

Determinants of Dividend Payout Ratio: Evidence from Indian Companies

Nishant B. Labhane (Corresponding author)

Senior Research Fellow, Department of Humanities and Social Sciences

Indian Institute of Technology Kharagpur, Kharagpur - 721302, West Bengal, India

Tel: 91-738-448-0866 E-mail: nishant.labhane@hotmail.com

Ramesh Chandra Das

Senior Research Fellow, Vinod Gupta School of Management

Indian Institute of Technology Kharagpur, Kharagpur-721302, West Bengal, India

Tel: 91-900-288-3115 E-mail: rameshchandradas99@gmail.com

Received: August 7, 2015 Accepted: August 21, 2015

doi:10.5296/ber.v5i2.8154 URL: <http://dx.doi.org/10.5296/ber.v5i2.8154>

Abstract

The present study analyzes the trend and determinants of dividend payout ratio of National Stock Exchange (NSE) listed companies in India. The study is based on 239 companies, which have continuous data during the period 1994-95 to 2012-13. From the trend analysis we find that the number of dividend paying companies has declined but the average dividend paid by them has increased manifold over the last two decades which suggests that the dividend paying companies have paid higher amounts of dividends in the later years. The dividend payout ratio varies across all the industries with the electricity industry having the lowest payout ratio and the miscellaneous manufacturing industry having the highest payout ratio. The empirical results suggest that firms with high free cash flow, firms which are larger, more profitable and mature, pay more dividends while riskier, more leveraged and firms with high investment opportunities tend to pay lower dividends. The dividend distribution tax rate imposed by government affects the dividend payout ratio positively. The market-to-book ratio, debt-to-equity ratio, free cash flow, business risk, age, size, profitability and dividend distribution tax variables are significant for the entire period of study. Whereas, the business risk, profitability and dividend distribution tax variables are significant for the entire period of study i.e. 1995-2013 as well as for the two sub-periods 1995-2003 and 2004-2013. Overall,

the results are consistent with the pecking order, transaction cost, signaling and firm life cycle theory of dividend policy and we find a little evidence for agency costs theory.

JEL Classification: G30; G35

Keywords: Dividends, Dividend policy, Dividend payout ratio, Dividend yield, Dividend policy theory

1. Introduction

Dividend is that portion of firm's earnings distributed to its shareholders as decided by company's board of directors. The dividend decisions are a type of financing decisions that affects both the shareholder's wealth and its ability to retain earnings and the dividend policy is that payout policy which determines the amount and form of cash distributed to shareholders over time. For about six decades now the dividend policy is a key research area in finance for stockholders, managers, financial analysts and academicians (Ang, 1987). Yet, after a considerable amount of research no consensus has reached about why firms pay dividends and why investors pay attention to dividends and it remains a "dividend puzzle," as coined by Black (1976).

Miller and Modigliani (1961) put forward dividend irrelevance proposition which states that in a complete and perfect market with no taxes, zero transaction, agency costs, and full availability of information the dividend policy does not change shareholders' wealth. However, the capital market is neither perfect nor complete in the real world and the dividend policy of a firm affects the shareholder's wealth. By relaxing the assumptions of Miller and Modigliani the researchers have given different theories of dividend policy over the year to explain why firms pay dividends. These theories of dividend policy include tax clientele, signaling, agency cost and firm life cycle theory (Jensen and Meckling, 1976; Litzenberger and Ramaswamy, 1979; Bhattacharya, 1979; Aharony and Swary, 1980; Rozeff, 1982, Easterbrook, 1984 and DeAngelo and DeAngelo, 2006). Though an extensive empirical research is carried out in the area of dividend policy, yet to date, there is no general consensus on the factors affecting dividend policy of a firm and the way in which these factors interact (Bhattacharyya, 2007).

