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# Does Dividend Policy, Capital Gearing And Shareholders Earnings Affect Value Of A Firm?: An analysis with reference to selected companies listed in Sensex

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## Abstract

*The relevance of dividend policy in determining the market value of firm has led to contradictory opinions leading to emergence of multiple theories in past explaining the same. The present study is an unbiased attempt by the researcher to understand the significance of dividend policy as well as shareholder's earnings and capital structure framework of companies in determining the market value of shares. 10 companies of BSE SENSEX has been selected as a sample for the purpose of the study conducted data over a period of 10 years. Linear as well as multiple regression techniques are applied for examining the stated hypothesis. it is concluded that dividend policy and Earning Per Share are important parameters for predicting market performance of firms but capital structure of firms have not much role to play in market performance.*

**Keywords:** *Dividend Policy, capital Structure, Debt Equity ratio, DPR, DYR, ERR, EPS*

## 1. Introduction

One of the most crucial financial decision of a company is designing a sound capital structure and deciding an optimum dividend policy which satisfies the shareholders of the company. Thus the primary goal is maximising the shareholder's earnings and wealth which is more or less an outcome of a strategic and sensible financial management of a company. The financial manager should be able to make proper choices regarding use of owned funds (retained earnings and profits) and borrowed funds (debt capital) in investments as well as distribution of dividends based on the earnings of the firm. A company with a strong financial management is likely to enhance its goodwill and earn confidence of shareholders and investors as well as a good name in the capital market. However there has been conflicting views on whether capital structure and dividend policy plays significant or insignificant roles in determining the worth of the corporation. It is notable to mention here that dividend policy has an important role to play while

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designing the capital structure as a low dividend pay out ratio corresponds to a high earning retention ratio which reduces the need of leverage in the capital structure. The present study is a sincere attempt by the researcher to understand the impact of self financing and debt mix in capital structure, dividend policy of firm as well as its earnings on the market price of shares and consequently the value of the corporation.

Dividend policy strike out the balance between the proportion of earnings to be distributed among the shareholders and the part that shall be retained as reserves as well as for self financing. In our study, we have considered three measures of dividend policy i.e. Dividend Payout Ratio(DPR), Dividend Yield Ratio (DYR) and Earning Retention Ratio(ERR). Debt Equity Ratio (DER) has been taken as a measure of leverage in capital structure and Earning Per Share(EPS) is used a measure of firm's earnings. Market price of shares are collected from annual reports as well as official BSE website,

## 2. Review of Literature

Dividend policy still remains an important matter in financial debate among the financial economists. From Miller & Modigliani (1961) laying the irrelevance theory of dividend policy and capital structure to Walter, Gordon & Linter stressing on the relevance of dividend policy in determining the firm value, the research on the topic has forwarded conflicting trends in relationship between dividend payments & firm value. While **Modigliani and Miller(1961)** claimed that "as long as the company's cash flow position remains intact and there is no tax effect, with payment of more dividend book value of stock decreases but that has no impact on current earnings and hence value of firm remains unaffected by dividend policy decisions". **Gordon(1962)** on the other hand believed that "dividend payout has an influential impact on the value of a firm depending on the relationship between the cost of capital and the internal rate of return"**. Ohlson(1995)** developed a framework based on earnings, book value of assets and development rights to owner's of capital. His findings were consistent with Miller and Modigliani(1961). Again most of times financial economists have denied the relevance of dividend decision in determining the market value of firm, however corporate investors and investment analysts, still continue to insist that a firm's dividend policy conveys a lot of information to the stakeholders. One side of the argument on the basis of economic theory says it doesn't matter or is irrelevant. But the practitioners believe it as an important source of information on fundamentals of a company, and as such market price of shares react to dividend policy announcements.

