

# IMPACT OF DIVIDEND POLICY ON CAPITAL STRUCTURE

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## Abstract

This paper identifies the most important variables of capital structure of selected sample industries that are listed at BSE500 INDEX. The companies that are selected for the study composed of both private and public sector companies. Three independent variables including Earning per Share, Dividend per Share, Retained Earnings and one dependent variable i.e. Leverage are analyzed to determine the impact of Dividend policy on Capital Structure. The study covers the two time periods i.e. Pre-crisis period (2001-2009) and Post-crisis period (2009-2015). Policies intended to encourage establishing financing schemes to assist companies in these industries. It is observed that almost all companies across industries in India has been paying dividend to their equity shareholders consistently.

**Keywords:** *Capital Structure, Earnings per Share, Dividend Per Share, Retained Earnings, Leverage.*

## INTRODUCTION

This paper explains the impact of dividend Policy variables on capital structure of selected industries. Capital structure has been measured with the help of two measures i.e. Total Debt to Total Assets and Total Debt to Equity Capital Ratio. Dividend policy variables are included Retained Earnings, Dividend per share, Earning per share. The research paper analyzes the impact of Dividend policy variables on the capital structure of software, banking and finance industry respectively. Management's main purpose is shareholders' wealth maximization, which translates into maximizing the value of the company as measured by the price of the company's common stock. This paper is aimed to study how the dividend policy has an impact on Capital Structure. The best dividend policy is one that increases the companies' stock price which leads to maximization of shareholder's wealth (Kavitha S,2014).

## SCOPE OF THE STUDY

The scope of the study has been confined to the Service sector only. To achieve the objectives of the study, a sample of 87 companies had selected from Banking, Computer Software and Finance companies forming part of BSE500 Index

## Literature Review:

- Pandey (2001) examined the impact of determinants on capital structure of Malaysian companies from the time - period of 1984 to 1999. The results indicate that the Malaysian economy faced downturn due to financial crisis faced by the economy during that time – period. It also revealed that results of period OLS regression exhibited significant impact on the capital structure. It found that profitability, risk, tangibility had negative relation with leverage but size, growth had positive relation with debt.
- Prasad and Reddy (2009) examined the impact of Global financial crisis on India. It revealed that boom in the Housing Market, faulty credit ratings given by agencies, poor regulation, speculation in real estate, etc.
- Ghatak (2011) investigated the determinants of capital structure of SME'S manufacturing organizations in his study. It has been undertaken to obtain the main determinants of capital structure of SME's and to find out the level of leverage in SME's. The results of this study have delivered some insights on the capital structure of Indian SME's.
- Ashraf and Sharma (2011) examined the impact of Global financial crisis on Indian Insurance Industry. The results indicated that financial crisis had an impact on Insurance industry and post-crisis premium of life insurance industry. The results reflected the value with a fall in premium collection in March 2009 by 28.2 percent as compared to March 2008. The study concluded that the financial crisis had not impacted the insurance industry to greater extent.
- Abzari, Fathi and Nematizadeh (2012) examined the impact of macro- economic variables on capital structure of Tehran stock Exchange listed firms. The results indicated that size and profitability were the significant determinant of capital structure. The financial mangers expressed the significant impact of these variables on capital structure.

## REFERENCE PERIOD

The present study is divided the whole set of data into two periods: Pre Crisis Period from April 2001 to March 2009, and from April 2009 to March 2015 as Post Crisis Period .The study is comprised the data of 14 years.

## POPULATION AND SAMPLE SIZE:

In this study, population is consisted of companies listed at Bombay stock exchange of India covered under period of study and scope of study. To investigate the impact of Global Financial Crisis effects on the Indian corporate sector, sample of 88 companies are selected from 113 companies of Banking, Computer Software and Finance industries forming part of BSE500 Index on the basis of their market capitalization. The required data is obtained from PROWESS Data base of Centre for Monitoring Indian Economy Private limited (CMIE), RBI, SEBI, moneycontrol.com, yahoofinance.com and websites of companies. This Study was based on secondary data.

