CHAPTER - I

INTRODUCTION
The key to rational investment decision making is information. The investor needs to know the different investment alternatives and must keep up-to-date information regarding markets, economy and particularly the firms. A large number of information are available to investors, but the success in investing depends on:

1. Finding out new and credible information
2. Applying superior judgement to know the relevance of information.

The true test of an analyst’s worth lies in his/her ability to develop a system of security analysis that couples original insight and unique ways of forming expectations about the prospects for individuals companies.¹

Information can be of two types: Internal and External. Internal information is concerned with operational data of the firm like annual reports and financial statements. External information provides a supplement to internal sources by providing information, which are not available through internal sources.

The primary sources of internal information are the financial statements of a firm. However, the investors and analysts are required to know that there is something more to financial statement than we see. An analyst who adopts the fundamental analysis approach to investment choice will examine the trend in the financial statements of the firm. If there is no relationship between the trend and stock market returns, then the analysis is useless. Even if there is some association, the question of timeliness of data is important. The management of the firm has the discretion over the timing of information release (for example, earnings report).

There are three factors that can affect information content of a release. They are:

1. The capital market's expectation as to the content and timing of the release.
2. The implications of the release for the future distribution of security returns.
3. The credibility of the information source.

One of the major findings in the study of financial statement is that earnings information release is associated with the trading volume and security returns. Beaver (1968) made a study considering trading volume at the time of earnings release.

Trading of stocks can occur due to various factors:

1. Investors buy/sell to coordinate their income-earning and income-spending activities.
2. Investors buy/sell to maintain a diversified portfolio.
3. Investors buy/sell due to change in the risk of their portfolio.
4. Investors buy/sell due to taxation reason.
5. Investors buy/sell due to new information causes a revision of their probability assessment.

Beaver took a sample of 143 firms over the period 1961-1965. He concentrated his study to examine the trading volume in the earnings announcement period relative to that in the non-announcement period. Beaver reported that there is a dramatic increase in the volume in the announcement week.

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Investors do shift portfolios at the time of earnings announcement and this shift is consistent with the contention that earnings reports have information content. However, a delayed report appears to convey a negative information to the capital market. Chambers and Penman (1984) examined a sample of 100 NYSE firms over the period 1970-1976. They report that in the period between the expected release date and just prior to actual release date, the late reporters typically experience negative abnormal returns.

The release of earnings information can signal the future profitability of the firm. Another signaling is through change in dividend of the firm. Many studies have examined the behaviour of stock prices at the time of dividend release.

Asquith and Mullins (1983), Brickley (1983) and Dileman and Oppenheimer (1984) examined samples of NYSE firms and found statistically significant abnormal returns in the dividend announcement period. Firms that increase dividends, announce special or extra dividends or initiate dividend payments for the first time, experience positive abnormal returns. Firms that decrease or omit dividend payments experience negative abnormal returns. The dividend release is a signal from management about the future earnings prospects of a firm.

In a firm the managers can arbitrarily determine, in the short run, the level of dividends. The level of earnings is largely influenced by demand and supply conditions within the firm's market. The management has no control over these

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variables of earnings. However if a firm has cash or the ability to borrow cash, it can determine the level of its dividend. But in the long run the dividend is influenced by the profitability of the firm. Many times it is seen that the management retains the same dividend even if the earnings have fallen.

It is often seen that managers maintain target pay out ratio of dividends. The target pay out ratio represents the amount of a firm's 'normal earnings' that can be paid out maintaining the desired level of capital investment and growth rate. Thus, when the reported current earnings fluctuates over time, the pay out ratio of dividend to current earnings may fluctuate. If for example, the current earnings fall below the firm's normal earnings, management may decide not to cut the current dividend. Similarly, if the current earnings increase above the firm's estimated normal earnings, dividends may not increase. Dividends will be raised only when the management believes that the earnings have permanently increased.

In a study conducted by Fama (1974) to examine the dividend changes. The target dividends has been calculated as:\footnote{Fama, E., \textit{The Empirical Relationship Between the Dividend and Investment Decisions}, American Economic Review (June 1974).}

\[
\text{Target dividend} = b \times E_t
\]

Where, \(b\) is the target pay out ratio of earnings

\(E_t\) is the firm's reported earnings for period \(t\).

