

Impact of Earnings Management on Dividend Policy: Empirical Evidence from India

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Abstract

In this paper we attempt to find whether earnings management affects dividend policy. We use discretionary accruals as a measure of earnings management. We first calculate total earnings by using the Sloan's model (1996) and non-discretionary accruals using Jones model²⁷. We then arrive at the discretionary accruals by taking the difference between the above two. We take the total dividend pay-out of our sample firms and then perform regression to find whether discretionary accruals are influencing the dividend policy. Our findings reveal that the discretionary accruals is an influencing factor in the dividend pay-out. We also find that, firm ownership, free cash flow and beta are also influencing variables.

Keywords: Earnings Management, Managed Earnings, Dividend Policy, Free Cash Flow, Firm Ownership, Beta

Introduction

Earnings management is 'a purposeful intervention in the external financial reporting process, with the intent of obtaining some private gain'⁴⁴. It is 'the process of taking deliberate steps within the constraints of generally accepted accounting principles to bring about a desired level of reported earnings' (Davidson, Stickney and Weil, (1987), cited in Schipper⁴⁴. Earnings Management has a lot in common with earnings quality and highly managed earnings have low quality³⁵. High Quality earnings is one that accurately reflects the company's current operating performance and is a good indicator of future operating performance, and is also a useful summary measure for assessing firm value¹² and especially the 'quality' of earnings is a function of a firm's fundamental performance¹³.

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In the present paper we attempt to investigate whether earnings management affects the dividend policy. Dividend paying firms tend to maintain a constant dividend pay-out history and like to avoid huge variations in the dividend pay-outs. To maintain consistency in pay-out there should be consistency in the earnings. Firms seem to manage earnings to reduce the variations in the earnings over a period of time, thus maintaining a consistency in the firm's earnings. It is possible to manage earnings firstly by altering the discretionary accruals or secondly by manipulating real operating activities such as providing discounts to temporarily increase sales, over producing to report lower cost of goods sold and reducing discretionary expenses like R&D, advertisement expenditure etc^{3,18,41}. (Zhang 2012). We look at earnings management from the perspective of discretionary accruals. We first quantify managed earnings by ascertaining the extent of discretionary accruals in a firm's total earnings and next we investigate whether this has any impact on the dividend policy.

Earnings of any firm comprise of cash from operations and total accruals. The total accruals is the sum of the discretionary accruals and non-discretionary accruals. Discretionary accruals are those accruals where a firm has the liberty to decide 'what and how much' should be treated as accruals in a particular situation. Non-Discretionary Accruals are obligatory in nature and the firm has no option in deciding the accruals. The studies of earnings management usually deal with the discretionary accruals, which are used as a measure of earnings management.

Dividends represent the primary and active decision variable of a company³². But this dividend pay-out is affected by various factors like earnings management, firm ownership, free cash flow and beta. Though there have been studies that have considered the impact of these factors individually, which have been studied in mature markets, we are yet to come across any comprehensive paper studying the relationship of all these variables with dividend pay-out in developing markets like India. We investigate the effect of these multiple variables on the dividend pay-out with a special focus on discretionary accruals of the Indian companies. The statistical results of this paper give evidence that earnings management represented by discretionary accruals is indeed an influencing factor in the dividend pay-out decisions.

The rest of the paper is organised as follows. In section 2, we formally state the objective of this paper, develop the testable hypotheses and formulate our empirical model. Section 3 discusses the data, the methodology employed, the variables in our empirical model and the correlation matrix between them and the descriptive statistics. Section 4 presents the empirical results. Section 5 briefs the contribution of the paper and concludes. The variable definitions are given in the Appendix.

Objectives and Hypothesis Development

The main objective of this paper is to find whether there is a significant association between managed earnings and dividend pay-out. We use a firm's discretionary accruals as a proxy for managed earnings and try to investigate its effect on the dividend pay-out.

Survey by Farrelley, Baker and Edelman (1989) shows that corporate managers believe that the dividend policy affects a firm's value and there exists some optimum dividend pay-out for each firm. Long³⁶ and Sterk and Vandenberg⁴⁷ conclude in their studies that dividend policy is a relevant variable in deciding the value of a firm. Sivakumar and Waymire (1993) find that the association between dividends and stock prices is strong. Healy and Palepu²² find that firms that initiate dividend payments have positive earnings changes both before and after the dividend policy change, while those omitting dividend payments have negative earnings changes. Kallapur²⁹, finds that earnings response coefficients depend positively on pay-out ratios. Grullon, Michaely, and Swaminathan¹⁹ find a positive market reaction to a dividend increase. Researchers have offered bird-in-hand, signalling, tax preference and agency as four common explanations for the relevance of dividend⁵ though there were counter views by Miller and Modigliani³⁷, Miller and Sholes³⁸, Jose and Stevens²⁸. There are studies that have observed the negative stock market reaction to the decrease or omission of dividends and also the perception of stock market about dividends. Shareholders over react to the dividend announcements and even in case of growth oriented dividend cuts the reaction was found to be strongly negative¹⁷. Since decisions on dividends are at the sole discretion of the management, it provides a clear and unambiguous signal of the direction of the future earnings of a firm². Regular dividends