**Al-Shawawreh (2014)** examined the association between dividend policy and share price volatility Multiple regression was applied to Dividend Payout Ratio and Dividend Yield Ratio by taking company size, stock repurchase, and stock dividend as control variables Strong negative relationship between share price and Dividend Payout Ratio whereas a weak positive relationship between share price and Dividend

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Yield Ratio was observed[3]. **Pani(2008)** examined the effect of dividends and retention earnings on the stock price behaviour in Indian corporate sector He observed that dividends have impact on the stock-return in Indian corporate sector and there exist a negative relationship between the stock-return and debt-equity ratio.[4] **Manjunatha (2013)** studied the impact of capital structure and ddecision on the value of a firm by using the multiple regression model to data of 29 companies of NSE and BSE.No significant effect of dividend payout and debt equity ratio on share prices was apparent. However software companies with least debt equity and least Dividend Payout Ratio sometimes witnessed good returns.[5] **Ahmad et al(2018)** examined the effect of dividend policy on the stock price volatility of firms listed in the Amman Stock Exchange Descriptive statistics, Pearson correlation and regression analysis using GMM estimation was applied to test the relationship. The results indicated that dividend yield and dividend payout have negative significant relationship with stock price volatility.[6] **Honarbakhsh *et al* (2013**) studied the effects of dividend policy on market value. Multiple regression analysis based on 3 model ie,Dividend as a proportion of permanent earnings, discounted future cashflows and current earnings was used for the study. Results showed that with increase in liabilities and permanent earnings, market value will increase, with increase in liabilities, net discounted cash flows and investments, market value will increase and with increase in liabilities and investment, market value will increase.[7] **Thuvara *et al(*2014)** examined association between dividend decisions and stock returns. Regression Analysis using fixed effect models were used. A significant relationship was observed between stock returns and dividend policies after taking the following controlling variables such as Earnings per share (EPS), book value per share (BVPS) and size of the firm.[8]

[3] Al-Shawawreh, F.K. (2014) "The Impact of Dividend Policy on Share Price Volatility: Empirical Evidence from Jordanian Stock Market" *European Journal of Business and Management*, Vol.6, No.38, 2014, Pp.133-143

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## 3. Objectives of the study

1. To understand the capital structure, patterns of earnings and dividend distribution of the sample firms.
2. To study the effect of use of debt in capital structure on the market price of shares.
3. To study impact of shareholder's earnings on the market price of shares.
4. To examine the possible impact of dividend policy on the market price of the shares.

## 4. Hypotheses:

1. $H_{01}$:Market price of shares does not depend upon the Debt Equity Ratio of firms
   $H_{A1}$:Market price of shares depend upon the Debt Equity Ratio of firms

2. $H_{02}$:Market price of shares does not depend upon Earning Per Share
   $H_{A2}$:Market price of shares depend upon Earning Per Share

3. $H_{03}$: Market price of shares does not depend upon the Dividend Payout Ratio of firms
   $H_{A3}$: Market price of shares depend upon the Dividend Payout Ratio of firms

4. $H_{04}$: Market price of shares does not depend upon the Dividend Yield Ratio of firms
   $H_{A4}$: Market price of shares depend upon the Dividend Yield Ratio of firms

## 5. Scope of the study

The study has been conducted to understand the impact of the financial leverage or use of debt in capital structure of firms and dividend policies on the market price of the shares which is in general the measure of the value of a firm. Here the ratio of debt in the capital structure and dividend distribution decisions of firms under BSE SENSEX are studied for 10 consecutive financial years. The findings of the study can be used to understand the influence of capital structure and dividend decisions on the market value of the firms.

## 6. Research Methodology:

### 6.1. Type of research

The present study is a Descriptive research, which is particularly quantitative in nature.

### 6.2. Sampling technique

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In this study 10 companies are selected out of 30 companies which comprise the population of BSE SENSEX. Sampling technique used here is convenience sampling.

## 6.3. Sample

The sample shall comprise of 10 listed companies of SENSEX. As of 24 December 2018, SENSEX constitutes of 30 companies. These companies are included in the list on the basis of their turnover/sales/ market capitalization.

1. Asian Paints
2. Axis Bank
3. Bajaj Auto
4. Bajaj Finance
5. Bharti Airtel
6. Coal India
7. HDFC Bank
8. HCL Technologies
9. Hero MotoCorp
10. Tata Motors

### 6.4. Source of data

Data has been collected from sources like the Income statements and Balance sheets of the companies under study i.e. from Annual reports published by the companies. Market price of shares has been obtained from historical information contained official website of BSE.

### 6.5. Tools of Analysis

Simple linear regression, correlation and multiple regression techniques are adopted to test the stated hypotheses. The Excel spreadsheet and then SPSS software is applied to analyze the data statistically.