The present study examines the trend and determinants of dividend payout ratio of 239 companies listed on National Stock Exchange (NSE) in India during the period from 1994-95 to 2012-13. The sample is selected from National Stock Exchange (NSE) because it was established in the eve of economic policy reforms in the country and all the listed companies on it are required to follow the financial reporting norms set by Securities and Exchange Board of India (SEBI). We exclude financial services and utilities sector companies from the sample as the regulation norm and the accounting practices followed by these companies are different from others (Fama and French, 2001). And the public sector companies are excluded from the sample as their dividend policies are influenced highly by social obligations and government's financial considerations.

This study is different from previous studies carried out in Indian context; in particular, to Singhania and Gupta (2012) study in two aspects. First, the study examines the trends and

determinants of dividend payout ratio of National Stock Exchange (NSE) listed companies in India over a quite longer period of time i.e. 1995 to 2013 comprising of both the post-liberalization period (1995-2003) as well as the period of second-generation reform in India (2004-2013). Whereas, previous studies, in particular, Singhania and Gupta (2012) focused mainly on examining determinants of dividend payout ratio with less focus on the trends of dividend payout ratio of National Stock Exchange (NSE) listed companies in India. Second, the study employs static panel data models such as fixed effects and random effects models that are used to investigate the determinants of dividend payout ratio over time while Singhania and Gupta (2012) only employed Tobit regression model that does not provide understanding about the trends of dividend payout ratio of National Stock Exchange (NSE) listed companies in India.

We find that the number of dividend paying companies has declined but the average dividend paid by them has increased manifold over the period. The result suggests that high free cash flow, larger, more profitable and mature firms pay more dividends while riskier, more leveraged and firms with high investment opportunities tend to pay lower dividends. The dividend distribution tax rate imposed by the government affects the dividend payout ratio positively. The findings support the pecking order, transaction cost, signaling and firm life cycle theory of dividend policy and we find a little evidence for agency costs theory.

The rest of the paper is organized as follows. Section 2 discusses the empirical literature on determinants of dividend payout ratio; Section 3 discusses the measures and determinants of dividend policy; Section 4 describes the model specification and methodology; Section 5 describes the data and period of study; Section 6 analyses the characteristics of dividend paying companies; Section 7 reports the empirical findings of the study and the last section concludes the paper.

2. Review of Literature

Researchers have given a number of theories that explain the major determinants of dividend policy of a firm. These theories include the tax preference, agency cost, pecking order, transaction cost, signaling theory and firm's life cycle theory of dividend that gives the key factors that determine the dividend payment decision of a firm. This part of the paper reviews a brief literature about the factors affecting the dividend policy of a firm and their empirical evidence for and against the dividend policy theories.

Lintner (1956) finds that firms maintain a target payout ratio and adjust their dividend policy to this target with a specific speed of adjustment and firms pursue a stable dividend policy in a long-run and that managers believe that investors should prefer companies with stable dividend policy. Brittain (1966) examines the corporate dividend policy during 1919-1960 and finds that the capacity of a firm to pay dividends is better explained by cash flows i.e., profits after taxes plus depreciation as a variable rather than the profits net of taxes, as it reflects true earnings. Using data for 392 major industrial companies in USA, Fama and Babiak (1968) study the dividend policy during 1946-1964 and find that the net income included as separate variables in the model provides a better measure of dividend than either cash flows or net income and depreciation.

Pruitt and Gitman (1991) in their study find that the current and past years' profits and risk (year-to-year variability of earnings) as important factors influencing dividend payment decision of a firm. The more profitable firm and firm with relatively stable earnings pay out a higher proportion of their earnings. The dividend payment decision depends more on cash flows than on current earnings as the cash flows reflect the company's ability to pay dividends and the company's current earnings are less heavily influenced by accounting practices (Alli, et al., 1993). In an empirical study Mullah (2001) reports that the major determinants of dividend payout policy of firms' enlisted on the Bangladeshi stock market are the size of the firm, the debt ratio, collate realizable assets and the level of inside ownership and supports the agency cost and transaction cost hypotheses. Fama and French (2001) find that dividend paying firms are larger, more profitable and have few investment opportunities than the non-dividend paying firms which are smaller, less profitable, have more investment opportunities, and their investment outlays are much larger than their earnings.