represent a commitment to distribute cash that managers hate to break⁶. All these studies point out to the significance of dividend pay-outs and hence we take up this study concerning dividend pay-out.

Dividends are seldom paid by firms reporting losses (De Angelo et al. 1992). Dividend paying firms have a strong desire to maintain their historical dividend policy and that they target both dividend level and dividend pay-out ratio³³. Skinner and Soltes⁴⁵ find that the reported earnings of dividend-paying firms are more persistent than those of other firms and that this relation is remarkably stable over time. Hence we considered dividend pay-out as a dependent variable in our model.

Discretionary accruals have an influence on the dividend pay-out. Edelstein, Liu & Tsang¹⁵ studied how real estate investment trusts engage in real earnings management to mitigate effects of dividend pay-out regulations. In their Finnish study, Kasanen, Kinnunen, and Niskanen³⁰ show that firms manage earnings to smooth dividend streams for large institutional owners with a strong preference for stable dividends. Kato, Kunimura and Yoshida³¹ suggest that Japanese banks manage earnings in order to maintain dividends without violating the regulatory limit of a maximum of 40% of net income. We hypothesise as under:

H₁: A firm's discretionary accruals influence its dividend pay-out.

A firm's ownership - whether state-owned or not, affects its dividend policy. State-owned firms follow a constant and stable dividend pattern than the non-state-owned ones²⁴. Moreover the state-owned firms are eager to pay dividends and reluctant to diminish the dividend amount while that is not the case with the non-state-owned firms^{7,20,39,40}. This motivated us to include firm's ownership as an influencing variable in our model. Our hypothesis is:

H₂: A firm's ownership influences its dividend pay-out

Free cash flow is another factor that influences the dividend pay-out. It helps the firm to share their earnings with the shareholders and also repay debt to reduce the possibility of funds being invested in productive projects^{4,25,26}. Alli et al. (1993) disclose that dividend payments depend more on cash flows, which reflect the company's ability to pay dividends, than on current earnings, which are less heavily influenced

by accounting practices. In the light of the findings from the above previous studies we included free cash flow as a control variable in this paper. Accordingly our hypothesis is:

H₃: A firm's free cash flow influences its dividend pay-out

Firms with high *beta coefficient value* are more likely to choose costly external financing, other things being equal. So, purposefully they choose lower dividend pay-out ratios. Rozeff⁴² find a significant negative association between a firm's beta coefficient and its dividend pay-out ratio. Lloyd et al³⁴, and Collins et al⁸ using beta value as a firm's market risk indicator, found its negative relationship with the dividend pay-out. Similar results were obtained by D'Souza¹⁴. So Beta was included as a control variable and accordingly we had our hypothesis as under:

H₄: A firm's Beta influences its dividend pay-out.

The preceding discussion shows the effect of various other factors besides discretionary accruals on the dividend pay-out.

Empirical Model

In line with previous studies we look at dividend pay-out as a function of discretionary accruals, the firm ownership (whether state owned or not), free cash flow, and beta and evolve the following model:

$$\begin{aligned}
 \text{Dividend PayOut}_t = & \beta_0 + \beta_1 \text{Discretionary Accruals}_t \\
 & + \beta_2 \text{Firm Ownership}_t \\
 & + \beta_3 \text{Free Cash Flow}_t \\
 & + \beta_4 \text{Beta}_t + \beta_5 T_2 + \beta_6 T_3 \\
 & + \beta_7 T_4 + \beta_8 T_5 + e_t
 \end{aligned} \tag{1}$$

Methodology and Variable Measurement

Data

Our longitudinal study consists of panel data for five year period 2009-10 to 2013-14. Since the dynamics of creating accruals are different for financial firms, they have been excluded from the sample and so also the foreign firms. We considered only the 142 non-financial Indian firms in this study.

