Chapter 4: Dividend and Value of the Firm - An Empirical Study

4.1 Introduction

Payout policy is important not only because of the amount of money involved and the repeated nature of the decision, but also because payout policy is closely related to, and interacts with, most of the financial and investment decisions firms make.

4.2 Factors Determining Dividend

There are number of aspects that concern dividend policy of the firm. This study tries to outline the main determinants that may drive the dividend policy (representative of dividend policy is DPR for our study).

4.2.1 Debt Policy (DEBT)

The capital structure of a firm consists of both debt and equity financing. The extent to which a firm relies on debt financing is called financial leverage. In addition to the tax advantages (interests deduction on income), the use of debt financing can lever-up shareholders’ return on equity. However, leverage entails risk; that is, when a firm acquires debt financing it commits itself to fixed financial charges embodied in interest payments and the principal amount, and failure to meet these obligations may lead the firm into liquidation.

The risk associated with high degrees of financial leverage may therefore result in low dividend payments because, ceteris paribus, firms
need to maintain their internal cash flow to pay their obligations rather than distributing the cash to shareholders. In addition, some debt covenants have restrictions on dividend payments, because creditors want to secure their debt and avoid being expropriated by shareholders. Therefore, other things being equal, an inverse relationship between debt and dividend payouts seems plausible.

4.2.2 Investment opportunity (INVOPP)

According to Miller and Modigiliani (1961), in perfect capital markets, corporate investment and dividend decisions are independent. However, in the presence of market imperfections such as taxes, flotation costs, and agency costs, both dividend and investment decisions might be closely related or interdependent. The relationship between investment and dividend policies can be seen from two perspectives. Firstly, by paying dividends a firm is forgoing a relatively cheap source of financing, i.e. retained earnings, as compared to debt and new equity issues. Secondly, dividend payments reduce the firm’s available funds for investment activities. In other words, dividends and investments are competing for limited and low-cost internal funds (see Dhrymes and Kurtz, 1967, Partington, 1985, and Elston, 1996).

This suggests that in imperfect capital markets there may be a link between dividends and investments. Intuitively, firms with high growth and investment opportunities will need the internally generated funds to finance those investments, and thus tend to pay little or no dividends. In contrast, firms with slow growth and fewer investment opportunities are likely to pay more dividends. The negative relationship between firms’
growth opportunities and dividend payouts is consistent with the pecking order theory of Myers and Majluf (1984).

4.2.3 Dividend Tax (DIVTAX)

Before 1997, there was double taxation on profit earned by the companies once in the hands of the company through corporate tax and then in the hands of the investors in the form of income tax. The change in tax policy with respect to dividends can be considered as an interesting experiment in corporate finance with few parallels. The policy change may have a bearing on the wealth of investors on the one hand and the cost of equity of the companies on the other. The corporate dividend tax aimed at improving the economic growth and flexibility by eliminating the tax bias against equity-financed investments thereby promoting saving and investment. This may, in turn, influence dividend payout policy and capital structure of the companies. Dividend taxation influences the companies decision in more than one way. On the one hand when dividend is declared, company’s outflow of cash is there in form of dividend and dividend tax. So company has to raise capital from external market for financing. On the other hand when company is having non profitable investment projects, trust of shareholders are at stake and there is no growth of the firm, then the company may declare dividend even if dividend tax are high.

4.2.4 Lifecycle stage (LICYCLE)

Every company will face a life cycle. Policies and strategies of the company will be tailored to the life cycle stages in which the company is
located. As the firm transforms from strong growth (growth stage) to low growth (mature stage) dividend payment policy will change keeping in mind the value of firm as an objective. Previous studies have shown that when the company enters the mature stage of life cycle, then the investment opportunity will be reduced, where it will impact on the profitability in the future. At the time the company has reached mature stage, then company will be a decline in systematic risk. This reduction in risk is due to the current assets decreased risk and also company faces the opportunity to grow slowly. Decrease in investment opportunities will encourage to increase on free cash flow, so that ultimately impact on increasing the dividend payment. While companies that are in growth stages with high investment opportunities tend to retain their earnings rather than pay dividends.

4.2.5 Age of a Company (AGE)

Other things held constant, as a firm gets older its investment opportunities decline leading to lower growth rates, consequently reducing the firm’s funds requirements for capital expenditures. These companies are relatively older and do not have the incentives to build-up reserves as a result of low growth and few capital expenditures, which enable them to follow a liberal dividend policy. Therefore, dividend payout should be positively related to the firm’s age. Following the same concept young companies need to build-up reserves to face their rapid growth and financing requirements. Hence, they retain most of their earnings and pay low or no dividends. Therefore, dividend payout should be positively related to the firm’s age. Whereas it is also observed that as firms get older their market share increases, trust of investors built, less
fear from new firms may lead to less dividend declared and maintaining reserves. Thus age being one of the main component of study.