Examining the dividend payout policies of firms listed on the Bombay Stock Exchange (BSE), Manos (2002) finds that the major determinants of dividend payment decisions are the level of ownership structure and growth rate in sales and find evidence in support of an agency cost and transaction cost hypotheses. Aivazian and Booth (2003) find that the firms with relatively less debt in total capital are more likely to pay dividends as they have greater financial slack and are able to maintain their dividends and thus, support the fact that financial constraints can affect dividend payment decisions. DeAngelo, et al., (2006) find that dividend paying firms are larger, more profitable and have less investment opportunities and further, they find that the firms with high proportion of mix of earned to contributed capital, a proxy for the firm's lifecycle stage are more likely to pay dividends as they are less dependent on external capital. Denis and Osobov (2008) find that the probability of paying dividends is significantly associated with the firm size, profitability, growth opportunities, and the mix of earned and contributed capital for the firms operating in six countries i.e. USA, UK, Canada, France, Germany, and Japan. Examining the Tourism companies listed in the Amman Exchange Al-Shamaileh and Khanfar (2014) find the statistically significant impact for the financial leverage on the profitability. Li and Wang (2014) examine the association between intangible assets and financial performance of the listed Information Technology firms in Hong Kong exchange market and find that both R&D expenditure and sales training affects ROA positively.

We find a few studies in Indian context that have analyzed the factors affecting the dividend payment decision of a firm. Dhemeja (1976) studies the dividend behavior of Indian companies and finds that the dividend policy has an inverse relationship with growth opportunities while dividend policy does not have any significant relationship with size and industry classification. Using the model developed by Lintner (1956), Mahapatra and Sahu (1993) analyse the determinants of dividend policy of a sample of 90 companies during 1978-1999 and find that cash flow followed by net earnings are the major determinant of dividend policy and that the past dividends and not past earnings affect the dividend payment decision of company significantly. Bhat and Pandey (1994) find that the current earnings and past dividend patterns are the significant factors affecting the dividend payment decision of a

company and for making the dividend decision, the company considers the increase in equity-base and expected future earnings and further, they find that liquidity of a company does not have any impact on the determination of dividend policy.

Narasimhan and Asha (1997) investigate the impact of taxes on the dividends during the period from 1997 to 1998 and find that the tax burden imposed by the Union Budget of India fell directly on the firms rather than the shareholders. The major determinants of dividend payout policy of firms are the systematic risk, firms' number of common stockholders, forecasted growth rate of earnings and past revenue growth rate (Sexena, 1999). Mohanty (1999) examines the dividend policy of 200 companies for the period of 15 years to find the impact of bonus issue on the behavior of dividend paying companies and find that the dividend rates are the main factor deciding the dividend policy as compared to dividend payout ratio. Mahakud (2005) examines the impact of shareholding pattern on dividend pay-out ratio of the Indian companies listed in Bombay Stock Exchange (BSE) during 2001-2004 and finds that the lagged earnings, sales and size of the company are positively associated, whereas, debt-to-equity ratio and institutional shareholding pattern are negatively associated with the dividend payment decision. Only two factors are the key determinants of dividend policy that are the liquidity position i.e. cash flow and the risk i.e. beta value of a firm (Kanwal and Kapoor, 2008).

3. Empirical Framework

3.1 Measure of Dividend Policy

There are two widely used measures for dividend policy one is dividend payout ratio and other is dividend yield. The dividend payout ratio is defined as the ratio of total annual dividend paid to profit after tax. The dividend yield is defined as the annual dividend paid per share divided by market price per share. The dividend payout ratio is used in different situations first it is used in valuation for estimating dividends in future periods, second the retention ratio derived from it is used to estimate growth in future earnings, third it tends to follow the life cycle of a firm and indicates the maturity of a firm. The dividend yield is used to measure the returns in the form of dividends and price appreciation and the risk associated with the investment in stock.