Methodology

We collected the data from Prowess CMIE which consisted of 19,992 Indian non-financial companies. Since listed companies have an additional scrutiny and disclosure norms stipulated by stock exchanges and Securities Exchange Board of India (SEBI) besides those under the Companies Act, we considered BSE 200 companies. After removing financial companies from BSE 200 companies we were left with 155 non-financial companies. Using the identity indicators of Prowess we classified these 155 companies based on their ownership type into domestic (142) and foreign (13). The constituent foreign companies in the BSE 200 are listed abroad in their native countries also where the disclosure norms and accounting procedures are much more stringent than in India which would minimise the chances of managing earnings. So the accounting figures of these companies may not reflect the same philosophy as that of Indian companies and as such these two sets of companies become incomparable. Hence we excluded foreign companies from our sample. So finally we considered only the 142 Indian companies as our final sample.

Variable Measurement

Dividends Pay-Out: Skinner⁴⁵ reports that many firms use repurchases in conjunction with dividends to pay out earnings. Stock repurchases are not as informative about earnings quality as dividends due to lack of commitment in the former. We find evidence in the study by Skinner⁴⁶ which finds that firms that make repurchases have less persistent earnings than firms that pay regular dividends but a more persistent earnings than firms that do not make any pay-outs to stockholders. Similarly, Jagannathan et al. (2000) find that dividend payers are likely to have relatively high permanent operating cash flows while repurchases are more likely to have temporary non-operating cash flows which provides evidence about the higher persistence of the earnings in dividend paying firms than those repurchasing shares. In the light of these preceding discussions, we considered only the dividend pay-outs in our model but not repurchases.

Discretionary Accruals: For the set of 142 companies we calculate the Discretionary Accruals (DA). Earlier researchers attempted to quantify

earnings management using different models. There are mainly five models viz. Healy model (1985), DeAngelo model⁹, Jones model²⁷, Dechow and Sloan's industry model (1991) and modified Jones model (1995). We employ a three-stage computation in measuring discretionary accruals using Sloan (1996) model and modified Jones model (1995).

In the first stage, we calculate the Total Accruals (TA) by using Sloan (1996) model viz.

$$TA = (\Delta CA - \Delta Cash) - (\Delta CL - \Delta STD - \Delta TP) - Dep \quad (2)$$

Where for a firm in a given year,

TA = Total Accruals

ΔCA = Change in Current Assets

$\Delta Cash$ = Change in Cash and Cash Equivalents

ΔCL = Change in Current Liabilities

ΔSTD = Change in Short Term Debt

ΔTP = Change in Tax Payables

Dep = Depreciation and Amortisation Expenses

Debt in current liabilities is omitted from accruals because it pertains to financing transactions as divergent to operating transactions. Income taxes are also omitted from accruals for uniformity with the definition of accruals employed by Sloan (1996). The cash component of the earnings is the difference between the net earnings and the total accruals. A cross sectional analysis has been done to find out the extent of earnings and for the easing of which we standardized the total accruals by the lagged total assets.

In the second stage, we calculate the non-discretionary accruals (NDA) using Modified Jones Model as formulated by Dechow¹¹ as under:

$$NDA = \alpha_1 \left(\frac{1}{A_{t-1}} \right) + \alpha_2 (\Delta REV_t - \Delta REC_t) + \alpha_3 (PPE_t) \quad (3)$$

Where

A_{t-1} = Total Assets during the Previous Year

ΔREV_t = Change in the current year's revenue over the previous year scaled by total assets during the previous year

ΔREC_t = Change in the current year's receivables over the previous year scaled by total assets during the previous year

PPE = Value of Plant Property and Equipment during the current year scaled by total assets during the previous year

$\alpha_1, \alpha_2, \alpha_3$ = Firm specific parameters

Estimates of the firm specific parameters are generated using the following Dechow¹¹ model in the estimation period:

$$TA = a_1 \left(\frac{1}{A_{t-1}} \right) + a_2 (\Delta REV_t - \Delta REC_t) + a_3 (PPE_t) + \vartheta_t \quad (4)$$

a_1, a_2, a_3 denote the OLS estimates of $\alpha_1, \alpha_2, \alpha_3$ and TA is the total accruals standardized by lagged total assets.

In the third stage, the Discretionary Accruals (DA) are calculated as the difference between Total Accruals(TA) and Non-Discretionary Accruals (NDA).

$$DA = TA - NDA \quad (5)$$

We base this logic on the total accruals estimation formula given by Nicholas and Wilson (1988) viz., $TACC = NDACC + DACC$.

