

A STUDY OF DIVIDEND POLICY AND CAPITAL STRUCTURE IN INDIA

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ABSTRACT

From the practitioners' viewpoint, dividend policy of a firm has implications for investors, managers and lenders and other stakeholders. For investors, dividends – whether declared today or accumulated and provided at a later date - are not only a means of regular income, but also an important input in valuation of a firm. Similarly, managers' flexibility to invest in projects is also dependent on the amount of dividend that they can offer to shareholders as more dividends may mean fewer funds available for investment. Lenders may also have interest in the amount of dividend a firm declares, as more the dividend paid less would be the amount available for servicing and redemption of their claims.

INTRODUCTION:

However, in a perfect world [Modigliani and Miller (1961)], investors may be indifferent about the amount of dividend, as it has no influence on the value of a firm. Any investor can create a 'home made dividend' if required or can invest the proceeds of a dividend payment in additional shares as and when a company makes dividend payment. Similarly, managers may be indifferent as funds would be available or could be raised without any flotation costs for all positive net present value projects. But in reality, dividends may matter, particularly in the context of differential tax treatment of dividends and capital gains. Very often dividends are taxed at a higher rate compared to capital gains. This implies that dividends may have negative consequences for investors. Similarly, cost of raising funds is not insignificant and may well lead to lower payout, particularly when positive net present value projects are available. Apart from flotation costs, information asymmetry between managers and outside investors may also have implications for dividend policy.

[Myers and Majluf (1984)], in the presence of information asymmetry and flotation costs, investment decisions made by managers are subject to the pecking order of financing choices available. Managers prefer retained earnings to debt and debt to equity flotation to finance the available projects.

Information asymmetry between agents (managers) and principals (outside shareholders) may also lead to agency cost [Jensen and Meckling (1976)]. One of the mechanisms of reducing expropriation of outside shareholders by agents is high payout. High payout will result in reduction of free cash flow available to managers and this restricts the building efforts of managers. The presence of information asymmetry may also mean that managers need to signal their ability to generate higher earnings in future with the help of high dividend payouts [Bhattacharya (1979), John and Williams (1985), and Miller and Rock (1985)]. However, the credibility of signals depends on the cost of signaling – the cost being loss of financial flexibility. High payout results in reduction of free cash flow when in fact the firm needs more funds to pursue high growth opportunities. Rozeff (1994) models payout ratios are as a function of three factors: flotation costs of external funding, agency cost of outside ownership and financing constraints as a result of higher operating and financial leverage.

STATEMENT OF THE PROBLEMS

1. The present study mainly indicates how far the level of DP affects the CS of corporate firms in India.
2. Size would appear to be an important factor in determining the dividend behavior of corporate firms.

SIGNIFICANCE OF THE STUDY

1. The present study attempts to analyze the effect of dividend policy on capital structure in the selected corporate firms across Industries in India.
2. Though many research studies had been undertaken in the field of company's uniqueness and its dividend policy and capital structure very few studies have been undertaken to analyze the relation between dividend policy and capital structure.

SCOPE OF THE STUDY

The study is an attempt to provide an empirical support to the hypothesized relationship between capital structure and dividend policy in respect size of corporate firms across industries.

OBJECTIVES OF THE STUDY

1. To study the inter-relationship between capital structure and dividend policy in respect of size of corporate firms across industries in India.
2. To study the trends in the dividend payout pattern of firms in respect of sources borrowings.

HYPOTHESES

H_0^1 “there is no significant relationship between the level of debt in capital structure and level of equity dividend in cement sector.”

H_0^2 “there is no significant relationship between the level of debt in capital structure and level of equity dividend in chemical & fertilizer sector.”

H_0^3 “there is no significant relationship between the level of debt in capital structure and level of equity dividend in information technology sector.”

H_0^4 “there is no significant relationship between the level of debt in capital structure and level of equity dividend in oil & gas sector.”

H_0^5 “there is no significant relationship between the level of debt in capital structure and level of equity dividend in pharmaceutical sector.”

METHODOLOGY

SOURCES OF DATA

The study used only secondary data, which are collected from CMIE [Center for Monitoring Indian Economy Private Limited] prowess package. The data collected from this source have been compiled and used as per the objectives of the study.

SAMPLING DESIGN

The study has been made on a 70 sample corporate firms across seven industries in India.