**DATA INPUTS:**

A number of variables has examined. These are explained below:

- **Dependent variable:**

- **Leverage:** Leverage refers to the percentage of assets that are financed by debt. The researcher had used this kind of leverage for achieving the objectives of the studies:

Leverage I: Debt/Equity ratio

Leverage II: Debt/ Total Assets ratio

- **Independent Variables for Dividend Policy:**

Dividend policy is taken as independent variables which is measured with the help of four ratios namely Retained Earnings, Dividend per share (DPS), and Earning per share (EPS). These are explained below:

- **Retained Earnings:** The percentage of net earnings not paid out as dividends, but retained by the company to be reinvested in its core business or to pay debt. It is recorded under shareholders' equity on the balance sheet. Profit after tax used as a measure for calculating the retained earnings (Kavitha, S (2014)).
- **Dividend Per Share:** Dividend per share is the total dividends paid out over an entire year divided by the number of outstanding ordinary shares issued. Total dividend paid / No. of shares issue used for the study (Kavitha, S (2014)).
- **Earnings Per Share:** Data sources sometimes simplify the calculation by using the number of shares outstanding at the end of the period. Net profit after tax- preference dividend / No. of equity shareholders (common shares) was used for the study (Kavitha, S (2014)).

**TESTING OF HYPOTHESIS:**

**H<sub>01</sub>:** There is no significant impact of Dividend policy on Capital Structure.

1. **Anova:**

The technique of analysis of variance is an extension of F-test used to test the homogeneity of several means. This test is used to test whether there is significant difference existed among the dividend policy variables during the pre and post crisis period which ranges from April 2001 to March 2009 and April 2009 to March 2015. The results for each dividend policy variables are given below:

- a) **Retained earnings:**

The retained earnings of sample industries are compared by using one-way anova and hypothesis is tested. The results are shown in table no.6.

Table no. 1

Anova test for Profit after tax						
Time Period		Sum of Squares	df	Mean Square	F	Sig.
Profit_Tax01_09	Between Groups	26970000000.000	2	13490000000.000	3.986	0.022
	Within Groups	287600000000.000	85	3383000000.000		
	Total	314600000000.000	87			
Profit_Tax10_15	Between Groups	110800000000.000	2	55390000000.000	2.931	0.059
	Within Groups	1607000000000.000	85	18900000000.000		
	Total	1717000000000.000	87			
Profit_Tax_Total	Between Groups	243000000000.000	2	121500000000.000	3.312	0.041
	Within Groups	3118000000000.000	85	36680000000.000		
	Total	3361000000000.000	87			

Source: Researcher own calculations

From the above table no.1, it exhibits that calculated 'F' Value (2,85)=3.986 and p- value was 0.022 during the pre- crisis period from 2001-2009, it is concluded that retained earnings of selected industries vary significantly during that time period. During the post-crisis period from 2009 to 2015, the calculated 'F' Value (2,85)=2.931 and p- value was 0.059 which is highly significant than pre crisis period at 5 percent level of significance. Thus, null hypothesis is rejected. It means that there is a significant difference in retained earnings during pre and post crisis period (2001 to 2009 and 2009 to 2015) respectively.

#### b) Earnings per Share:

The results are shown in table no.2

Table no.2

Anova test for earning Per share						
Time Period		Sum of Squares	df	Mean Square	F	Sig.
Earning_Pershare01_09	Between Groups	1227.002	2	613.501	1.008	0.369
	Within Groups	51710.752	85	608.362		
	Total	52937.754	87			
Earning_Pershare10_15	Between Groups	196.036	2	98.018	0.701	0.499
	Within Groups	11888.253	85	139.862		
	Total	12084.289	87			
Earning_Pershare_Total	Between Groups	663.154	2	331.577	0.400	0.672
	Within Groups	70501.952	85	829.435		
	Total	71165.106	87			

Source: Researcher own calculations

From the above table no. 2, it depicts seen that calculated 'F' Value (2,85)=1.008 and p- value was 0.369 during the pre- crisis period (2001 to 2009), it is concluded that of Earning per share selected industries has not varied significantly during that time period. During the post-crisis period (2009 to 2015), the calculated 'F' value (2,85) =0.701 and p- value is 0.499 which is not significantly different than pre crisis period at 5 percent level of significance. Thus, null hypothesis was accepted. It means that there is no significant difference in Earning per share during pre and post crisis period (2001 to 2009 and 2009 to 2015) respectively.