$$\text{Dividend Payout Ratio} = \frac{\text{Annual Dividend Paid}}{\text{Profit After Tax}}$$

$$\text{Dividend Yield} = \frac{\text{Annual dividend paid per share}}{\text{Market price per share}}$$

3.2 Determinants of Dividend Payout Ratio

3.2.1 Pecking Order Theory

According to this theory companies finance the new investment opportunity from their internal finance first and if external finance is required they issue debt finance before equity

finance so as to reduce the information asymmetry costs and transaction costs (Myers and Majluf, 1984). The theory suggests that the companies having high growth rate will generally experience high investment requirements and in turn will have lower payout ratio. We hypothesize a negative relationship between the dividend payout ratio and the investment opportunity and it is proxied by the market-to-book ratio defined as market value of equity divided by book value of equity.

3.2.2 Transaction Cost Theory

This theory states that the firms having higher proportion of debt finance in total capital will have higher level of commitment to pay the fixed interest charges and this will reduce the dividend payment to common equity shareholders (Higgins, 1972 and Fama, 1974). When a firm raises capital from debt finance it is committed to pay the fixed interest charge on the debt and the principal amount, in case of failure the firm has to undergo liquidation. Thus, the risk involved in the higher ratio of financial leverage will outcome in the lower dividend payment because holding other things constant, a firm requires the internally generated profit to pay the interest obligation rather than paying it to the common equity shareholders in the form of dividends. We hypothesize a negative relationship between the level of financial leverage and dividend payout ratio and it is proxied by debt-to-equity ratio defined as the ratio of total debt to total equity.

3.2.3 Agency Cost Theory

According to this theory the agency problem arises between the principal owner (shareholders) and agent (manager) when the manager takes the actions which are not beneficial to shareholders and are in their own self interest. For example, they may expend richly on perk or overinvest in negative NPV projects or enlarge the firm's size beyond its optimal capacity as the reward of manager is related with the size of the firm. The payment of dividend to common equity shareholder will reduce the excess free cash flow available with the manager thereby reducing the agency problem between the manager and shareholders (Jensen and Meckling, 1976; Rozeff, 1982 and Easterbrook, 1984). The free cash flow measured as the net operating cash flow scaled by total assets is considered as a proxy for the agency problem between shareholders and manager and we expect a positive relation between the free cash flow and dividend payout ratio. The agency problem may also arise between the bondholders and shareholders. The higher proportion of tangible or collateralizable assets will ensure higher level of protection for the bondholders thereby reducing the agency problem arising due to the conflicts between the bondholders and equity shareholders. Thus, the tangible assets measured as the ratio of net fixed assets to total assets are considered as a proxy for the agency problem between the bondholders and shareholders and we expect positive relationship between the tangible assets and dividend payout ratio.

3.2.4 Signaling Theory

The signaling theory suggests that there exists information asymmetry between the insider (managers) and outsiders (shareholders). The managers have private information about the firm's current condition and future prospects which is not known to the outsiders. The

managers can convey this private information to the shareholders in the form of dividend (Bhattacharya, 1979, John and Williams, 1985, and Miller and Rock, 1985). Thus, dividend acts as signaling device and managers can receive incentives for communicating the private information to the outsiders. Business risk defined as standard deviation of first difference of operating income divided by total assets is the uncertainty about the firm's current and future prospects and we hypothesize a negative relationship between business risk and dividend payout ratio.

3.2.5 The Firm Life Cycle Theory of Dividends

The life cycle theory proposed by Mueller (1972) states that any firm has a well defined life cycle and is fundamental to the firm life cycle theory of dividend. The mature firms have less investment opportunities, more accumulated profit and retained earnings which cause them to pay more dividends. In contrast to this, younger firms are in the stage of new growth opportunities and need to build reserves of profit to finance their growth opportunities which result in less dividend payment (DeAngelo, et al., 2006). The life cycle variable age is used as a proxy for this study which is defined as the year from which the company has been into existence and we hypothesize a positive relationship between age and dividend payout ratio.