4.2.6 Size of a Company (SIZE)

The literature acclaims that size may be inversely related to the probability of bankruptcy. Infact, larger firms should have easier access to external capital markets and can borrow at better conditions. Even the conflicts between creditors and shareholders are more severe for smaller firms rather than larger ones. Debt holders seem to have more confidence in large firms as according to them managers of such firms tend to have large shareholders and are better able to switch from one investment project to another. Besides, larger firms tend to be more diversified and their cash flows are more regular and less volatile. Thus, larger firms should be more willing to pay out higher dividends. This suggests that the dependence on internal funding decreases as firm size increases. Numerous empirical studies have documented that size is a significant determinant of a firm's dividend policy.

4.2.7 Ownership (OWNER)

The relationship between ownership structure and dividend payout policy can have positive or negative relationship. Dividend payments can have an impact on reducing agency costs by forcing companies to act in accordance with the discipline of capital markets. Insider ownership will effectively oversee the management, so companies with high insider ownership will reduce the emphasis on the agency conflict, and will reduce the function of the dividend as a marker to pay less dividends. Increased
insiders ownership, on the other hand enables cooperation between management and blockholder, to perform actions that could harm minority shareholders. This is known as type II agency conflict. To eliminate the fear, the minority shareholders will demand high dividend payments as a marker that terror does not need to exist in the companies that have high institutional ownership. Laporta et al. (2000) describe this as a model outcome of dividend policy, whereby companies pay dividends because of pressure from shareholders. Thomsen (2004) analysed that there is a negative relationship between institutional ownership with a dividend payout ratio. Thus it is found that higher dividends reduce retained earnings and force management to go to the capital markets to finance new investments. Dividends indirectly results in a closer monitoring of management's investment activities. On other hand insider ownership will effectively oversee the management, so companies with high insider ownership will reduce the emphasis on the agency conflict, and will reduce the function of the dividend function as a marker on the condition of the company becomes less relevant.

### 4.2.8 Profit of a Company (PROFIT)

The decision to pay dividends starts with profits. The theory suggests that dividends are usually paid out of the annual profits, which represents the ability of the firm to pay dividends. Thus, firms incurring losses are unlikely to pay dividends. Thus company that has a lot of free profit would have the potential to increase dividend payments. It is been argued that profit does not ascertain real cash position of firm because profitability depends on different accounting policies followed by the firm. Dividend and interest payment reduces the free cash flow available to management, hence reducing the chance of using it in less profitable projects.
or on managers' prerequisites. From companies' point of view, profit generated from operations plays an important role in deciding the amount of investment to be made by internal finance therefore decides the amount of payout. Based on the above discussion, profitability is expected to be a key determinant of corporate dividend.

The average data of 263 firms has been analyzed for study period 2000-01 to 2009-10 to show correlation and the dependence of DPR of firm on independent variables PROFIT, SIZE, INVOPP, AGE, OWNER, LICYCLE, DEBT, and DIVTAX. The regression model for our study is:

\[
\text{DPR}_{jt} = b_0 + b_1(\text{PROFIT}_{jt}) + b_2(\text{INVOPP}_{jt}) + b_3(\text{DEBT}_{jt}) + \\
b_4(\text{LICYCLE}_{jt}) + b_5(\text{AGE}_{jt}) + b_6(\text{SIZE}_{jt}) + b_7(\text{OWNER}_{jt}) + \\
b_8(\text{DIVTAX}_{jt})
\]  \hspace{1cm} (4.1)

Where,

\[b_0= \text{constant term of the model;}\]
\[b_i= i\text{-th partial regression coefficient;}\]
\[i = 1,2,3,4,5,6,7,8.\]