### 6.6. Statistical models used for testing

- The model used here are two simple regression models and one multiple - regression model. The regression equation for the study is as under:

$MV_{i,t} = a + b\ DER_{i,t}$

$MV_{i,t} = a + bEPS_{i,t}$

$MV_{i,t} = a + b_1\ DPS_{i,t} + b_2\ DPR_{i,t} + b_3\ DYR_{i,t} + b_4\ ERR_{i,t}$

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- The aggregate variables under study are taken on the closing date of the financial year for the various firms in the sample and the mean value of the variables of each year are taken to construct the models.
- "t" test significance at 5% level is used to accept or reject the hypothesis
- R2 is used to find out the proper relationship between variables
- Line of best fit is constructed to check the suitability of the models to accommodate the explanatory variables

### 6.7. Definitions of Variables

1. **Dependent variable:**

i) Market value of Stock: It is the last traded value of a common stock in the stock exchange at the end of every fiscal period i.e. March 31st (10 years from FY 2008-09 to FY2017-18) .

2. **Independent variables**:

i) Debt Equity Ratio: It is taken as a measure of capital gearing or financial which reflect the external borrowings in the firm's capital structure

ii) Dividend Payout Ratio: Dividend Payout ratio is taken as a measure of the percentage of dividend paid to the shareholders from the annual earnings of the firm.

iii) Earning Retention Ratio: It is also a measure of dividend policy as well as capital structure as the percentage of annual earnings not distributed constitutes the Earnings retained. Further, retained earnings also reduce dependency of the firm on external funds.

iv) Dividend Yield Ratio: Dividend Yield Ratio measures the percentage of earning or cash flow on each rupee on each stock annually.

v) Dividend Per share: Dividend per share (DPS) is the amount declared as dividends on every ordinary outstanding share.

vi) Earnings Per Share: It a measure of performance of the firm

**Table 6.1.** Proxies used in the models

| Name of the Variables | Proxies | Calculations |
|---|---|---|
| $DER_{i,t}$ | Debt Equity Ratio | Long term Borrowings/Shareholder's Fund |
| $DPR_{i,t}$ | Dividend Payout Ratio | Dividend Per Share/Earnings Per Share |
| $ERR_{i,t}$ | Earning retention Ratio | Retained Earnings/Earnings after Interest and Tax |
| $DYR_{i,t}$ | Dividend Yield Ratio | Dividend Per Share /Market Value Per Share |
| $DPS_{i,t}$ | Dividend per share | Total Dividend/Total no of shares |

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| | | |
|---|---|---|
| $EPS_{i,t}$ | Earning Per Share | Earnings after Interest and Tax/ No. of shares outstanding at beginning |

## 7. Statistical Analysis

### 7.1. Testing $H_{01}$:Market price of shares does not depend upon the Debt Equity Ratio of firms

### (a) Building the Model

**Table 7.1. Table showing details of the model**

| | Unstandardized Coefficients | | Standardized Coefficients | P value |
|---|---|---|---|---|
| | Coefficients | Std. Error | Beta | |
| Constant | 980.951 | 259.043 | | |
| DER | -69.830 | 70.415 | -.331 | .350 |

Source: Self Compiled from SPSS

A simple linear regression model was used to predict the market value of the stocks considering debt equity ratio as the explanatory variable. It is observed from table 7.1. that the optimal regression model for estimating impact of Debt Equity Ratio(DER) on the Market Value of shares can be written as the following:

$$\mathbf{MV_{i,t} = 980.951 - 69.83\ DER_{i,t}}$$

### (b) Test of ANOVA[a]

The level of significance of the above equation comes out to be .35 which is greater than 0.05. Hence we accept the null hypothesis that market price of shares does not depend upon the Debt Equity Ratio of firms

Hence the above regression equation is not sufficient and Debt Equity ratio of a firm fails to explain its impact on market performance of its stocks.