3.2.6 Other Control Variables

In addition to the proxy variables taken from different dividend policy theories there are other variables which may affect the dividend payment decision but do not explicitly relate to the dividend policy theories mentioned above. These variables are the firms' size, liquidity position, profitability and the dividend distribution taxes. These proxy variables are described in the following way:-

Firm Size:

The size of the firm may also affect the dividend payment decision of a firm. The larger firms generally have higher proportion of institutional shareholding pattern which in turn will have easy access to capital market that leads them to pay higher amount of dividend. Other reason can be that the larger the size of the firm more it would be difficult to monitor the firm which increases the agency problem between the managers and the shareholders. Thus larger firms need to pay more dividends in order to reduce the agency problem. We have chosen the natural log of market capitalization as a proxy for size and we hypothesize a positive relation between the firm's size and dividend payout ratio.

Liquidity position

It may happen that a firm can have enough profits to declare the dividends but not sufficient cash in hand to pay the dividends. The payment of dividend means outflow of cash for a company. Thus, it is expected that the dividend decision of firm is affected by the liquidity position of firm. Higher liquid firms are able to pay higher dividend due to the excess amount of cash. The current ratio is used to measure the liquidity position of a company and it is defined as the ratio of current assets to current liabilities and we expect a positive relation between the current ratio and dividend payout ratio.

Table 1. Theories and Identified Proxy Variables Name

Name of Theory	Proxy Variable(s) Identified	Expected Relation
Pecking order Theory	Investment Opportunities: MBR : Market-to-book ratio measured as the ratio of market value of equity to book value of equity	Negative
Transaction cost Theory	Financial Leverage: DER : Debt-to-equity ratio measured as the ratio of total debt to total equity	Negative
Agency cost Theory	Free Cash Flow: FCF : Free cash flow measured as the net operating cash flow scaled by total assets	Positive
	Tangibility of Assets: TANG : Measured as the ratio of net fixed assets to total assets	Positive
Signaling Theory	Business Risk: BR : Standard deviation of first difference of operating income divided by total assets	Negative
Firm Life Cycle Theory	Year of Incorporation: AGE: Age of firm measured as the year the firm has been into existence	Positive
Other Control Variables	Size: MCAP : Size of firm measured as natural log of market capitalization	Positive
	Liquidity Position : CR : Current ratio which is measured as current assets divided by current liabilities	Positive
	Profitability : ROA: A firm's return on assets measured as earnings before interest and taxes divided by the total assets	Positive
	Dividend Tax : DDT: Dividend distribution tax measured as dividend distribution tax divided by profit after tax	Negative

Profitability:

In a survey Lintner (1956) finds that the key factor affecting the dividend decision of a firm is the net earnings. In another study Fama and French (2001) find that the larger and more profitable firms pay more dividends as compared to smaller and less profitable firms. As the dividends are paid directly from the profit after tax, it is logical that the profitability of firm affects the dividend payments. We use return on assets defined as the earnings before interest and taxes divided by the total assets, as a proxy for profitability and we expect a positive relation between return on assets and dividend payout ratio.

Dividend Distribution Tax:

It is suggested by many researchers that the taxation policy of government may affect the

dividend payment decision of a firm negatively. In a country like India the higher corporation tax rates increase the burden of tax payments for a firm and reduce the after tax profit thereby reducing the amount available for dividend payment (Panda and Lall, 1993, Damodaran, 2000 and Kamat and Kamat, 2013). The dividend distribution tax measured as dividend distribution tax divided by profit after tax is considered as a proxy for examining the effect of taxes on dividends and we hypothesize a negative relationship between the dividend distribution tax and dividend payout ratio.

4. Model Specification and Methodology

4.1 Model Specification

Both the theoretical and empirical studies on dividend policy have found that the firm-specific characteristics such as investment opportunity, financial leverage, free cash flow, tangibility of assets, business risk, age of firm, size, liquidity position and profitability and macro-economic factors such as dividend distribution tax are the major factors affecting the dividend payout ratio of a firm (Jensen, et al., 1992; Holder, et al., 1998; Fenn and Liang, 2001; Mollah, 2011 and Patra, et al., 2012). As per the different theories of dividend policy the nature of the relationship between dividend payout ratio and its determinants is shown in the table 1.