The SPSS output are given below:
Table 4.1: Correlation between DPR and other independent variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Zero-order</th>
<th>Partial</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROFIT</td>
<td>0.402</td>
<td>-0.053</td>
</tr>
<tr>
<td>INVOPP</td>
<td>0.299</td>
<td>-0.015</td>
</tr>
<tr>
<td>DEBT</td>
<td>-0.191</td>
<td>-0.055</td>
</tr>
<tr>
<td>LIFCYCLE</td>
<td>0.260</td>
<td>0.065</td>
</tr>
<tr>
<td>OWNER</td>
<td>-0.002</td>
<td>-0.026</td>
</tr>
<tr>
<td>AGE</td>
<td>0.135</td>
<td>0.046</td>
</tr>
<tr>
<td>SIZE</td>
<td>-0.051</td>
<td>0.058</td>
</tr>
<tr>
<td>DIVTAX</td>
<td>0.914</td>
<td>0.891</td>
</tr>
</tbody>
</table>

Dependent Variable: DPR

Table 4.2: Overall impact of variables on DPR

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.916(a)</td>
<td>0.839</td>
<td>0.833</td>
<td>7.22491</td>
<td>2.044</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), DIVTAX, OWNER, SIZE, DEBT, AGE, LIFCYCLE, INVOPP, PROFIT

b. Dependent Variable: DPR
Table 4.3: F-value and p-value based on ANOVA of different variables affecting DPR

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>68867.715</td>
<td>8</td>
<td>8608.464</td>
<td>164.915</td>
<td>.000(a)</td>
</tr>
<tr>
<td>Residual</td>
<td>13258.645</td>
<td>254</td>
<td>52.199</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>82126.359</td>
<td>262</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), DIVTAX, OWNER, SIZE, DEBT, AGE, LIFCYCLE, INVOPP, PROFIT

b. Dependent Variable: DPR

Table 4.4: Determinants of DPR

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td>Tolerance</td>
</tr>
<tr>
<td>(Constant)</td>
<td>-3.719</td>
<td>4.362</td>
<td>-0.852</td>
<td>.395</td>
<td></td>
</tr>
<tr>
<td>PROFIT</td>
<td>-0.089</td>
<td>0.106</td>
<td>-0.031</td>
<td>-0.839</td>
<td>.402</td>
</tr>
<tr>
<td>INVOPP</td>
<td>-0.040</td>
<td>0.168</td>
<td>-0.007</td>
<td>-0.240</td>
<td>.811</td>
</tr>
<tr>
<td>DEBT</td>
<td>-0.076</td>
<td>0.086</td>
<td>-0.024</td>
<td>-0.885</td>
<td>.377</td>
</tr>
<tr>
<td>LIFCYCLE</td>
<td>0.031</td>
<td>0.030</td>
<td>0.033</td>
<td>1.038</td>
<td>.300</td>
</tr>
<tr>
<td>AGE</td>
<td>0.014</td>
<td>0.020</td>
<td>0.019</td>
<td>0.727</td>
<td>.468</td>
</tr>
<tr>
<td>SIZE</td>
<td>0.838</td>
<td>0.903</td>
<td>0.024</td>
<td>0.927</td>
<td>.355</td>
</tr>
<tr>
<td>OWNER</td>
<td>-0.011</td>
<td>0.025</td>
<td>-0.011</td>
<td>-0.419</td>
<td>.675</td>
</tr>
<tr>
<td>DIVTAX</td>
<td>7.739</td>
<td>0.247</td>
<td>0.918</td>
<td>31.270</td>
<td>.000</td>
</tr>
</tbody>
</table>

Dependent Variable: DPR
The relationship of dividend payout with profitability, investment opportunity and size of firm changes in magnitude when they are partial correlated from zero –order correlated (Table 4.1). It is clear that the variables combined with effect of other variables may have different relationship or different impact when compared to individually alone.

The regression equation results for our study will be:

\[
\text{DPR} = -3.719 - 0.089 \times \text{PROFIT} - 0.040 \times \text{INVOPP} - 0.076 \times \text{DEBT} + 0.031 \times \text{LIFCYCLE} + 0.014 \times \text{AGE} + 0.838 \times \text{SIZE} - 0.011 \times \text{OWNER} + 7.739 \times \text{DIVTAX}
\]

From the value of R square (0.839), it is clear that the model is well fitted (F = 164.915, p-value = 0.000). R square depicts that 83.9% of the variation in dividend payout of the firm (selected BSE 500 Index companies) is explained by representatives of dividend. The regression result indicate that value of the BSE listed companies have positive relationship with age, life cycle stage, size, dividend tax. Whereas the negative co-efficient of profitability, investment opportunity, ownership, indebtedness indicates that the higher firm indebtedness, ownership, profitability and investment opportunity will have negative impact on the dividend payout of the firm.