### (b) Line of best fit

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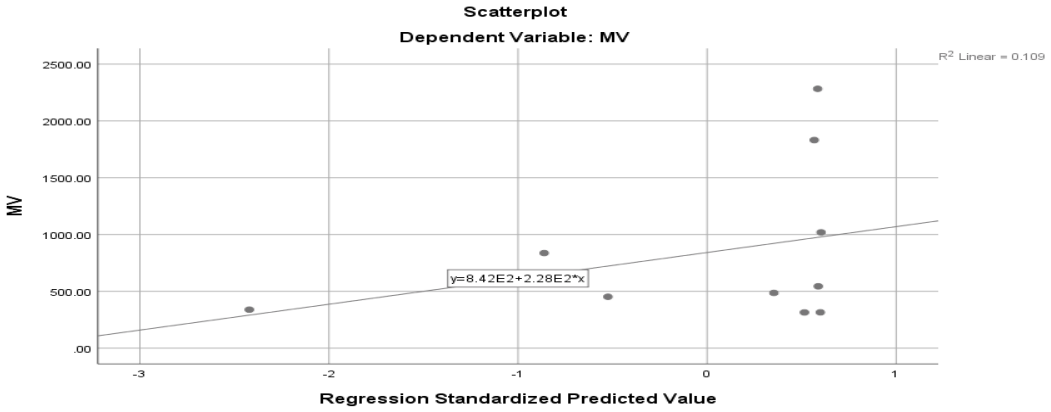
With a very low value of adjusted $R^2$ being only .109, it can be concluded that Debt Equity ratio offer only 10.9 % explanation to the behavior of the market.

**Figure 7.1. Line of best fit for Debt Equity Ratio as a regressor of Market Value**




It is observed from the figure 7.1. that the line of best fit shows a very weak positive relationship as visible from its slope of the line which is very low. Thus, Debt equity Ratio do not fit into the model for determining market performance by taking the former as the regressor.

### 7.2. Testing $H_{02}$:Market price of shares does not depend upon EPS

### (a) Building the model

**Table7.2.: Table showing details of the model**

| | Unstandardized Coefficients | | Standardized Coefficients | P value |
|---|---|---|---|---|
| | Coefficients | Std. Error | Beta | |
| Constant | 100.416 | 260.644 | | |
| EPS | 12.976 | 3.771 | .733 | .009 |

Source: Self Compiled from SPSS

It is observed from table 7.2. that the optimal regression model for estimating impact of Earning Per Share on the Market Value of shares can be written as the following:

$$\mathbf{MV_{i,t} = 12.976EPS_{i,t}+100.416}$$

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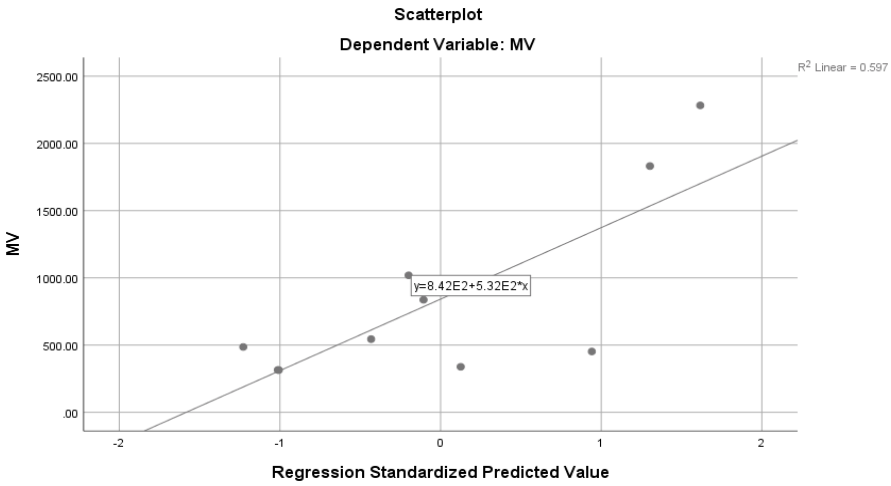
**(b) Test of ANOVA[a]**

The level of significance of the above equation comes out to be 0.009 which is less than 0.05. Hence the null hypothesis that market price of shares does not depend upon EPS is rejected at 5% level of significance. Thus Earning Per Share of a firm can explain its impact on market performance of its stocks with the help of the above model.

**(c ) Line of best fit**

With a moderate value of $R^2$ being .597, it can be concluded that Earning Per share of a firm offer only 59.7% % explanation to the performance of the market.