The actual dividend for the year \(t\) can be written as:

\[
D_t = D_{t-1} + p (bE_t - D_{t-1})
\]

Where, \(D_{t-1}\) is the dividend for the previous year.

\((bE_t - D_{t-1})\) represents the difference between current years target dividend and previous year's dividend.
p is the speed of adjustment coefficient (it measures how quickly a firm adjusts its dividend to target level).

If the $p$ is equal to 1, the current dividend would be equal to target dividend (i.e. previous year's dividend plus the target change) and the speed of adjustment would be immediate.

Fama (1974) estimated the $b$ (the target pay out ratio) to be 0.58 (58%) and $p$ (speed of adjustment) was estimated at 0.25 for the sample firms. This suggests that, firms adjust their dividends by about one-fourth of the change in earnings each year. Though the relationship was not perfect, the results are strong enough to suggest that this may be an useful procedure for estimating changes in the current level of dividends taking the current periods earnings. Taking the estimates of $b$ and $p$ and the firm's current earnings the forthcoming dividend pay out could be estimated. Similarly taking the estimates of future earnings, series of future dividends could be estimated.

There are number of empirical evidences that earnings influence stock prices. Stocks with higher reported earnings tend to show above-normal returns and vice versa. Investors who can generate superior earnings forecast may also achieve above-normal returns. But forecasting earnings is difficult, as earnings changes are random. So by extrapolating historical growth rates into future is not likely to give better than average earnings forecast. It is necessary to understand and forecast the economy-wide and industry factors that influence the earnings as well as the unique characteristics of the firm.

In an efficient market, the prices of securities will quickly adjust to new information when it is published. So it may not be possible to develop strategies, based on published information, to earn abnormal returns. In an early paper Fama
(1970) concluded that the evidence in support of efficient market model is extensive and contradictory evidence is sparse' (pp.-416). However this conclusion is perhaps no longer valid. A number of studies have reported findings that are inconsistent with the view of Fama.

In an efficient market, when the earnings information are released, it may not be possible to develop a profitable strategy based on unexpected earnings. A number of studies reported the evidence of unexpected good \ bad news portfolios having positive/negative returns subsequent to earnings announcements. Rendleman, Jones and Latane (1982) examined the quarterly earnings announcements over the 1971 - 1980 period. They concluded that 'the results are remarkably consistent in suggesting that the market does not assimilate unexpectedly favourable and unfavourable quarterly earnings information by the day of earnings announcement' (pp.-283).

In an efficient market, as reported by many researchers, the securities with low price-earning ratios out perform those with high price-earning ratio. Basu (1983) reported that there is a 'significant relationship between price-earning ratios and risk- adjusted returns for NYSE firms' (pp. -143).

An investor generally attempts to forecast the market price by using historical price information and other market related data. Since the historical price data have no predictive value (as many evidence suggest) one might think why investors are relying on predictions based on such data. One explanation may be each investor uses a different strategy to analyse information. Another explanation may be, the investors may use some other type of data, in addition to historical data, which may have predictive value. It is just like a 'fair game' where a coin is thrown many times in succession and one person is given a point if head
turns up and the other person takes a point if the result is a tail. With many throws, the lead would move many times back and forth between two players. Ultimately the lead will favour one player although one is unable to predict at the beginning of the game which player it will be. Each investor or analyst is playing a number of different 'trading systems'. Some of these systems would have worked. But there is no way to know which system worked because of its predictive ability and which worked because of luck. Thus, an analyst's trading strategies are no better than 50:50 chance of working in the future.

Financial analysts use various techniques to estimate the value of a common stock. The most popular method of estimating the present value of common stock is 'fundamental analysis'. The analyst who uses this method is called fundamental analyst. Here the analyst studies the economic and financial factors. In addition, he studies the level and trend of firm's sales and earnings, the quality of firm's products, firm's competitive position in the markets where the products are sold, the firm's labour relations, the firm's sources of raw materials, the government rules that apply to the firm and many other factors that affect the value of common stock. The analyst then estimates: (1) normalised earning per share (EPS) and (2) price-earning (P/E) ratio.