A low value of VIF indicates that the estimated coefficient attached to the independent variable are stable. From the Table 4.2 it is clear that that Durbin –Watson value is near to 2. Thus we can conclude that model is free from auto-correlation problem. Thus this makes the model accounts significant results.
Backward Stepwise Regression on the same set of eight independent variables are applied. Optimal results in the model is with only one independent variable dividend tax.

Table 4.5: Stepwise impact of variables on DPR

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Durbin-Watson</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.916(a)</td>
<td>0.839</td>
<td>0.833</td>
<td>7.22491</td>
<td></td>
<td>.000(a)</td>
</tr>
<tr>
<td>2</td>
<td>0.916(b)</td>
<td>0.839</td>
<td>0.834</td>
<td>7.21155</td>
<td></td>
<td>.000(b)</td>
</tr>
<tr>
<td>3</td>
<td>0.916(c)</td>
<td>0.838</td>
<td>0.835</td>
<td>7.20012</td>
<td></td>
<td>.000(c)</td>
</tr>
<tr>
<td>4</td>
<td>0.915(d)</td>
<td>0.838</td>
<td>0.835</td>
<td>7.19436</td>
<td></td>
<td>.000(d)</td>
</tr>
<tr>
<td>5</td>
<td>0.915(e)</td>
<td>0.838</td>
<td>0.835</td>
<td>7.19123</td>
<td></td>
<td>.000(e)</td>
</tr>
<tr>
<td>6</td>
<td>0.915(f)</td>
<td>0.837</td>
<td>0.835</td>
<td>7.19253</td>
<td></td>
<td>.000(f)</td>
</tr>
<tr>
<td>7</td>
<td>0.914(g)</td>
<td>0.836</td>
<td>0.835</td>
<td>7.20032</td>
<td></td>
<td>.000(g)</td>
</tr>
<tr>
<td>8</td>
<td>0.914(h)</td>
<td>0.835</td>
<td>0.835</td>
<td>7.19925 2.052</td>
<td></td>
<td>.000(h)</td>
</tr>
</tbody>
</table>

(a) Predictors: (Constant), DIVTAX, OWNER, SIZE, DEBT, AGE, LIFCYCLE, INVOPP, PROFIT
(b) Predictors: (Constant), DIVTAX, OWNER, SIZE, DEBT, AGE, LIFCYCLE, PROFIT
(c) Predictors: (Constant), DIVTAX, SIZE, DEBT, AGE, LIFCYCLE, PROFIT
(d) Predictors: (Constant), DIVTAX, SIZE, DEBT, LIFCYCLE, PROFIT
(e) Predictors: (Constant), DIVTAX, SIZE, LIFCYCLE, PROFIT
(f) Predictors: (Constant), DIVTAX, LIFCYCLE, PROFIT
(g) Predictors: (Constant), DIVTAX, LIFCYCLE
Predictors: (Constant), DIVTAX
Dependent Variable: DPR

The stepwise regressions are shown below.

\[
DPR = -3.719 - 0.089 \text{ (PROFIT)} - 0.040 \text{ (INVOPP)} - 0.076 \text{ (DEBT)} + 0.031 \text{ (LIFCYCLE)} + 0.014 \text{ (AGE)} + 0.838 \text{ (SIZE)} - 0.011 \text{ (OWNER)} + 7.739 \text{ (DIVTAX)}
\]  

(4.2)

\[
DPR = -3.75 - 0.1 \text{ (PROFIT)} - 0.080 \text{ (DEBT)} + 0.032 \text{ (LIFCYCLE)} + 0.014 \text{ (AGE)} + 0.847 \text{ (SIZE)} - 0.011 \text{ (OWNER)} + 7.727 \text{ (DIVTAX)}
\]

(4.3)

\[
DPR = -4.393 - 0.106 \text{ (PROFIT)} - 0.079 \text{ (DEBT)} + 0.034 \text{ (LIFCYCLE)} + 0.015 \text{ (AGE)} + 0.846 \text{ (SIZE)} + 7.727 \text{ (DIVTAX)}
\]

(4.4)

\[
DPR = -4.136 - 0.107 \text{ (PROFIT)} - 0.073 \text{ (DEBT)} + 0.035 \text{ (LIFCYCLE)} + 0.899 \text{ (SIZE)} + 7.753 \text{ (DIVTAX)}
\]

(4.5)

\[
DPR = -4.668 - 0.107 \text{ (PROFIT)} + 0.039 \text{ (LIFCYCLE)} + 0.936 \text{ (SIZE)} + 7.776 \text{ (DIVTAX)}
\]

(4.6)

\[
DPR = -0.622 - 0.118 \text{ (PROFIT)} + 0.041 \text{ (LIFCYCLE)} + 7.767 \text{ (DIVTAX)}
\]

(4.7)

\[
DPR = -0.583 + 0.02 \text{ (LIFCYCLE)} + 7.652 \text{ (DIVTAX)}
\]

(4.8)

\[
DPR = -0.135 + 7.707 \text{ (DIVTAX)}
\]

(4.9)
Table 4.5 reveals that R square value of the model has come to 83.5% with p-value = 0.000 implies that dividend tax of the firm are very important positive determinant for the dividend payout of the firm.