Industry	Number of corporate firms
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	chosen for the study
Cement industry	10
Chemical & Fertilizer industry	10
IT industry	8
Oil & Gas industry	10
Pharmaceutical industry	15
Shipping industry	10
Textile industry	7
Total corporate firms	70

The industries have been chosen based on stratification in respect of dividend high yielding sectors. The stratification process for the choice of corporate firms across industries has been adopted based on asset value of firms, i.e., corporate firms whose total assets value has significantly increasing over the period have been included in the sample corporate firms, in this way of stratification, the sample corporate firms of 70 have been arrived after giving due consideration for parameters, viz., proper and regular dividend payers to shareholders, and availability of required data for the study period.

Further, the sample corporate firms are classified into three groups based on assets value viz., small size firms - firms whose total assets value is up to Rs.1000 crore; medium size firms – firms whose total assets value is between Rs.1000 crore and Rs.5000 crore; large size firms - firms whose total assets value >Rs.5000 crore.

PERIOD OF THE STUDY

The data used for the study relate to the selected corporate firms across industries in India for the period of ten years on a yearly basis ranging from 2009-2018.

LIMITATIONS OF THE STUDY

- The study is limited to only 7 industries. Therefore, this comprises the trend of only a few numbers of industries, which would not be sufficient to totally generalize the inference to the whole of a country.

- The data used for the study are secondary in nature. Therefore, the accuracy of the results of analysis is totally dependent upon the reliability and accuracy of secondary data.

THE IMPACT OF FIRM SIZE ON DIVIDEND BEHAVIOUR - ANALYSIS

RELATIONSHIP BETWEEN EQUITY DIVIDEND PAYOUT AND CS

Table 4.1 presents the mean proportion of long-term debt (LTD) short-term debt (STD) and total debt (TD) relative to total assets (TA) by collapsing across different percentage range of equity dividend payout for sample firms under Cement sector.

It can be seen from the table that proportion of LTD to TA is higher as 68.39 per cent for firms, which have skipped paying dividend payout and it varies between 39.71 per cent and 43.78 per cent for those firms which have paid dividend payout relative to equity up to 25%, 26-50% and above 50 per cent respectively. The calculated F value ($F = 15.53$, $p < 0.01$) is found to be significant at 1 per cent level, indicating that average debt fund in CS vary significantly with variation in equity dividend payout percentage. Further, the mean *LTD_TA* is much higher for the sample firms, which have skipped paying dividend payout, providing evidence, the firms with high debt level have avoided paying dividend payout under cement sector.

Table 1

Comparison of Proportion of Debt Fund in CS by Different Range of Equity Dividend payout Percentage for CEMENT Sector

(Mean values in %)

CS Measures	Percentage of Equity Dividend payout				All Range (n=108)	F Value
	0 (n=45)	Up to 25 (n=30)	26 – 50 (n=21)	> 50 (n=12)		
<i>LTD_TA</i>	68.39 (28.08)	39.71 (11.37)	43.41 (11.76)	43.78 (9.58)	52.83 (23.90)	15.53***
<i>STD_TA</i>	10.28 (15.46)	12.48 (7.36)	11.51 (11.29)	15.42 (11.09)	11.70 (12.33)	0.60

<i>TD_TA</i>	78.67 (27.31)	52.20 (10.72)	54.92 (9.30)	59.20 (11.43)	64.54 (22.70)	13.98***
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2, 77 is the degrees of freedom for all 'F' values. ***Significant at 1% level, **Significant at 5% level, *Significant at 10% level.

Figures in parentheses are standard deviation.

While STD relative to TA (*STD_TA*) does not vary by the level of equity dividend payout (F value is insignificant), TD to TA (*TD_TA*) has experienced with sample situation as that of *LTD_TA*. In sum, it is concluded that the use of debt fund in *CS* is inversely related to equity dividend payout for sample firms under Cement sector.

H_0^1 "There is no significant relationship between the level of debt in *CS* and level of equity dividend in Cement sector."

H_0^1 is rejected. [(F = 15.53 > $p < 0.01$ for *LTD_TA*); and (F = 13.98 > $p < 0.01$ for *TD_TA*)]. Hence H_1^1 is formulated, as "there is significant relationship between the level of debt in *CS* and level of equity dividend in Cement sector."

Table 2 is presented with comparison of debt data across difference range of equity dividend payout for sample firms under Chemical & Fertilizer sector.