Following the above mentioned theories the model is specified as follows:

$$Y_{it} = \alpha + \beta_1 MBR_{it} + \beta_2 DER_{it} + \beta_3 FCF_{it} + \beta_4 TANG_{it} + \beta_5 BR_{it} + \beta_6 AGE_{it} + \beta_7 MCAP_{it} + \beta_8 CR_{it} + \beta_9 ROA_{it} + \beta_{10} DDT_{it} + \varepsilon_{it} \quad (1)$$

where,

$Y_{it} = DPR_{it}$ or $DYLD_{it}$, DPR_{it} = dividend payout ratio for firm i in period t, $DYLD_{it} =$

dividend yield for firm i in period t, MBR_{it} = is market-to-book ratio measured as the ratio

of market value of equity to book value of equity for firm i in period t, $DER_{it} =$ is

debt-to-equity ratio measured as the ratio of total debt to total equity for firm i in period t,

FCF_{it} = is free cash flow measured as the net operating cash flow scaled by total assets for

firm i in period t, $TANG_{it}$ = is tangibility of assets measured as the ratio of net fixed assets

to total assets, BR_{it} = is business risk measured as the standard deviation of first difference

of operating income divided by total assets for firm i in period t, $AGE_{it} =$ is age of firm

measured as the year the firm has been into existence for firm i in period t, $MCAP_{it} =$ is

size of firm measured as natural log of market capitalization for firm i in period t , CR_{it} = is liquidity position of a firm measured as current assets divided by current liabilities for firm i in period t , ROA_{it} = is a firm's profitability measured as earnings before interest and taxes divided by total assets for firm i in period t , DDT_{it} = is a tax variable measured as dividend distribution tax divided by profit after tax for firm i in period t , α is a constant, β s are the slope coefficients, ε_{it} is the error term for firm i in period t .

4.2 Methodology

The static panel data model such as the fixed effects model and random effects model are used to find the determinants of dividend payout ratio. A panel data set is one that follows a given sample of individuals over time, and thus provides multiple observations on each individual in the sample. If we assume that the slope coefficients are constant but the intercept varies over individuals then that model is defined as fixed effects model. On the other hand if we assume that individual heterogeneity is random rather than systematic in the model then this model is called as random effects model.

$$Y_{it} = \alpha + \beta' X_{it} + \varepsilon_{it} \quad (\text{Pooled Model}) \quad (2)$$

$$Y_{it} = \alpha_i + \beta' X_{it} + \varepsilon_{it} \quad (\text{Fixed Effects Model}) \quad (3)$$

$$Y_{it} = \alpha + \beta' X_{it} + (\varepsilon_{it} + \mu_i) \quad (\text{Random Effects Model}) \quad (4)$$

The statistical test such as F- Test, Restricted F- Test, Breusch and Pagan LM (Lagrange Multiplier) test and Hausman Test are used to find out a suitable model for estimating the equation (1). The F-test of statistics is used to test the hypothesis that all the slope coefficient in equation (1) are simultaneously equal to zero i.e. to say that all regressors in the model have no impact on the dependent variable. Breusch and Pagan LM (Lagrange Multiplier) test decide the suitable model between the simple Ordinary Least Square (OLS) regression model and Random effects regression model. In the Lagrange Multiplier (LM) test the null hypothesis is that the variance across entities is zero i.e. there is no significant difference across units which means there is no panel effect. Underlying the Hausman test the null hypothesis is that the Fixed effects model and Random effects model do not differ considerably. If the test statistic χ^2 is significant the null hypothesis is rejected and we conclude that random effects model is inappropriate and we may use fixed effects model. The overall measure of goodness of fit of the estimated regression line is given by the coefficient of determination R^2 which suggests the percentage of the total variation in the dependent variable that is explained by all the regressors.

