Determinants of dividend policy: A study of sensex incorporated companies

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ABSTRACT

The study re-examine the association between the various factors that have bearing on the dividend decision of the firm on the basis of annual report of the companies list in BSE 200 for the period of 2009-2013 by using statistical methods. The purpose of this study is to present a model which would enable us to examine the effect of dividends in relation to profitability, beta rate, size, retained earnings, P/E and debt ratio. Findings of the study reveal that there is a direct relationship between dividend and profitability. However, the results also reveal that there is a reverse relationship of these factors (P/E, beta rate and debt ratio) with dividend. Furthermore, the results of the study show that there is no meaningful relationship between the dividend policy and a company's size and rate of retained earnings.

Key words:- Dividend policy, Profitability, Beta rate, Retained earnings, P/E.

1.INTRODUCTION

Dividend decision is one of the major issues of corporate finance. Which has always been studied in relation to an other financial decision that is financing, investment and working capital decision. Many questions have been proposed by association among these two decisions. For example how much dividend should be paid? How does dividend payout policy affect the valuation of the firm? How much dividend should be distributed as cash correspond to its financing and investing decision? What is the result of changes in the dividend policy by assuming steady financing and investment decision of the firm?Many researcheshave attempted to provide answers these questions. But mystery still shrouds the dividend decision. [1] Argues that firm of a developed market target their dividend payout ratio with the help of current earning and past dividends. In order to have stable dividend policies the various adjustments are made in the dividend policy of a firm so that the firm should have stable dividend policies. [2] On the other hand argues that dividend policy is irrelevant in measuring the current worth of shares considering the irrational assumption of market perfection, zero transaction cost, perfect certainty and indifferent behavior of investors. However, [3] argue that in the real world dividend decision is inspired more by high taxes on dividend than capital gains and market imperfection. [4] find that variation in the payout policy yield information about change in the value of share prize and future earnings. This actually shows a strong signaling effect of the dividend decision of a firm. It is clearly understood that over the years no single view point has emerged which explains the dividend policy of the firm. In India too modest research has been carried out on various aspects of the dividend decisions. The present study re-examined the effect of dividend in relation to profitability, size, beta rate, rate of retain earning, prize earnings ratio and debt ratio.

2.LITERATURE REVIEW

According to [5] the dividend behavior of Indian companies is classified into size group, industry group, growth group and control group. The study found that there was statistically significant relationship between dividend payout, on the one hand and industry and size on the other. Growth was inversely related to dividend payout and was found to be significant .The main conclusion were that dividend decisions are better explained by Lintner's model [6] with current profit and lagged dividend as explanatory variable. A numbers of factors have been identified in previous empirical studies to influence the dividend policy decisions of the firm. Profits have long been regarded as the primary indicator of the firm's capacity to pay dividends [7]. [8] analyzed dividend behaviour of Indian chemical industry for the period 1962-67 and undertook crossectional data of 40 Public Limited companies. The results revealed that Lintner model provides good explanation of dividend behavior. [9] surveyed 318 New York stock exchange firms and concluded that the major determinants of dividend payments are anticipated level of future earnings and pattern of past dividends. [10] viewed dividend policy as "the dividend policy of a firm accounts for how a firm divides its income between retained earnings and dividends. It states the policy measure of how much dividend to be declared, in what form should the dividend be declared- either as a cash dividend or as stock dividends. By dividend policy the corporate organization, strike a balance between current income to the shareholders and a future income. Income can be retained and