Firm Ownership: We considered firm ownership as one of the four independent variables in our model. We considered the share holding pattern of the companies looking at who holds how much percentage of shares. We collected the details of the ownership from Prowess. For this, we chose the ownership group indicator under the identity indicators query. This being a dummy variable, we assigned 1 to those firms where majority shares are held by Government and 0 to other firms.

Free Cash Flow: For the calculation of free cash flow, we add depreciation and amortisation to Profit after tax and deduct changes in working capital and the capital expenditure from this sum. We get all these figures from the 'Annual Financial Statements' query in Prowess.

Beta: Beta represents the volatility of a firm's earnings vis-à-vis market earnings. We extract data pertaining to beta from the 'stock prices and ratios' query of Prowess.

Descriptive Statistics

The summary statistics are presented in Table 1, which shows that the mean dividend pay-out as a percentage of PAT is 30.52 and the median is 23.82 the minimum being 0 and the maximum was 1,882. The mean discretionary accruals was -0.15 while the median was -0.13, the maximum being 0.97. The mean beta is 0.93 with a maximum of 2.87. The free cash flow was 11,967 million the maximum value of which was 674,410 million.

Correlation Matrix

The correlation matrix is presented in Table 2. It shows that the Dividend Pay-out ratio is negatively correlated with discretionary accruals and beta but positively correlated with firm ownership dummy and free cash flow. The findings at the Univariate level are consistent with the prediction of our model. Discretionary accruals is negatively correlated with firm ownership dummy and free cash flow but positively correlated with beta. Firm ownership dummy is positively correlated with free cash flow but negatively correlated with beta. Free cash flow is negatively correlated with beta.

Table 1: Descriptive statistics of the four variables in equation 1 for 142 companies for the 5 year period 2010 to 2014

Measure	Mean	Median	Std. Dev	Min	Max
Dividend Pay Out	30.52	23.82	76.79	0.00	1,881.62
Discretionary Accruals	-0.15	-0.13	0.16	-1.19	0.97
Beta	0.93	0.91	0.43	0.00	2.87
Free Cash Flow (Rs.Mn.)	11,966.56	3,328.40	49,791.15	-308,657.50	674,410.00

This table presents the mean, median, standard deviation, minimum and maximum values of each variable in our sample. Our initial sample consisted of 155 companies in BSE companies. We restricted our analysis to 142 Indian companies in the sample covering a period of 5 years between 2010 and 2014.

Table 2: Correlation Matrix

Variable	LN DPO	Disc Acc	Firm Ownership	LN FCF	Beta
LN DPO	1.000				
Disc Acc	-0.211	1.000			
Firm Ownership	0.169	-0.146	1.000		
LN FCF	0.169	-0.242	0.040	1.000	
Beta	-0.258	0.220	-0.064	-0.133	1.000

This table presents the Spearman correlation matrix for the variables in our sample. Our initial sample consisted 155 companies in BSE companies. We restricted our analysis to 142 Indian companies in the sample covering a period of 5 years between 2010 and 2014.

Empirical Results

Calculation of Discretionary Accruals

As a first step we had to calculate the value of Total Accruals. Using Sloan Model (1996) shown in equation 2, we calculated the value of total accruals. Then we had to calculate non-discretionary accruals for which we had first to ascertain the values of a_1 , a_2 , a_3 in equation 4, using the values of four variables for the years 2010 to 2014 for 142 firms viz. total accruals, inverse of previous year's total assets, difference between the change in the revenues and receivables and plant, property and equipment. Using regression equation 4 we calculated the values of a_1 , a_2 , a_3 , the results of which were as shown in the following Table 3.

The R squared is low at 0.0515193 which is in tune with the study of Haider²¹. The Anova results showed a significance value of 0.0000042 which imply a high significance of the equation. The value of inverse of previous year's total assets was -196.1352, difference between the changes in revenue and receivables standardised with previous year total assets was -0.062036 and plant, property and equipment standardised by lagged total assets was 0.123633.

Substituting these values in equation 3, we calculated non-discretionary accruals. We than replaced the values of total accruals and non-discretionary accruals in equation 5 and calculated the value of discretionary accruals.

Table 3: Values of the OLS estimates for the three firm specific parameters in equation 4

Regression R Squared	0.0515193
Anova Regression	0.0000042
Variable	Coefficients
$1/(A_{t-1})$	-196.1352
$(\Delta\text{Rev}-\Delta\text{Rec})/(A_{t-1})$	-0.062036
$\text{PPE}/(A_{t-1})$	0.123633

This table presents the results of the regression analysis which was employed to find the values of each of the three variables in equation 4. Our initial sample consisted 155 companies in BSE companies. We restricted our analysis to 142 Indian companies in the sample covering a period of 5 years between 2010 and 2014.