Table 2

**Comparison of Proportion of Debt Fund in *CS* by
Different Range of Equity Dividend payout Percentage for
CHEMICAL & FERTILIZER Sector**

(Mean values in %)

CS Measures	Percentage of Equity Dividend payout				All Range (n=90)	F Value
	0 (n=20)	Up to 25 (n=50)	26 – 50 (n=14)	> 50 (n=6)		
<i>LTD_TA</i>	51.53 (10.60)	41.08 (14.72)	37.30 (12.26)	27.27 (2.83)	41.90 (14.30)	6.74***
<i>STD_TA</i>	13.40 (8.06)	8.47 (7.54)	10.94 (9.95)	14.59 (4.81)	10.35 (8.14)	2.52*
<i>TD_TA</i>	64.92	49.55	48.23	41.87	52.25	7.76***

	(9.96)	(15.57)	(14.05)	(4.53)	(15.32)	
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2, 77 is the degrees of freedom for all 'F' values.

***Significant at 1% level, **Significant at 5% level, *Significant at 10% level.

Figures in parentheses are standard deviation.

Perusal of the table shows that *LTD_TA* has been declining with increase in equity dividend payout, while there has been curve linear trend in *STD_TA*. The *LTD_TA*, which is 51.53 per cent has declined to 41.08 per cent for firms with equity dividend payout up to 25%, 37.30 per cent for firms with 26 – 50 per cent and it is 27.27 per cent for firms with equity dividend payout above 50 per cent. Moreover, difference in-group means is also significant (F value = 6.74, $p < 0.01$). On the other hand, *STD_TA*, with 13.40 per cent for non-payers of dividend payout, has declined to 8.47 per cent for firm groups with equity dividend payout up to 24, but increased to 10.94 per cent for firms with 26-50 per cent and again to 14.59 per cent in respect of firms with equity dividend payout above 50 per cent. The F value is significant for the difference in mean of *STD_TA* across firm groups under this sector (F value = 2.52, $p < 0.10$). The *TD_TA* has varied from 64.92 per cent of Zero dividend payout group to 41.87 per cent for firm groups with equity dividend payout above 50 per cent. The calculated F value for difference in mean of *TD_TA* is also significant (F = 7.76, $p < 0.01$). Hence, from the above results, it is found that there is a significant negative relationship of debt financing in *CS* on equity dividend payout for sample firms under Chemical & Fertilizer sector.

H_0^2 “There is no significant relationship between the level of debt in *CS* and level of equity dividend in Chemical & Fertilizer sector.”

H_0^2 is rejected. [(F = 6.74 > $p_{<0.01}$ for *LTD_TA*), and (F = 2.52 > $p_{<0.01}$ for *STD_TA*), and (F = 7.76 > $p_{<0.01}$ for *TD_TA*)]. Hence H_1^2 is formulated, as “there is significant relationship between the level of debt in *CS* and level of equity dividend in Chemical & Fertilizer sector.”

Table 3

**Comparison of Proportion of Debt Fund in *CS* by
Different Range of Equity Dividend payout Percentage for
INFORMATION TECHNOLOGY Sector**

(Mean values in %)

CS Measures	Percentage of Equity Dividend payout				All Range (n=72)	F Value
	0 (n=2)	Up to 25 (n=20)	26 – 50 (n=30)	> 50 (n=20)		
<i>LTD_TA</i>	0.84 (0.07)	24.81 (19.25)	19.18 (18.99)	0.87 (2.80)	15.15 (18.57)	8.79***
<i>STD_TA</i>	0.00 (0.00)	4.27 (9.62)	4.03 (9.83)	0.23 (0.67)	2.93 (8.22)	1.16
<i>TD_TA</i>	0.84 (0.07)	29.08 (23.51)	23.21 (24.77)	1.10 (3.45)	18.08 (23.16)	7.60***

2, 77 is the degrees of freedom for all 'F' values. ***Significant at 1% level, **Significant at 5% level, *Significant at 10% level.

Figures in parentheses are standard deviation.

An observation of the Table 3 shows that some IT firms, whose debt level is very low, have skipped paying dividend payout, which might be due to overall poor performance. However, equity dividend payout is found to be above 50 per cent when the proportion of debt fund in *CS* is very meagre (in fraction). At the same time, percentage of equity dividend payout has increased with decreasing trend in debt financing through long-term debt sources. The IT firms have paid up dividend payout to 25 per cent when their *LTD_TA* has been 24.81 per cent, but the payout has increased above 25 per cent (25 - 50 per cent) when there has been a decline in debt level (Mean *LTD_TA* = 19.8 per cent).