5. Data and Period of Study

The study is based primarily on the data collected from the Prowess database maintained by Center for Monitoring of the Indian Economy (CMIE) which is a leading business and economic database and research company in India. The data used in the study relates to all the companies listed on the National Stock Exchange (NSE) for which the data is available in the Prowess database. The analysis is confined to NSE listed companies only because all the listed companies are required to follow the norms set by SEBI for financial reporting. Another reason for the selection was the fact that, the NSE was established in the eve of economic policy reforms in the country.

The period of the study is from 1995 to 2013 (i.e., financial year 1994-95 to financial year 2012-13). Henceforth FY 1994-95 will be referred as 1995 and accordingly FY 2012-13 as 2013. There are two basic reasons behind the selection of this time period as the period of the study. First, this period relates to the post liberalization era of the Indian economy and second, this is the period for which the maximum financial information is available in the database. Presently, 1730 companies are listed on NSE, out of which 179 are financial services companies, 28 are from utilities sector, 35 are public sector enterprises. We are excluding financial services; utilities sector companies and public sector enterprises from our sample. Financial services and utilities sector companies are excluded from the sample as the regulation norm and the accounting practices followed by these companies are different from others which may significantly affect dividend policy decision (Fama and French, 2001). Public sector companies are excluded as their dividend policies are highly influenced by social obligations and government's financial considerations. Out of remaining 1488 firms we got continuous data for 781 firms for the explanatory variable for the given period of study. Out of 781 sample firms 239 firms are paying dividend continuously for the entire period of study i.e. 1995-2013. So, we are using a sample of 239 firms to examine the determinants of dividend payout ratio and dividend yield.

6. Characteristics of Dividend Paying Firms

6.1 Trend in Dividend Payers and Non-Payers in India

The number of dividend paying companies during the period of study, show downward trend till 2002 and rise subsequently thereafter upto 2008 and again fell till 2013 (see Table 2). The percentage of dividends paying companies declined from 81.05 percent in 1995 to 65.38 percent in 2013. Whereas, the average dividend paid by the dividend paying companies has increased manifold during the period of study. This suggests that the dividends paying companies have paid higher amounts of dividends in the later years. Table 2 shows the trends in dividend paying and non-dividend paying companies during 1995-2013. The companies are classified into dividend payers and non-payers. Dividend payers are those companies that pay positive dividends in year t , whereas, non-payers are companies that pay zero dividend in year t .

Table 2 Trend in Dividend Payers and non-payers during 1995-2013

Year	Payer		Non-Payers	
	No. of Companies	%tage of Companies	No. of Companies	%tage of Companies
1995	693	81.05	162	18.95
1996	696	81.40	159	18.60
1997	669	78.25	186	21.75
1998	600	70.18	255	29.82
1999	543	63.51	312	36.49
2000	555	64.91	300	35.09
2001	527	61.64	328	38.36
2002	494	57.78	361	42.22
2003	521	60.94	334	39.06
2004	562	65.73	293	34.27
2005	604	70.64	251	29.36
2006	638	74.62	217	25.38
2007	643	75.20	212	24.80
2008	648	75.79	207	24.21
2009	595	69.59	260	30.41
2010	635	74.27	220	25.73
2011	626	73.22	229	26.78
2012	563	65.85	292	34.15
2013	559	65.38	296	34.62
Total no. of companies in sample = 781				

6.2 Average Percentage Payout Ratio and Dividend yield

The table 3 shows the trends in average percentage dividend payout ratio and dividend yield during 1995-2013. The average percentage dividend payout ratio does not show any clear trend rather it fluctuates during the entire period of study. It was highest in the year 2002 i.e. 47.52% and lowest in the year 2008 i.e. 21.21%. The average dividend yield too shows a volatile trend during the entire period of study and it was highest in the year 1998 and lowest in the year 1995.