Results

We subsequently employed regression analysis to measure the impact of four variables on a firm's dividend pay-out decisions viz. discretionary accruals, firm ownership, free cash flow and beta. The variable definitions are given in the Annexure.

The results of the regression analysis for the variables in our empirical model are given in Table 4.

The regression analysis for our model has given an R Square of 0.1267 which means that the variables in our model viz. discretionary accruals, firm ownership, free cash flow and beta explain about 12.5% variance in the dependent variable viz. dividend pay-out. Our model is significant since our P-value is $5.320\text{E}-17$ which well below the generally accepted value of 0.05. We find that the p-value of discretionary accruals, firm ownership, free cash flow and beta are all statistically significant at 99% confidence level and hence we are able to accept the hypotheses that a firm's discretionary accruals, its ownership, free cash flow and beta have significant influence on dividend pay-out. .

Our results clearly indicate that earnings management is an important variable in the dividend pay-out decisions.

Table 4: Results of the Regression Analysis for the Equation 5

R Square	0.126		
Adjusted R Square	0.116		
Anova P-Value	5.320E-17		
Variable	Coefficients	t Stat	P-value
Discretionary Accruals	-0.978	-3.227	0.001***
Firm Ownership	0.488	3.729	0.000***
Free Cash Flow	0.032	2.688	0.007***
Beta	-0.617	-5.867	0.000***

* Denotes significance at the 10-percent level.

** Denotes significance at the 5-percent level.

*** Denotes significance at the 1-percent level.

This table presents the results of the regression analysis which was employed to find the significance of the variables in equation 5. Our initial sample consisted 155 companies in BSE companies. We restricted our analysis to 142 Indian companies in the sample covering a period of 5 years between 2010 and 2014.

Conclusion

This paper adds to the current literature on informational content of dividends. This paper gives evidence that there is a significant association between discretionary accruals and dividend pay-out. The existing literature speaks about the changes in stock prices and future earnings as a result of changes in dividend pay-outs. However, we contribute to the existing literature by providing an empirical evidence that dividend pay-out is an indicative variable to explain about the quality of earnings.

This paper merely records the association between the earnings quality and the dividend payment. Though we control the effect of variables identified in prior research like the firm ownership, free cash flow and beta, we cannot altogether eliminate concerns about the presence of other unidentified factors that may be influencing the dividend pay-out. However, we are certain that the findings of this study will be of interest to policymakers, investors and academics. These participants are concerned about the quality of earnings because it affects the level of informational asymmetry between managers and investors which in turn,

affects firms' activities and its value^{1,23}. The payment of dividends will discourage companies from reporting artificial profits that do not result in realization of actual cash flows to support cash dividends (Glassman 2005). In an environment whose reported earnings are viewed with some degree of scepticism, cash dividends will provide a very strong signal to investors of true financial strength and of the credibility of earnings reports (Malkiel, 2003). These illustrations suggest that some policymakers, investors, and academics believe that dividends point towards the quality of earnings.

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Appendix

Variable Definitions

This appendix presents the variable description, sources and definitions of the variables employed in the analysis.

Variable	Definition
Dividend Pay Out	Log of the Dividend Pay-out defined as Dividend as a percentage of Profit After Tax
Discretionary Accruals	Log of Absolute Discretionary Accruals calculated using modified Jones model by Dechow et al. ¹¹
Firm Ownership	Whether a firm is State Owned (1) or Not (0)
Free Cash Flow	(Profit After Tax)+(Depreciation and Amortisation) - Changes in Working Capital – Capital Expenditure
Beta	Volatility of a firm's earnings vis-à-vis market earnings
A_{t-1}	Total Assets during the Previous Year
ΔREV_t	Change in the current year's revenue over the previous year scaled by total assets during the previous year
ΔREC_t	Change in the current year's receivables over the previous year scaled by total assets during the previous year
PPE	Value of Plant Property and Equipment during the current year scaled by total assets during the previous year
$\alpha_1, \alpha_2, \alpha_3$	Firm specific parameters
TA	Total Accruals in the current year
ΔCA	Change in Current Assets in the current year over the previous year
$\Delta Cash$	Change in Cash and Cash Equivalents in the current year over the previous year
ΔCL	Change in Current Liabilities in the current year over the previous year
ΔSTD	Change in Short Term Debt in the current year over the previous year
ΔTP	Change in Tax Payables in the current year over the previous year
Dep	Depreciation and Amortisation Expenses in the current year