#### c)Dividend Per Share:

Table no.3

Anova test for dividend Per share						
Time Period		Sum of Squares	df	Mean Square	F	Sig.
Dividend_Pershare01_09	Between Groups	56.157	2	28.079	1.302	0.277
	Within Groups	1833.067	85	21.565		
	Total	1889.225	87			
Dividend_Pershare10_15	Between Groups	4.989	2	2.495	1.018	0.366
	Within Groups	208.335	85	2.451		
	Total	213.324	87			
Dividend_Pershare_Total	Between Groups	50.695	2	25.347	0.995	0.374
	Within Groups	2166.384	85	25.487		
	Total	2217.079	87			

Source: Researcher own calculations

From the above table no.3, it is exhibited that calculated 'F' Value (2,85)= 1.302 and p- value is 0.000 during the pre- crisis period from 2001-2009, it is concluded that Dividend Per Share of selected industries has not varied significantly during that time period. During the post-crisis period from 2009 to 2015, the calculated 'F' Value (2,85)=1.018 and p- value is 0.366 which is not highly significant than pre crisis period at 5 percent level of significance. Thus, null hypothesis is not accepted. It means that there is significant difference in Dividend Per Share during pre and post crisis period (2001 to 2009 and 2009 to 2015) respectively.

## d) Total Dividend:

Table no.4

Anova test for total dividend						
Time Period		Sum of Squares	df	Mean Square	F	Sig.
Total_Dividend01_09	Between Groups	834600000.000	2	417300000.000	2.967	0.057
	Within Groups	1195000000.000	85	140600000.000		
	Total	1279000000.000	87			
Total_Dividend10_15	Between Groups	995500000.000	2	497800000.000	1.862	0.162
	Within Groups	2272000000.000	85	267300000.000		
	Total	2372000000.000	87			
Total_Dividend_Total	Between Groups	292600000.000	2	146300000.000	1.974	0.145
	Within Groups	6297000000.000	85	740800000.000		
	Total	6590000000.000	87			

Source: Researcher own calculations

From the above table no.4, it is exhibited that calculated 'F' Value (2,85)= 1.302 and p- value is 0.000 during the pre- crisis period from 2001-2009, it is concluded that Dividend Per Share of selected industries has not varied significantly during that time period. During the post-crisis period from 2009 to 2015, the calculated 'F' Value (2,85)=1.018 and p- value was 0.366 which is not highly significant than pre crisis period at 5 percent level of significance. Thus, null hypothesis is not accepted. It means that there is significant difference in Dividend Per Share during pre and post crisis period (2001 to 2009 and 2009 to 2015) respectively.

## e) Shares Traded:

The value of equity capital computed by estimating the current market value of everything owned by the company from which the total of all liabilities is subtracted.

Table no.5

Anova test for Shares Traded						
Time Period		Sum of Squares	df	Mean Square	F	Sig.
Shares_Traded01_09	Between Groups	4056000000000.000	2	2028000000000.000	0.682	0.509
	Within Groups	25290000000000.000	85	2975000000000.000		
	Total	25700000000000.000	87			
Shares_Traded10_15	Between Groups	1472000000000.000	2	735800000000.000	1.637	0.201
	Within Groups	3820000000000.000	85	449400000000.000		
	Total	3967000000000.000	87			
Shares_Traded_Total	Between Groups	773400000000.000	2	386700000000.000	0.826	0.441
	Within Groups	3980000000000.000	85	468200000000.000		
	Total	4057000000000.000	87			

Source: Researcher own calculations

From the above table no. 5, it is seen that calculated 'F' value (2,85) =0.682 and p- value is 0.509 during the pre- crisis period (2001 to 2009), it is concluded that shares traded of selected industries has not varied significantly during that time period. During the post-crisis period (2009 to 2015), the calculated 'F' value (2,85) =1.637 and p- value is 0.201 which is not highly significant than pre crisis period at 5 percent level of significance. Thus, null hypothesis is not accepted. It means that there is a significant difference in shares traded during pre and post crisis period (2001 to 2009 and 2009 to 2015) respectively.

## f) Preference Dividend:

Table no.6

Anova test for Preference dividend						
Time Period		Sum of Squares	df	Mean Square	F	Sig.
Preference_ dividend01_09	Between Groups	710253.038	2	355126.519	1.86	0.184
	Within Groups	3436500.193	18	190916.677		
	Total	4146753.231	20			
Preference_ dividend10_15	Between Groups	1308000.000	2	6539861.460	5.192	0.026
	Within Groups	1386000.000	11	1259702.684		
	Total	2694000.000	13			
Preference_ dividend_Total	Between Groups	1678000.000	2	8389078.383	5.72	0.01
	Within Groups	3373000.000	23	1466683.468		
	Total	5051000.000	25			

Source: Researcher own calculations

From the above table no. 6, it is seen that calculated 'F' value (2,85) =1.86 and p- value is 0.184 during the pre- crisis period (2001 to 2009), it is concluded that Preference Dividend of selected industries has not varied significantly during that time period. During the post-crisis period (2009 to 2015), the calculated 'F' value (2,85) =5.192 and p- value is 0.026 which is highly significant than pre crisis period at 5 percent level of significance. Thus, null hypothesis is rejected. It means that there is a significant difference in Preference Dividend during pre and post crisis period (2001 to 2009 and 2009 to 2015) respectively.

