple and preliminary idea says that when the rate of profit earned is less than the rate of interest, 'equity' financing is preferable and, when the rate of profit earned is more than that of
rate of interest, 'debt' is preferable. Later, this preliminary idea was modified by making adjustments for tax factor and refined to get various methods of calculating cost of capital like 'overall cost of capital', 'weighted average cost of capital'. Besides, the concept of cost of capital in a modified form is also applied in various fields of finance such as Q theory of investment, for calculation of discounted future cash flow, for calculation of beta risk, and so on. However, the conventional methods of calculating cost of capital have some limitations and suffer from certain inconsistencies. As per the conventional methods, the cost of equity is calculated by considering the entire distributable profit after tax (PAT) as it is earned through utilization of equity holders fund (EHF) i.e. share capital along with reserve and surplus. Alternatively, where dividend is considered as the primary item for calculation of cost of equity, overall cost of equity is calculated on the basis of the combined figure of cost of equity share capital as well as cost of retained earnings.

However, the entire amount of accumulated reserve and surplus is considered for distribution to the shareholders only at that time, when the firm goes into liquidation or dissolution i.e. when the firm ceases to exist. Hence, during the life span of the firm, the entire PAT is never an outflow for equity from the viewpoint of the firm. That implies, though the PAT is primarily due to the shareholders, it is not paid entirely to them during the life span of the firm. So, it cannot be included in cost of equity. For finding out cost of equity, we should go with the common and general principle that cost should be the effective outflow i.e. the amount of dividend only and not PAT.
Finding out cost of debt is also not free from reservation. The conventional methods appear to be deflating the cost of debt as they do not properly highlight the indirect costs incurred for debt like 'creation of redemption reserve', 'writing off discounts and other incidental costs incurred for procuring debt', etc.

Another inconsistency of the conventional system of calculating cost of capital worth mentioning here is the calculation of risk factor for finding out cost of equity from the point of view of the firm is useless, as they are paid as per profit earned and not as per any prior agreement and obligation. Risk factor should be imposed upon the cost of debts as because their return is obligatory irrespective of the profit earned.

Moreover, calculating cost of debt as per the conventional models by complex formula considering all relevant factors like tax rate, interest rate, face value, issue price and redemption factor is practically very difficult because in a business 'Debt Capital' is procured from numerous sources at different point of time with differences in their face value, issue price, expiry period and rate of interest. On the other hand for finding cost of equity capital, the 'reserve and surplus' is incorporated indirectly through considering market price of the equity shares. But in practice, the 'market price' turns out to be a problematic item as the market price is very often influenced by public sentiment and speculation. Therefore, lack of objectivity in determining market prices in turn may affect the calculated cost of equity to a certain degree and may make the measurement subjective.
In this context, the aim of our study is to calculate cost of capital by means of outflow of funds. For this purpose we will derive and establish a model namely, ‘Effective Outflow Rate’ (EOR), based on outflow of cash for maintaining capital. Here we will identify funds outflows (both direct and indirect funds outflow as well as an apportioned part of funds payable in near future like principal repayment of debt to be found in creation of redemption reserve) for maintaining capital and categorically split those into two parts i.e. outflow for maintaining equity and that of debt. Then by dividing the two amounts of outflows by their respective effectively invested amounts available for utilization (e.g. EHF for equity) we will obtain effective cost of capital from the firms’ viewpoint. This will not only simplify the calculation of cost of capital, but, also expected to bring about accuracy in determination of cost of capital by elimination of subjective items like ‘Market Price of shares’. Then we will make a case study with some selected Indian companies and with those empirical data we will try to examine whether the companies are adopting the right way to finance their capital. Along with it we will also make a ‘result projection’ to highlight the extent of adverse effect the firms are facing if they are moving on the wrong track. Lastly we will conclude the study by measuring the gains the companies would have made, if they financed the capital from the most preferred source in accordance with our model.

1.2 SURVEY OF LITERATURE

For choice of preferable sources of capital the preliminary conventional idea says that when the rate of profit earned is less than the rate of interest
payable on 'Debt', equity financing is preferable and when the rate of profit earned is more than the rate of interest paid on 'Debt', the debt will be preferable. This simple model was primarily structured by Modigliani and Miller (1958). Later the model was restated by taking into account the tax factor (Modigliani & Miller, 1963). This model slowly changed over to the concept of overall cost of capital (Singh & Nejadmalayeri, April 2004) and from there, to weighted average cost of capital (WACC). Pandey (1987) strongly insisted the use of WACC in investment analysis, irrespective of the way of financing investment projects. WACC has been refined from time to time and the ideas of "net operating income view of WACC", "average cost of capital", "marginal cost of capital" etc. came into practice (http://cbdd.wsu.edu).