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reinvested into available profitable investment opportunities. The retained earnings provide the cheapest source of financing. This research is to examine empirically the dividend policy of all quoted companies (banks) in Nigeria and to present evidence on what determines corporate payout policy this market. In addition, it tends to identify the impact of dividend policy on company valuation and the various approaches to dividend payment to stakeholders as against retaining it for re-investment.Regressionanalysis of the influence of ownership structure on dividend payout of 186 manufacturing firms shows that promoters holding as of September 2001 has no influence on average dividend payout for the period 1997-2000 [11]. [12] analyzed the results of 2001 survey of 81 CFOs of Business today- 500 companies in India to find out the determinants of the dividend policy decisions of the corporate India. He used factor analytic framework on the CFOs responses to capture the determinants of the dividend policy of corporate India. The findings revealed that most of the firms have target dividend payout ratio and were in agreement with Lintner's study on dividend policy. CFO's use dividend policy as a signaling mechanism to convey information on the present and future prospects of the firm and thus affects its market value. The managers design dividend policy after taking into consideration the investors' preference for dividends and clientele effect. [13] empirically examined the dividend behavior of select Indian firms listed on BSE from 1990 to 2005.The study analyzed whether or not the dividends are still vogue in India and tried to judge the applicability of one of the two extremely opposite schools of thoughts relevance and irrelevance of dividend decision. The study also analyzed the applicability of tax theory in the Indian context. The findings offered mixed and inconclusive results about tax theory indicating that the change in the tax structure does not have a substantialeffect on dividend behavior of firms."Trends in Dividend Payout" – A Study of Selected Indian Companies", concluded that the sample companies declared dividend are declined from 448 companies in 1992 to 376 companies in 2004 However, the average dividend payout ratio increased significantly from about 25% - 68% during 1992-2004 [14]. "Dividend payout trends in the post liberalization era". A Case Study of Colgate Palmolive (I) Ltd." Management Accountant, attempted to assess the dividend policy of the company with particular reference to its vital measures – dividend per share and dividend payout ratio and three factors influencing dividend policy earning per share, capital employed and quick ratio [15]. [16] analyzed there exist a relationship between economic growth and stock market development. It is in case of less developed countries. Finding of this article suggest that there exist a long run association between stock market growth and economic development. Sample of 79 companies listed at Karachi Stock Exchange for the period of 2004 to2007 revealed that announcement of dividends either cash dividend or stock dividend or both had positive effect on stock prices. Share price is a key determinant of the value of the firm. If dividends are the key indicators of share price and the share price the key indicator of firm value, it is imperative that to maximize shareholders' wealth, shareholders should be afforded the highest combination of dividends and increase inthe share price [17]. [18] tested the impact of the dividend policy on stock price volatility in Nigeria. The study confirmed the impact of the dividend policy on the price volatility. While the results showed a statistically significant negative effect of the Dividend yield on the price volatility, the result of the impact of the Dividend payout ratio on the Price volatility showed negative and positive effect during the years of the study. [19] examined the effect of the dividend policy on the stock price volatility in Malaysia. The main results of the study show that the price volatility is associated negatively with both proxies of the dividend policy, and that the dividend yield and firm size have the highest significant effect on the stock volatility of all other variables. [20] analyzed the relationship between different factors and stock exchange price. They selected a sample of 15 banks from Karachi stock exchange for the period of 2008-2011. The analysis utilized fixed effect regression model. The test includes regressing the dependent variable SP (share price) and independent variables size, DY (dividend yield), ROA (return on asset), and AG (asset growth). Results show that "size" has a positive significant relationship with the share price while the other variables (Dividend yield, Asset growth, Return on assets) have insignificant relationship.

3.METHODOLOGY

The necessary data has been collected from the annual report of sample companies includes in BSE 200 index (www.bseindia.com, www.moneycontrol.com). The period of study is 5 years 2009-2013.This study include those companies in the sample that had continuously paid dividend during study period and all financial institution government owned companies have been excluded. Only final cash dividend paid by companies have been consider selection of corporation were randomly chosen as sample from different industries and required information was collected through different journals and reports. In addition to that SPSS software was used to process the information.

4.RESEARCH VARIABLES

Over the years researcher have employed numerous financial variable that have a possible impact on the dividend policy out of these variable the present study consider 7 variables to examine their effect on the dividend decision.

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Table 1. List of different financial variables

S.No.	Variables	Terminology
1	Firm size	Logarithm of issued stock market value is considered as a firm size.
2	Beta Rate	B = COV (return on market and return on per share) / market variance.
3	Per share price / earning ratio (PE)	Per share price divided by earnings in each year
4	Debt/equity ratio	Total debt of corporation divided by total corporation stock market value at the end of each financial year.
5	Profitability coefficient	Total firm revenue before return divided by the total value of a firm's assets.
6	Growth of accumulated earning	Difference amounts of accumulated earning during two subsequent financial periods divided by beginning accumulated earning amounts.
7	Percentage of dividend distribution	Distributed dividend percent in each firm have been extracted by different soft ware.

5.RESULTS AND DISCUSSION

Research Hypotheses

By reviewing literature and research variables, the following hypotheses were postulated in the study.
- There is a reverse and significant relationship between Beta rate and dividend payment ratio.
- There is a direct and significant relationship between firm size and dividend payment ratio.
- There is a direct and significant relationship between per share price, earning ratio and dividend payment ratio.
- There is a reverse and significant relationship between debt, equity ratio and dividend payment ratio.
- There is a reverse and significant relationship between accumulated dividend growth rate and dividend payment ratio.
- There is a direct and significant relationship between profitability ratio and dividend payment ratio.

Testing of Hypotheses

I.Testing of first hypothesis H_1: There is a reverse and significant relationship between beta rate and dividend payment ratio. In terms of the first hypothesis, the following regression equivalent is written:

$$d = A_0 + A_1 (beta) + e$$

Where: d= dividend payment ratio
A_0=Fixed amount of variable coefficient
A_1= independent variable coefficient
Beta = beta coefficient
This model was tested and it was determined that it is significant . Also, it was cleared that the fixed rate is not zero.

$$d = 76.95 - 1.34 (beta)$$

Table 2: The results of testing the first hypothesis

Result	Fixed Amount	Coefficient	Probability sample	Variable
Accepted	76.95	-1.34	0.003	Beta

From table 2, a reverse and significant relationship between beta and dividend distribution percentage was proved with a 90% confidence level.