**Figure 7.2. Line of best fit for Earnings Per Share as a regressor of Market Value**




It is observed from the figure 7.2. that the line of best fit shows a strong positive relationship as visible from the steepness of the line.. Thus, Earning Per Share fit into the model for determining market performance by taking the former as the regressor with a validity of its results at 59.7%'

**7.3. $H_{03}$: Market price of shares does not depend upon the Dividend Payout Ratio of firms**

**(a) Building the Model**

**Table 7.3: Table showing details of the model**

| | Unstandardised coefficients | Standardidsed | P value |
|---|---|---|---|

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| | | | coefficients | |
|---|---|---|---|---|
| | Coefficients | Std. error | Beta | |
| Constant | -18.034 | 204.786 | | .933 |
| DPS | 28.779 | 2.646 | .897 | .000 |
| DPR | .972 | 1.404 | .047 | .520 |
| DYR | -1009.156 | 408.923 | -.209 | .057 |
| ERR | 6.816 | 2.257 | .211 | .029 |

Source: Self Compiled from SPSS

A multiple regression model was used to predict the market value of the stocks considering the measures of dividend policy as the explanatory variables. Four variables namely Dividend Per Share(DPS), Dividend Yield Ratio(DYR), Dividend Payout Ratio(DPR) and Earning Retention Ratio(ERR) were included. Table 7.3. shows that that the regression model for estimating impact of dividend policy on the Market Value of shares can be written as

$$\mathbf{MV_{i,t} = -18.034 + 28.779DPS_{i,t} + .972DPR_{i,t} - 1009.156DYR_{i,t} + 6.816ERR_{i,t}}$$

In the above model, it is also observed that the p value of Dividend Payout Ratio(DPR) is .520 which is much higher than 0.05. Hence the null hypothesis that market value of shares does not depend upon the Dividend Payout Ratio of firms is accepted at 5% level of significance.Thus it is not statistically significant to take DPR as a measure of market value i.e. DPR fails to fit into the model of dividend policy being a measure of Market value

### 7.4. $H_{04}$: Market price of shares does not depend upon the Dividend Yield Ratio of firms

### (a) Building the model

**Table 7. 4: Table showing details of the model**

| | Unstandardised coefficients | | Standardidsed coefficients | P value |
|---|---|---|---|---|
| | Coefficients | Std. errors | Beta | |
| Constant | 63.581 | 160.019 | | .705 |
| DPS | 28.536 | 2.507 | .889 | .000 |
| DYR | -949.213 | 381.925 | .-.197 | .047 |
| ERR | 6.248 | 2.009 | -.193 | .021 |

Source: Self Compiled from SPSS

Since DPR failed to fit into the model of of dividend policy being a measure of Market value, this measure is ruled out from the above model. It was just a moderating variable which reduces the reliability of the OLS regression equation Thereafter it is observed in table 7.4 that all the other three measures of dividend policy i.e. DPS, DYR and ERR in the model have p value less

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than 0.05. Thus the model considering DPS, DYR and ERR is statistically significant at 5% level of significance.

At the time of inclusion of DPR, DYR was observed statistically not significant in explaining the market value of firm, the reason might be the combined effect of both not being statistically significant. But once DPR is kicked out of the model, DYR well fits into the model having a p value of .047 which is less than 0.05. Thereby rejecting the null hypothesis that market price of shares does not depend upon the Dividend Yield Ratio of firms. Thus we conclude that market price of shares depend upon the Dividend Yield Ratio of firms. Moreover the corrected model as stated below is also found to be statistically significant at 5% level of significance.

$$\mathbf{MV_{i,t} = 63.581 + 28.536DPS_{i,t} + DPR_{i,t} - 949.213DYR_{i,t} + 6.248ERR_{i,t}}$$

The value of R square being .979, it can also be concluded that the model using DPS, DYR and ERR of a firm offer 97.9% explanation to the performance of the market which is a nearly best fit for any model.