So, an analyst estimates the intrinsic value per share as follows:

\[
\text{Intrinsic value} = \text{Normalised EPS} \times \text{Expected P/E ratio}.
\]

Earnings per share (EPS) is the net income after taxes less preferred stock dividend divided by weighted average number of common stocks outstanding. In computing the weighted average number of shares outstanding, the weights are determined by the length of time the shares are outstanding.
Fundamental analysts take the accountants EPS and 'normalise' it by adjusting it. If a firm does not earn, because of labour strike and closure of factory, in one quarter, the common stock analyst should not take zero as EPS for that quarter. Instead he may estimate the stock's normal EPS after the strike is over. Thus the security analyst may adjust for temporary and unusual situations to reflect the firm's normal earnings.

The analyst's expected price-earning ratio is calculated as:

\[ E(P/E) = \frac{\text{Present Value per share}}{\text{EPS}} \]

A fundamental analyst compares his expected P/E to stock's actual P/E that is based on current market price.

\[ \text{Actual P/E ratio} = \frac{\text{Current market price per share}}{\text{Current earnings per share}} \]

The result of the above comparison can give the following three results:

1. If the current P/E ratio is larger than expected P/E ratio, the stock is over-priced; it should be sold before its price falls.
2. If the current P/E is smaller than the expected P/E, the stock is under-priced; it could be purchased with the hope that its price would go up.
3. If the current P/E equals the expected P/E, the stock is correctly priced; no significant price change may occur.

This procedure is widely followed for buying and selling stocks. Over-priced stocks come down to their appropriate level by continuous selling. Under-priced stocks go up due to continuous buying and correctly priced stocks do not change. Thus, the market pressures tend to keep the stock prices near the intrinsic values estimated by analysts.

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Objectives and Focus of the study:

This study attempts to analyse the relation of stock prices with factors like Earnings, Dividends and Price Earnings Ratio. Though considerable empirical work of this kind has been done with American and British firms, but a very limited number of studies have been done with Indian data. The earlier studies were mostly done for a period one to five years. Even in some cases the sample size was very small.

This present study is covering a period of fifteen years with a sample of one hundred companies selected at random from eleven industrial groups. The relationship among various factors like earnings, dividends and price earnings ratios is studied by using cross-sectional regression analysis.

The focus of this study is on stock prices, which are amenable to continuous change. The study concentrates on the pricing and performance of stocks in the stock markets. It also emphasises on the aspect of new information release relating to earnings and dividends, and the reaction of stock prices to that information.
Data Sources and Methodology:

All the data for the present study are collected from the Bombay Stock Exchange Official Directory and Economic Times Ordinary Share Prices Index. The period of this study is fifteen years starting from 1981 to 1997. Only actively traded shares are considered for analysis. Since the findings of the studies are sensitive to missing data, only those companies for which the data were available for the whole period are taken in the list. A list of those shares is given in the appendix.

The empirical studies have employed three major statistical tools - multiple regression test, serial correlation test and runs test. The major analysis were made by using statistical packages like- SPSS and Lotus123.

Necessary adjustments were made in the stock prices for Bonus Issues, Rights Issues and change of Accounting Periods. Stock returns (change) instead of stock prices (level) have been considered to remove the non-stationary character in stock prices.
Organisation of the Study:

The study consists of six chapters including this chapter.

Chapter 2 analyses the time-series behaviour of corporate earnings for a sample of Indian companies for a period of 20 years by subjecting the series to serial correlation test and runs test.

Chapter 3 examines the association of dividends and earnings and the pattern of dividend behaviour using Lintner's Model.

Chapter 4 studies the behaviour of stock prices in an efficient market by testing Fama's Efficient Market Hypothesis (EMH). It undertakes a statistical test of randomness such as serial correlation test and runs test on price-data for a period of 5 years.

Chapter 5 shows the relationship of price earnings (P/E) ratio with number of independent variables like growth, dividend pay out and risk. The average relationship of P/E ratio with other variables is determined by cross-sectional regression analysis.

Chapter 6 presents a summary and conclusion of this study.