Afterwards, a lot of work has been done in the area of cost of equity. The earning growth model is countered by 'dividend growth model'. Identification of the risk premium in cost of equity opened a new avenue (Beneda N.L., 2003), which is further modified and upgraded to 'calculation of beta risk through time series approach' (Faff, Brooks & Kee, May 2002). Another study showed that conventional method of calculating risk premium is flawed and it should be done in a different perspective termed as "maximum value" approach (Cohen R.D. 2003), while Eberly (2002) stated that "Q theory of investment" is the most effective method for calculating risk premium. To estimate cost of capital Alaouze and Emhjellen (2002) advocated for future cash flow discounting method. Graham and Harvey (2001) stated capital asset pricing model is effective in the large firms while "pecking-order and trade-off capital structure hypothesis" is effective in case of small firms.
With so many approaches for estimating cost of capital obviously there arises confusion and puzzle as stated by Verrecchia (1999). In this regard, Chakraborty (1977) opined that there is no optimal capital structure. Dempsey (1996) supported the same as is done by Ebrahim and Mathur (2001). We find Banerjee (1982) arguing that for the existing rules and pattern of tax, using debt capital becomes cheaper and as a result we find Banerjee (2005) stating equity as costliest source of capital. Harvey, Lins and Roper (2004) also observed debt as preferable source. But from a different angel and viewpoint, Lööf (2004) suggests equity as suitable source to finance capital.

As per the conventional methods, the cost of equity is calculated by considering the entire distributable profit after tax (PAT) as it is earned through utilization of equity holders fund (EHF) i.e. share capital along with reserve and surplus. Alternatively, where dividend is considered as the primary item for calculation of cost of equity, overall cost of equity is calculated on the basis of the combined figure of cost of equity share capital as well as cost of retained earnings. Here, the entire amount of accumulated reserve and surplus is considered for distribution to the shareholders only at that time, when the firm goes into liquidation or dissolution i.e. when the firm ceases to exist. Hence, during the life span of the firm, the entire PAT is never an outflow for equity from the viewpoint of the firm. That implies, though the PAT is primarily due to the shareholders, it is not paid entirely to them during the life span of the firm. So, it cannot be included in cost of equity. For finding out cost of equity, we should go with the common and general principle that cost should be the effective outflow i.e. the amount of dividend only and not PAT. On the other
hand, for finding cost of equity capital, the ‘reserve and surplus’ is incorporated indirectly through considering market price of the equity shares. But in practice, the ‘market price’ turns out to be a problematic item as the market price is very often influenced by public sentiment and speculation. Therefore, lack of objectivity in determining market prices in turn may affect the calculated cost of equity to a certain degree and may make the measurement subjective.

Finding out cost of debt is also not free from reservation. The conventional methods appear to be deflating the cost of debt as they do not properly highlight the indirect costs incurred for debt like ‘creation of redemption reserve’, ‘writing off discounts and other incidental costs incurred for procuring debt’, etc. Moreover, calculating cost of debt as per the conventional models by complex formula considering all relevant factors like tax rate, interest rate, face value, issue price and redemption factor is practically very difficult because in a business ‘Debt Capital’ is procured from numerous sources at different point of time with differences in their face value, issue price, expiry period and rate of interest.

Another inconsistency of the conventional system of calculating cost of capital worth mentioning here is the calculation of risk factor for finding out cost of equity from the point of view of the firm is useless, as they are paid as per profit earned and not as per any prior agreement and obligation. Risk factor should be imposed upon the cost of debts as because their return is obligatory irrespective of the profit earned.
1.3 OUR OBJECTIVE

Our main objective is to evaluate the capital structure of some selected listed non-banking and non-finance companies in the Indian private sector by determining the cost of capital by means of outflow of funds. For this purpose, we are going to establish the relevance of a new model for finding out cost of capital by bringing out the loopholes of the conventional models and calculate cost of capital by means of outflow of funds. A model namely, ‘Effective Outflow Rate’ (EOR), based on outflow of cash for maintaining capital has been derived and established.

Outflow of funds (both direct and indirect outflow of funds as well as an apportioned part of funds payable in near future like principal repayment of debt) for maintaining capital has been identified and divided into two parts:

(i) Outflow for maintaining equity.