**Figure 7.3. Line of best fit for varibles of Dividend Policy as a regressor of Market Value**

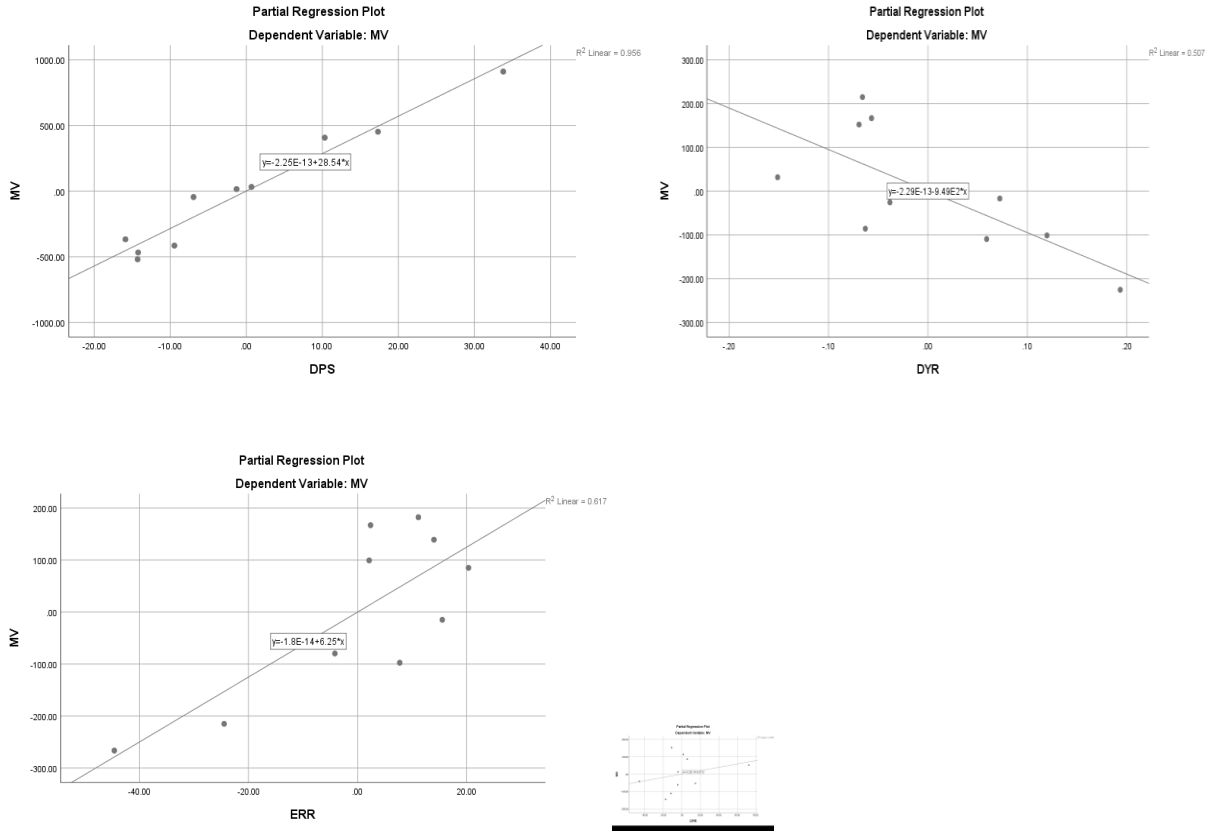

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Figure 7.3. shows how the model well fits DPS, DYR and ERR but fails to accommodate DPR as a measure of market performance. DPS, ERR and DRR shows positive slope indicating positive relationship with market performance of firms whereas DYR indicate inverse relationship with market performance.

## Summary and Conclusion

The study was an attempt to the significance of dividend policy as well as shareholder's earnings and capital structure framework of companies in determining the market value of shares. Whereas DER was taken as a proxy variable to explain the impact of capital structure of affirm on market performance, EPS was taken as a measure of earnings to measure the impact of same on market value of shares. To explain the impact of dividend policy of firms on market performance, four proxy variables namely DPS, DPR, DYR and ERR were taken. Linear as well as multiple regression techniques are applied for examining the stated hypothesis For examining the impact of earnings and capital structure on market performance, simple linear regression technique was employed whereas for examining impact of dividend policy with multiple variable, multiple regression technique was used. It was observed that dividend policy of the firms are having maximum impact on the market performance. With the R square value of .979, the model using dividend policy measures of DPS, DYR and ERR as explanatory of market performance proves itself the strongest. Whereas the market value predicator model with EPS as a measure of market performance is statistically significant, on the other hand DPR and DER fails to predict market performance. Thus it can be concluded that dividend policy and Earning Per Share are important parameters for predicting market performance of firms.

## Future Scope of Study

The study can be conducted to examine the impact of firm's dividend policy and capital structure on market performance as well as its earnings on the value of the firm. The study can also be advanced regression techniques involving autocorrelation to test the impact of company's past decisions on future market performance. ARDL Co-integation test and Error Correction Models may be used at an advance stage of the study to determine the short term and long term relationship among the above variables. Further the sampling technique may be advanced by including the population constituents of BSE SENSEX.

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