4.3 Factors Determining Value of the firm

The main objective of financial management in any organization is value maximization. In theory, value maximization is appealing because it is associated with efficient allocation of resources, provided the capital market operates efficiently. That is, it rewards the most to firms that channel their resources to the best uses. Extensive empirical work on capital market behavior shows that the prices of corporate securities indeed respond to firms decisions in a way that appears to be consistent with expectations about the appreciation or depreciation of value in the market. The value maximization is also is used in the terms of the worth of owners. Shareholders' wealth is represented in the market price of the company’s common stock, which in turn, is the function of the company’s investment, financing and dividend decision. Managements' primary goal is shareholders' wealth maximization, which translates into maximizing the value of the company as measured by the price of the company’s common stock. So the wealth of owners is reflected by VALUE in our study.

In the securities market, whether the primary or the secondary market, the price of equity is significantly influenced by a number of factors. Due to liberalization, privatization and globalization, Indian capital market has witnessed considerable changes in1990’s and 2000’s. As a consequence, the relative importance of the variables determining the share prices has also undergone some changes.
4.3.1 Debt Policy (DEBT)

Modigliani and Miller (1958) and Miller and Modigliani (1961) argue that capital structure does not matter in a frictionless market without taxes, bankruptcy costs, agency costs, and asymmetric information. In reality, the existence of market imperfections suggests that capital structure may and does affect firm value. The impact of debt on firm value depends on the balance between the conflict of interest among managers, shareholders and creditors. When conflicts of interest between managers and shareholders outweigh that between shareholders and creditors, leverage can increase firm value because debt forces the managers to pay out funds that might otherwise have been invested in negative net present value projects. However, when the conflict of interest between shareholders and creditors outweighs that between managers and shareholders, firms with outstanding debt may have more incentives to reject projects that have positive net present value if the benefits from accepting the project accrue to the creditors without also increasing shareholders' wealth.

4.3.2 Investment opportunity (INVOPP)

Companies with large investment opportunities indicate that the company has a bright future prospects, so it will have a positive impact on stock prices. Therefore will increase the value of firm. This is as proposed MM (1961) that changes in stock price is more determined by the ability to generate earnings and high investment opportunities. Meanwhile, Myers (1977) described that the company's current market value is a combination of existing assets plus the opportunity to grow in the future. Several other studies showed that companies with high investment opportunity set has a
significant positive response to share price, While companies with a low investment opportunity set has a negative response to the share price. To be able to live and grow company is not independent of environmental conditions that exist around the company. A conducive environment that provides high investment opportunities, the company can be utilized to develop their business. Companies with high investment opportunities will have bright prospects ahead and will affect the company's share price, which in turn affect value of firm. Investment opportunities that exist for companies is the main factor that determines the movement of share prices.

4.3.3 Dividend (DPR)

It is interesting to note that as far as dividend policy is concern, there is a group that believes high dividend increases firm value on the other side there is a group that believes high dividends reduce firm value. In the centre there is a middle-of-the-road party that believes dividend policy makes no difference in the firm value. In this study we will try to find the relationship shared by dividend and value of firm. In previous chapter we have seen several theories dealing with the statement stated above.

4.3.4 Lifecycle stage (LCYCLE)

The company are founded with the aim to grow as time progresses. That is the company is expected to live and grow forever. To be able to live and grow it is important to understand that any company is not independent of environmental conditions that exist around the company. Anthony and Ramesh (1992) states that the company is in growth phase tend to have low levels of dividend payments, strong sales growth, high capital expenditure, and the relatively young age. While firms in mature stage characterized
higher dividend payments, low sales growth, lower capital expenditure, and the relatively older age. Meanwhile, Aharony et al. (2003) describe the characteristics of companies in every stage of life cycle as follows: Stages of start-ups marked with limited assets, the opportunity for growth, earnings and cash flow from operating activities of low and relatively young age. At growth stage is marked with more assets owned, rapid growth, earnings and cashflow from operating activities which begin to grow, and age then entered the stage of medium. In the mature stage characterized by low growth and the company becomes cash cow. At the stage of decline marked by decreased growth, high financing costs and intense competition. Studies showed that companies that are in mature stages (mature) tend to have limited growth opportunities so that the movement of its shares to be relatively stable. Thus characteristics of companies in every stage of life cycle has an impact on value of the firm.