II. Testing of second hypothesis H_2: There is a direct and significant relationship between firm size and dividend payment ratio. Regression formula is as follow:

$$d = A_0 + A_1 (size)$$

Where: d: dividend payment ratio
        B_0: Fixed amount
        B_1: independent variable coefficient

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Size: Firm size

By testing it, it was concluded that this model is not significant. Also, it was determined that the fixed amount is zero. Statistical results of this hypothesis can be seen in Table 2.

Table 3: The results of testing the second hypothesis

Result	Fixed Amount	Coefficient	Probability sample	Variable
Accepted	91.23	1.36	0.31	Firm size

Table 3, shows that there is no significant relationship between the firm size and dividend distribution percentage. The opinion that the dividend payment and a firm size are directly related to each other was proved false (Fig. 1).

III. Testing of third hypothesis H_3: There is a direct and significant relationship between per share price, earning ratio, and dividend payment ratio. Following regression is written:

$$d = B_0 + B_1 (P/E)$$

Where: d= dividend payment ratio
    A_0: fixed amount
    A_1: independent variable coefficient
    P/E: per share price/ earnings ratio

This model was tested and it was determined that this model was significant and that the fixed amount is zero (Fig. 1).

$$d = 83.01 - 0.87 (P/E) + e$$

Statistical results of the hypothesis are shown in Table 3.

Table 4: The results of testing the third hypothesis

Result	Fixed Amount	Coefficient	Probability sample	Variable
Accepted	83.01	-0.87	0.000	P/E

Table 4, revealed that there is a reverse and significant relationship between per share price earnings ratio and dividend distribution percentage. As a result, the research hypothesis is rejected and null hypothesis is accepted. This is because manager invests its future revenue in profitable project rather than to pay dividends.

IV.Testing of fourth hypothesis H_4: There is a reverse and significant relationship between debt and equity ratio with dividend payment ratio. Regression equivalent for fourth hypothesis is as follow:

$$d = B_0 + B_1 (debt) + e$$

Where: d: Dividend payment ratio
    B_0: Fixed amount
    B_1: independent variable coefficient
    Beta: debt /equity ratio

It seems that with regard to dispersion (Relationship between debt ratio and dividend distribution percentage) there is a double relationship of various debt amount .This relationship is positive for large debt and negative for small debt. To consider this point a dummy variable was used.

If debt is less than 5.5 then dummy = 0
If debt is more than 5.5 then dummy multiple debt = 1

$$d = A_0 + A_1 (debt) + g_1 (dummy) + g_2 (dummy \times debt)$$

This model was tested and it was determined this model is significant and fixed amount is not zero.

$$d = 76.52 - 7.66 (dummy) + 0.32 (dummy \times debt)$$

Table 5: The results of testing the fourth hypothesis

Result	Fixed Amount	Coefficient	Probability sample	Variable
Accepted	76.52	-7.66	0.033	Dummy
Rejected	76.52	0.33	0.033	Dummy debt

The result had a two fold behavior in relationship between dividend distribution percentage and debt ratio. In the firms with very high debt ratio there is a direct and significant relationship between this ratio and dividend distribution

percentage, but in the firms with low debt ratio, this relationship is inverse. Therefore, there was no reason to reject this hypothesis. However, in the firms with high debt ratio, this hypothesis was rejected.

V. Testing of fifth hypothesis H_5: There is a reverse and significant relationship between accumulated dividend growth rate and dividend payment ratio. Regression formula is as follows:

$$d = B_0 + B_1 (g) + e$$

Where : d: Dividend payment ratio

      B_0: Fixed amount

      B_1: Independent variable coefficient

      g: Accumulated dividend growth rate.

This model was tested and it was determined that this model is not significant (Fig. 1). Hence this hypothesis is rejected. The statistical results of this hypothesis are shown in Table 6.

Table 6: The results of testing the fifth hypothesis

Result	Fixed Amount	Coefficient	Probability sample	Variable
Accepted	79.89	-0.18	0.28	Accumulated dividend growth rate

VI. Testing of sixth hypothesis H_6: There is a direct and significant relationship between profitability ratio and dividend payment ratio. Regression formula is written as follows:

$$d = B_0 + B_1 (Pr) + e$$

Where: d: Dividend payment ratio

B_0: Fixed amount

B_1: Independent variable coefficient

    Pr: Profitability ratio.