However, the level of *STD_TA* does not vary that much between firm groups with payout up to 25 per cent and above 25 per cent. The *TD_TA* has reflected the same picture as that of the *LTD_TA*. The F value is significant for *LTD_TA* (F = 8.79, p < 0.01) and *TD_TA* (F = 7.60, p < 0.01), evidencing a significant relationship between *DP* and *CS* of sample firms under IT sector.

H_0^3 "There is no significant relationship between the level of debt in CS and level of equity dividend in Information Technology sector."

H_0^3 is rejected. $[(F = 8.79 > p <_{0.01} \text{ for LTD_TA}), \text{ and } (F = 7.60 > p <_{0.01} \text{ for TD_TA})]$. Hence H_1^3 is formulated, as “there is significant relationship between the level of debt in CS and level of equity dividend in Information Technology sector.”

FINDINGS OF STUDY:

From the analysis of data pertaining to dividend policy and capital structure, the following findings have been found:

- 1) The use of debt fund in capital structure is inversely related to equity dividend for sample firms under cement sector. H_0^1 is rejected. $[(f = 15.53 > p <_{0.01} \text{ for ltd_ta}); \text{ and } (f = 13.98 > p <_{0.01} \text{ for td_ta})]$. Hence h_1^1 is formulated, as “there is significant relationship between the level of debt in capital structure and level of equity dividend in cement sector.”
- 2) There is a significant negative impact of debt financing in capital structure on equity dividend for sample firms under chemical & fertilizer sector. H_0^2 is rejected. $[(f = 6.74 > p <_{0.01} \text{ for ltd_ta}), \text{ and } (f = 2.52 > p <_{0.01} \text{ for std_ta}), \text{ and } (f = 7.76 > p <_{0.01} \text{ for td_ta})]$. Hence h_1^2 is formulated, as “there is significant relationship between the level of debt in capital structure and level of equity dividend in chemical & fertilizer sector.”
- 3) There is a significant relationship between dividend policy and capital structures of sample firms under IT sector, but the relationship between these factors is non-linear. H_0^3 is rejected. $[(f = 8.79 > p <_{0.01} \text{ for ltd_ta}), \text{ and } (f = 7.60 > p <_{0.01} \text{ for td_ta})]$. Hence h_1^3 is formulated, as “there is significant relationship between the level of debt in capital structure and level of equity dividend in information technology sector.”

CONCLUSION:

This study examines the impact of firm size on dividend behaviour of corporate firms in India. The study has been carried out on 70 firms by empirically analysing the determinants of dividend policy over a wider testing period from 2015-2017. Dividend behaviour was tested using for the full Britain model and its variants on the pooled cross sectional/time series data for the sample of observations from 2015-2017. The models are

estimated using the ordinary least square (OLS) method. Dividend stocks are expected to provide a combination of dividend cash flows and capital gains from investors' view.

The preference of shareholders for one or the other should have a powerful influence on decisions regarding dividend payment which leads one to examine the extent to which dividend payments and dividend yields vary significantly across firms, industries and time. Companies are in various sizes and shapes. They could be single-owner enterprises or large multinational corporations with many shareholders cutting across geographical boundaries. The management of each firm normally makes dividend policy, but the nature of the share ownership can play an important role in that decision.

The hypothesis formulated "there is no significant relationship between the level of debt in capital structure and level of equity dividend" has been rejected in almost all the sectors. The inter-correlation matrix among variables in the regression models for various sectors also support that there is impact among the independent variables chosen for the study. the results of the cross-sectional OLS model for the selected sample firms under various sectors also show that there is a significant effect of selected independent variables, dividend policy $o = \alpha + \beta_1 \text{dividend policy ot-1} + \beta_2 \text{pat} + \beta_3 \text{tde} + \beta_4 \text{cf} + \beta_5 \text{size} + \beta_6 \text{inv} + \beta_7 \text{ltd} + \beta_8 \text{std} + e$. therefore, it is concluded that the dividend policy of small size, medium size, large size, and overall corporate firms across industries in India is independent of the level of debt in capital structure.

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