4.3.5 Age (AGE)

Several earlier studies (Batra, 1999, Lumpkin and Dess, 1999) argued that firm age has an influence on its performance. Sorensen and Stuart (1999) argued that organizational inertia operating in old firms tend to make them inflexible and unable to appreciate changes in the environment. Newer and smaller firms, as a result, take away market share in spite of disadvantages like lack of capital, brand names and corporate reputation with older firms. Older firms are prone to inertia, and rigidities in adaptability, which may lead to lower performance Age of the firm has an ambiguous effect a priori on firm performance. As older firms gain experience-based economies of scale based on learning, they can enjoy
superior performance compared to new comers and can avoid the liabilities of newness. Age of the firm has an ambiguous effect a priori on firm performance.

4.3.6 Size (SIZE)

Size can have a positive effect on firm performance, since larger firms can leverage their size to obtain better deals in financial as well as product or other factor markets. Large firms may turn out to be more efficient as they are likely to exploit economies of scale, employ more skilled managers and the formalization of procedures that may lead to better performance. It also measures a firm's market power or the level of concentration in the industries in which the firm operates. Such characteristics make the implementation of operations more effective, allowing large firms to generate greater returns on assets and sales as well as to capture more value as a proportion of the value of the production, leading to a higher firm performance. So large size firms are expected to have higher market values of their shares. On the other hand, argued that size had a negative effect on firm performance as firm size grows it becomes more difficult for it to sustain impressive financial performance. Larger firms can be less efficient than smaller ones because of the loss of control by top managers over strategic and operational activities within the firm Size is expected to be an important determinant of firm performance.
4.3.7 Ownership (OWNER)

Researchers have extensively studied the conflict between managers and owners regarding the functioning of the firm indicates that with an increase in professionalism of management, firms might be operating for the managers' benefit rather than that of the owners. So agency cost can be reduced with improving the insider ownership, on the chance of spreading the risk. Managers have tendency to use the excess of profit for the consumption and opportunistic behavior. Managers also have tendency to use the higher debt not to maximize firm value, but to their opportunistic behavior. Those will improve debt interest expenses because the firm bankrupt risk is increase, so agency cost of debt will increase too. The high agency cost of debt can reduce the firm value. With insider ownership, insider can get direct benefit from their decisions, but also bear the direct risk if their decisions are wrong. Insider ownership can also reduce misallocation resource allocation. Thereby the insider ownership is incentive to improve firm performance. So we expect as promoters share in the firm increases, value of the firm should increase as it incorporates wealth maximaziation concept.

4.3.8 Profit (PROFIT)

Profit is the output of the policy pursued by the company either through an investment, financing and operational decisions. Profit obtained by these companies can be used to mark the investment in the future. High profit that can be used to increase shareholder welfare, by taking a chance on a positive NPV projects. Improved profit used for investment in positive
NPV projects will enhance the company's stock price. But on the other hand profit can also be used by management to increase the size of the company that may conflict with the interests of shareholders. This is done by the management by taking a chance on projects despite giving a negative NPV. The management could do this purely motivated by personal interests. From here we can say that high profit can have positive or negative effect on stock prices.

The average data of 263 firms has been analyzed for study period 2000-01 to 2009-10 to show correlation and the dependence of study variable VALUE of the firm on the independent variables PROFIT, SIZE, INVOPP, AGE, OWNER, LICYCLE, DEBT, and DPR. The regression analysis for our study is given below:

\[
VALUE_{jt} = b_0 + b_1(PROFIT_{jt}) + b_2(INVOPP_{jt}) + b_3(DEBT_{jt}) + b_4(LICYCLE_{jt}) + b_5(AGE_{jt}) + b_6(SIZE_{jt}) + b_7(OWNER_{jt}) + b_8(DPR_{jt})
\]  

Where,

\[
b_0 = \text{Constant term of the model;}
\]

\[
b_i = \text{Partial regression coefficient;}
\]

\[
i = 1, 2, 3, 4, 5, 6, 7, 8
\]