This model was tested and it was determined that it is significant (Fig. 1). Statistical results of this hypothesis are shown in Table 7.

$$d = 74.38 + 21.88 \text{ (profitability)}$$

Table 7: The results of testing the sixth hypothesis

Result	Fixed Amount	Coefficient	Probability sample	Variable
Accepted	74.38	23.89	0.03	Profitability

The results indicated that there is a direct and significant relationship between profitability and dividend distribution percentage. Therefore, the sixth hypothesis is accepted. Alternatively the null hypothesis is rejected (Fig. 1).

Multiple Regression:

In this step multiple regression is carried out to examine the impact of the independent variable on the dividend decision. Due to time constraints better evaluation is obtained by the data combination. This evaluation is called a combined evaluation in economics issue. After excluding of independent variable that has no significant relationship with the dependent variable, the model is written as follows:

$$d = A_0 + A_1 (\beta) + A_2 + A_3 (Pr) + A_4 (DB) + e$$

Where d: Dividend payment ratio

   A_0: fixed amount

   A_1: variable beta coefficient

   β = Beta rate

   A_2 = per share priceearnings ratio

   A_3 = profitability ratio coefficient

   Pr = profitability ratio

   A_4 = debt ratio coefficient

   DB = debt ratio

Statistical results are shown in Table7.

Table 8: The results of multiple regression

Probability	Fixed Amount	Coefficient	Variable
0.000	76.26	-1.21	Beta
0.000	76.26	0.96	P/E

0.000	76.26	23.92	Profitability
0.000	76.26	0.22	Dummy multiple debt

Finally the model is written as follows:

$$d = 76.26 - 1.21\,(\beta) - 0.96\,(P/E) + 23.92\,(Pr) + 0.22\,(DB) + e$$

It appears that by assuming lack of effect of P/E and profitability and debt ratio variable, adding a unit in beta coefficient will reduce dividend distribution percentage by 122%. By assuming lack of effect of P/E debt ratio and beta coefficient variables, adding a unit in profitability will increase dividend distribution percentage by 298%. Finally, by assuming that beta coefficient, P/E and profitability variables are fixed, adding a unit in debt ratio will increase dividend distribution percentage by 20%.
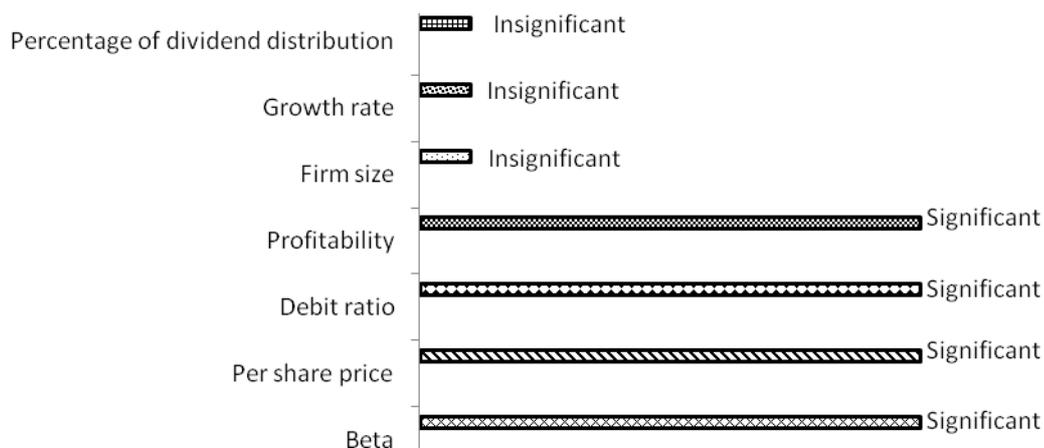

Fig. 1 Impact of different variables on dividend policy

6.CONCLUSION

A number of theories talk about the determinants of corporate dividend policy. The present study re-examine the determinants of corporate dividend policy of Indian companies listed on BSE during the period of 1st January 2009 to 31st Dec 2014. The study uses combine evaluation for analyzing the variables that have an impact on dividend decision of the firm viz. firm size, beta, per share price, debt equity ratio, profitability coefficient, growth accumulated earning, percentage of dividend distribution. These factors were then subjected to multiple regression analysis with the dividend rate as the dependent variable; and further it is observed that there is a reverse and significant relationship between beta coefficient and dividend distribution percentage. Besides, there is a reverse relationship between P/E earning ratio and paid dividend and suggest further growth in revenue. Last but not least, the awareness of adopting dividend policy by manager is very important for investors and managers because the investors are interested in the information about dividend policies, manager will also tend to predict annual receipt dividend and its distributable percentage so that they can forecast their cash budget and investment policies. Thus it is important to determine the deterministic element in dividend because it helps in deduction of investor risk in the expected receipt yield and on the other hand manager will adopt dividend policies with more awareness. Since the dividend policy affects many elements so these elements could be found in empirical researches in the stock market on account of prevailing condition on these stock market.

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