- **Regression Analysis:**

Descriptive Statistics <sup>a</sup>			
	Mean	Std. Deviation	N
Debt_Equity_total	7.143	10.611	88
Debt_assets_total	18.802	18.995	88

Multivariate Tests <sup>c,d</sup>									
Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power <sup>b</sup>
Intercept	Pillai's Trace	0.930	5.668E2 <sup>a</sup>	2.000	85.000	0.000	0.930	1133.649	1.000
	Wilks' Lambda	0.070	5.668E2 <sup>a</sup>	2.000	85.000	0.000	0.930	1133.649	1.000
	Hotelling's Trace	13.337	5.668E2 <sup>a</sup>	2.000	85.000	0.000	0.930	1133.649	1.000
	Roy's Largest Root	13.337	5.668E2 <sup>a</sup>	2.000	85.000	0.000	0.930	1133.649	1.000
Profit_Tax_Total * Earning_Pershare_Total *	Pillai's Trace	0.023	.983 <sup>a</sup>	2.000	85.000	0.378	0.023	1.966	0.216
	Wilks' Lambda	0.977	.983 <sup>a</sup>	2.000	85.000	0.378	0.023	1.966	0.216

Dividend_Pershare_Total	Hotelling's Trace	0.023	.983 <sup>a</sup>	2.000	85.000	0.378	0.023	1.966	0.216
* Total_Dividend_Total	Roy's Largest								
* Shares_Traded_Total	Root	0.023	.983 <sup>a</sup>	2.000	85.000	0.378	0.023	1.966	0.216

a. Exact statistic

b. Computed using alpha = .05

c. Design: Intercept + Profit\_Tax\_Total \* Earning\_Pershare\_Total \* Dividend\_Pershare\_Total \* Total\_Dividend\_Total \* Shares\_Traded\_Total

d. Weighted Least Squares Regression - Weighted by Type\_Company

It is observed from the above table, that the 'p' value in all the selected industries is more than 0.005, thus there is no significant relationship existing between Debt to total equity Ratio and Dividend Policy variables during the pre-crisis (2001-2009) and post crisis (2009-2015) period.

It is concluded that there is no significant relationship existing between Debt to equity Ratio and Dividend policy variables of all the selected industries and hence the hypothesis is accepted.

### Findings and Recommendations:

- The results of Anova are revealed that calculated 'F' Value (2,85) = 3.986 and p- value is 0.022 during the pre- crisis period from 2001-2009, it is concluded that retained earnings of selected industries vary significantly during that time period. During the post-crisis period from 2009 to 2015, the calculated 'F' Value (2,85) = 2.931 and p- value is 0.059 which is highly significant than pre crisis period at 5 percent level of significance. Thus, null hypothesis is rejected. It means that there is a significant difference in retained earnings during pre and post crisis period (2001 to 2009 and 2009 to 2015) respectively. The null hypothesis related to Earning per share is accepted, there is no significant difference in Earning per share during pre and post crisis period (2001 to 2009 and 2009 to 2015) respectively. But related to Dividend per share, total dividend, preference dividend is not accepted. It is revealed that there is a significant difference of these variables between pre and post crisis periods from (2001-2009) and (2009-2015).
- The regression results is revealed that the 'p' value in all the selected industries is more than 0.005, thus there is no significant relationship existing between Debt to total equity Ratio and Dividend Policy variables during the pre- crisis (2001-2009) and post crisis (2009-2015) period. It is concluded that there is no significant relationship existing between Debt to equity Ratio and Dividend policy variables of all the selected industries and hence the hypothesis is accepted.

### Conclusion:

The study concludes that dividends have significant impact on the market price of shares. Hence, it is concluded that the variables i.e. Retained Earnings, Dividend per Shares and Earning per Shares are the major contributing factors in determining the capital structure of the selected Industries in India during both the crisis period.

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