The SPSS output are given below.
Table 4.6: Correlation between VALUE and other independents variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Zero-order</th>
<th>Partial</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROFIT</td>
<td>0.235</td>
<td>0.257</td>
</tr>
<tr>
<td>INVOPP</td>
<td>0.148</td>
<td>0.113</td>
</tr>
<tr>
<td>DEBT</td>
<td>-0.061</td>
<td>-0.013</td>
</tr>
<tr>
<td>LIFCYCLE</td>
<td>0.143</td>
<td>-0.001</td>
</tr>
<tr>
<td>DPR</td>
<td>0.066</td>
<td>-0.056</td>
</tr>
<tr>
<td>OWNER</td>
<td>0.049</td>
<td>0.045</td>
</tr>
<tr>
<td>AGE</td>
<td>0.049</td>
<td>-0.002</td>
</tr>
<tr>
<td>SIZE</td>
<td>0.596</td>
<td>0.652</td>
</tr>
</tbody>
</table>

Dependent Variable: VALUE

Table 4.7: Overall impact of variables on VALUE

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Durbin-Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.680(a)</td>
<td>0.462</td>
<td>0.445</td>
<td>111056.79379</td>
<td>2.029</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), DPR, OWNER, SIZE, AGE, DEBT, LIFCYCLE, INVOPP, PROFIT
b. Dependent Variable: VALUE
Table 4.8: F-value and p-value based on ANOVA of different variables affecting VALUE

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>26911929963.272</td>
<td>8</td>
<td>336389912457.909</td>
<td>27.274</td>
<td>.000(a)</td>
</tr>
<tr>
<td>Residual</td>
<td>31327307621.020</td>
<td>254</td>
<td>12333611447.327</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5823856607284.290</td>
<td>262</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), DPR, OWNER, SIZE, AGE, DEBT, LIFCYCLE, INVOPP, PROFIT

b. Dependent Variable: VALUE

Table 4.9: Determinants of VALUE

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
<td>Tolerance</td>
</tr>
<tr>
<td>(Constant)</td>
<td>-833558.067</td>
<td>66749.962</td>
<td>-12.488</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>PROFIT</td>
<td>6852.628</td>
<td>1614.899</td>
<td>0.283</td>
<td>4.243</td>
<td>.000</td>
</tr>
<tr>
<td>INVOPP</td>
<td>4666.449</td>
<td>2568.326</td>
<td>0.101</td>
<td>1.817</td>
<td>.070</td>
</tr>
<tr>
<td>DEBT</td>
<td>-278.720</td>
<td>1316.265</td>
<td>-0.010</td>
<td>-0.212</td>
<td>.832</td>
</tr>
<tr>
<td>LIFCYCLE</td>
<td>-8.897</td>
<td>459.071</td>
<td>-0.001</td>
<td>-0.019</td>
<td>.985</td>
</tr>
<tr>
<td>AGE</td>
<td>-8.000</td>
<td>300.482</td>
<td>-0.001</td>
<td>-0.027</td>
<td>.979</td>
</tr>
<tr>
<td>SIZE</td>
<td>190314.539</td>
<td>13873.973</td>
<td>0.641</td>
<td>13.717</td>
<td>.000</td>
</tr>
<tr>
<td>OWNER</td>
<td>277.052</td>
<td>389.154</td>
<td>0.034</td>
<td>0.712</td>
<td>.477</td>
</tr>
<tr>
<td>DPR</td>
<td>-394.397</td>
<td>437.967</td>
<td>-0.047</td>
<td>-0.901</td>
<td>.369</td>
</tr>
</tbody>
</table>

Dependent Variable: VALUE

The relationship of value of a firm with age, lifecycle stage and dividend payout changes in magnitude when they are partial correlated from
zero-order correlated (Table 4.6). It is clear that the variables combined with effect of other variables may have different relationship or different impact when compared to individually alone.

The regression equation results for our study will be

$$\text{VALUE} = -833558 + 6852.628(\text{PROFIT}) + 4666.449(\text{INVOPP}) - 278.72(\text{DEBT}) - 8.897(\text{LIFCYCLE}) - 8.000(\text{AGE}) + 190314.539(\text{SIZE}) + 277.052(\text{OWNER}) - 394.397(\text{DPR})$$

(4.11)

From the value of R square (0.462), it is clear that the model is appropriate ($F = 27.274$, p-value = 0.000). R square depicts that 46.2% of the variation in value of the firm (selected BSE 500 Index companies) is explained by representatives of value of the firm. The regression result indicates that value of the BSE listed companies have positive relationship with profitability, investment opportunity, ownership patterns, and firm size. Whereas the negative coefficient of indebtedness, life cycle stage, dividend payout, age of the firm indicates that the higher firm indebtedness, life cycle stage, dividend payout and age will have negative impact on the VALUE of the firm. Among all indebtedness, life cycle stage, age of the firm have insignificant impact on VALUE of the firm.