(ii) Outflow for maintaining debt.

Then by dividing the two amounts of outflows by their respective effectively invested amounts available for utilization (e.g. EHF for equity) we have obtained effective cost of capital from the firms’ viewpoint. This will not only simplify the calculation of cost of capital, but is also expected to bring about accuracy in determination of cost of capital by eliminating subjective element like ‘Market Price of shares’. Because, in practice, the ‘market price’ turns out to be a problematic item as the market price is very often influenced by public sentiment and speculation. Therefore, lack of objectivity in determining market prices may affect the calculated cost of equity to a certain degree and may make the measurement subjective. Finally, we will make a case study with
some selected Indian companies and evaluate their capital structure with the help of EOR model and with those empirical results we try to examine whether the companies are adopting the right way to finance their capital. Along with it, we also make a ‘result projection’ to highlight the extent of adverse effect the firms are facing if they are moving on the wrong track. Then we measure the gains the companies would have made, if they financed the capital from the most preferred source in accordance with our model. Lastly we conclude the study by suggesting steps for implementation of EOR model and analyzing its consequential effects and benefits. More specifically our objectives are:

1. Derivation of EOR model for determination of cost of capital.
2. Evaluation of capital structure of the selected listed companies by applying EOR model.
3. Establishing the relevance of EOR model by bringing out the loopholes of the conventional models for calculating cost of capital.
4. Highlighting the effect of deviation of the companies from optimum or suitable source of financing capital.
5. Suggesting steps for implementation of EOR model and analyzing its consequential effects and benefits.

1.4 METHODOLOGY

The proposed study has two parts, one theoretical and other analytical. For theoretical study, we would rely on the available literature on the subject. For analytical purpose, i.e. for finding out cost of capital by means of outflow of funds, companies would be selected which are commonly listed in both "BSE
sensex" and "NSE nifty" as they are leading companies of India whose shares dominate the stock market movement and also represent major industries in India. Here we exclude the banks and financial institutions from our study, as their normal trading activity is primarily to deal with loans and debts.

For analyzing the financing pattern of these companies, we would depend on secondary data to be obtained from the published annual reports of those companies for a period of five years from 1999-2000 to 2003-2004. This time frame was selected keeping in mind that the 'Harshad Mehta Scam', one of the biggest stock market scam occurred during the year 1998. As an after effect of the scam, SEBI came out with numerous stringent guidelines, which made the Indian stock markets steady and rule-bound. The financial statements of the companies started to disclose more and became more transparent. The Institute of Chartered Accountants of India, in order to keep pace with international developments published as many as fourteen accounting standards (out of a total of 29) during this period and companies act made compliance of accounting standards mandatory in respect of listed companies. All these developments brought about a new age in the area of corporate financial reporting during this period.

1.5 CHAPTER DIVISION

For carrying out the proposed work we followed the following structure of chapter division:
1. **Introduction:**

   It introduces the area of our study and points out how and what are to be done in this study.

2. **Present trends of corporate financing:**

   This chapter discusses the pattern of changes in the investment trends and tries to bring out the causes of those changes.

3. **Theories of cost of capital:**

   Here, we critically analyze the loopholes and shortfalls of the available literature, theories and models for calculating 'cost of capital' to establish the necessity of our model which is our 'Objective No. 3'.

4. **Effective Outflow Rate (EOR) Model:**

   In this chapter by deriving the new model, namely, 'The EOR model' and illustrating its functioning we try to fulfill 'Objective No. 1'.

5. **Evaluation of Capital Structure of Some listed companies:**

   In this chapter we evaluate published balance sheet of some listed companies for five years starting from 1999-2000 to 2003-2004 with EOR model and show how far those are deviating from the suitable method of capital financing. There we made projections of the position of the companies showing in what state those would be if those would have followed the suitable capital financing as per the new model. Then we analytically made a comparative study between the two positions i.e. the projected one and the actual one. That also revealed how the companies would be able to switch over from the existing method of capital financing to the new suggested one. This chapter fulfills 'Objective No. 2' and 'Objective No. 4'.
6. **Effect of the implementation of the model:**

Here we analyze the steps through which the EOR model can be adopted. We will also try to outline the expected consequential effects and benefits for accepting EOR model and discuss its usages which are our ‘Objective No. 5’.

7. **Conclusion:**

This section summarizes and highlights the findings of our study. Moreover, it points out the limitations of the study and states the areas of further research that could be undertaken on this topic.