A low value of VIF indicates that the estimated coefficient attached to the independent variables are stable. From Table 4.7 it is clear that Durbin–Watson value is near to 2. Thus we can conclude that model is free from auto correlation problem. Thus this makes the model accounts significant results.
Backward Stepwise Regression on the same set of eight independent variables are applied. An optimal result in the model is with only 3 independent variables: profitability, investment opportunity, and size.

**Table 4.10: Stepwise impact of variables on VALUE**

<table>
<thead>
<tr>
<th></th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Durbin-Watson</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.680(a)</td>
<td>0.462</td>
<td>0.445</td>
<td>111056.79379</td>
<td>.000(a)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0.680(b)</td>
<td>0.462</td>
<td>0.447</td>
<td>110838.90342</td>
<td>.000(b)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>0.680(c)</td>
<td>0.462</td>
<td>0.449</td>
<td>110622.36731</td>
<td>.000(c)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0.680(d)</td>
<td>0.462</td>
<td>0.452</td>
<td>110416.83412</td>
<td>.000(d)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>0.679(e)</td>
<td>0.461</td>
<td>0.452</td>
<td>110320.76577</td>
<td>.000(e)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>0.678(f)</td>
<td>0.459</td>
<td>0.453</td>
<td>110291.98992</td>
<td>2.023</td>
<td>.000(f)</td>
</tr>
</tbody>
</table>

(a) Predictors: (Constant), DPR, OWNER, SIZE, AGE, DEBT, LIFCYCLE, INVOPP, PROFIT
(b) Predictors: (Constant), DPR, OWNER, SIZE, AGE, DEBT, INVOPP, PROFIT
(c) Predictors: (Constant), DPR, OWNER, SIZE, DEBT, INVOPP, PROFIT
(d) Predictors: (Constant), DPR, OWNER, SIZE, INVOPP, PROFIT
(e) Predictors: (Constant), DPR, SIZE, INVOPP, PROFIT
(f) Predictors: (Constant), SIZE, INVOPP, PROFIT
(g) Dependent Variable: VALUE

The stepwise regressions are shown below.
\[
\text{VALUE} = -833558 + 6852.628 (\text{PROFIT}) + 4666.449 (\text{INVOPP}) - 278.72 (\text{DEBT}) - 8.897 (\text{LIFCYCLE}) - 8.000 (\text{AGE}) + 190314.5 (\text{SIZE}) + 277.052 - 394.397 (\text{DPR}) \\
\text{(4.11)}
\]

\[
\text{VALUE} = -833779 + 6835.76 (\text{PROFIT}) + 4675.997 (\text{INVOPP}) - 275.327 (\text{DEBT}) - 8.092 (\text{AGE}) + 190302.7 (\text{SIZE}) + 278.167 (\text{OWNER}) - 394.829 (\text{DPR}) \\
\text{(4.12)}
\]

\[
\text{VALUE} = -833992 + 6836.786 (\text{PROFIT}) + 4670.469 (\text{INVOPP}) - 277.723 (\text{DEBT}) + 190274.2 (\text{SIZE}) + 279.432 (\text{OWNER}) - 396.298 (\text{DPR}) \\
\text{(4.13)}
\]

\[
\text{VALUE} = -8335576 + 6895.75 (\text{PROFIT}) + 4541.812 (\text{INVOPP}) + 190392.1 (\text{SIZE}) + 281.863 (\text{OWNER}) - 380.660 (\text{DPR}) \\
\text{(4.14)}
\]

\[
\text{VALUE} = -820953 + 6938.213 (\text{PROFIT}) + 4679.177 (\text{INVOPP}) + 190280.4 (\text{SIZE}) - 394.777 (\text{DPR}) \\
\text{(4.15)}
\]

\[
\text{VALUE} = -826534 + 6555.937 (\text{PROFIT}) + 4370.134 (\text{INVOPP}) + 190191 (\text{SIZE}) \\
\text{(4.16)}
\]

Table 4.10 reveals that R square value of the model has been dropped down to 45.9% with p-value = 0.000, implies that profitability, investment opportunities and size of the firm are very important positive determinant for the value of the firm.