Table 3. Average Percentage Payout Ratio and Dividend Yield during 1995-2013

Year	Average Percentage Payout	Dividend Yield
1995	24.68	0.03
1996	24.25	0.24
1997	28.77	4.89
1998	30.13	5.12
1999	33.16	3.38
2000	33.66	2.79
2001	39.23	3.21
2002	47.52	3.71
2003	35.17	3.67
2004	33.58	2.30
2005	26.29	1.63
2006	27.49	1.17
2007	21.75	1.74
2008	21.21	1.39
2009	22.35	3.44
2010	23.75	1.16
2011	24.89	1.53
2012	28.13	1.91
2013	29.79	2.08

Note: The dividend payout ratio of a firm is defined as the ratio of annual dividend paid per share to earnings per share. The dividend yield for a firm is defined as the ratio of annual dividend paid per share to market price per share.

6.3 Distribution of Percentage of Companies In Terms of Dividend Payout Ratio

The table 4 shows the distribution of percentage of companies in terms of dividend payout ratio during the period 1995-2013. The analysis indicates that 20.18% of companies did not pay any dividend in the year 1995 and this percentage increased to 38.18% in 2013. The percentage of companies in 0-25% dividend payout ratio range declined from 40.02% in 1995 to 35.52% in 2013. The percentage of companies paying dividend upto 50 % remains almost same during the period of study i.e. 92.26% in 1995 and 92.27% in 2013.

6.4 Industry-Wise Dividend Payout Ratio

The table 5 shows the trend in dividend payout ratio of companies across different industries during 1995-2013. An analysis of industry-wise dividend payout ratio indicates that companies in any industry do not show a stable dividend payout pattern rather the dividend payout ratio fluctuated during the entire period of study. The electricity industry has the lowest payout ratio of 4.57% in the year 2002 and the Miscellaneous Manufacturing industry has the highest payout ratio of 49.55% in the year 1997. For almost all the industry groups the payout ratio was highest in the year 1997 and many industries have more than 30% payout ratio in that year.

Table 4. Distribution of percentage of Companies in Terms of Dividend Payout Ratio from 1995-2013

DPR		0%	0% -25 %	25% - 50%	50% - 75%	75% - 100%	> 100%	Total
Year	1995	20.18	40.02	32.06	4.84	2.19	0.69	100
	1996	20.65	38.41	31.83	6	2.08	1.04	100
	1997	24.45	30.91	31.26	7.73	2.42	3.23	100
	1998	32.41	29.3	28.37	6.81	0.92	2.19	100
	1999	38.87	25.61	26.64	5.54	1.38	1.96	100
	2000	38.18	27.57	26.18	4.73	2.31	1.04	100
	2001	41.29	26.53	23.18	5.77	1.27	1.96	100
	2002	44.18	21.91	21.22	7.5	2.54	2.65	100
	2003	40.48	25.03	25.37	5.31	2.19	1.61	100
	2004	35.52	30.8	24.8	6.23	1.96	0.69	100
	2005	30.8	35.99	25.37	5.07	1.85	0.92	100
	2006	26.53	41.52	24.34	4.27	1.85	1.5	100
	2007	26.3	44.52	22.95	4.15	1.27	0.81	100
	2008	26.18	46.94	20.65	4.27	1.04	0.92	100
	2009	33.45	38.41	20.18	5.42	1.38	1.15	100
	2010	27.57	44.87	21.34	4.27	1.27	0.69	100
	2011	29.3	42.68	20.53	5.19	1.38	0.92	100
2012	37.37	35.41	19.49	4.04	1.15	2.54	100	
2013	38.18	35.52	18.57	4.84	1.38	1.5	100	

Table 5. Industry-wise Dividend Payout Ratio during 1995 - 2013 in percentage

Industry / Year	Textiles	Food and Agro-based Products	Chemical and Chemical Products	Consumer Goods	Cement	Metal and Metal Products	Machinery	Transport Equipments	Miscellaneous Manufacturing	Diversified	Mining	Electricity	Services other than financial	Construction and Real Estate
1995	24.05	23.59	24.01	23.37	23.48	23.61	24.28	24.25	26.25	18.73	22.77	14.88	23.89	23.89
1996	26.72	25.77	26.80	27.61	25.64	26.42	26.46	26.45	28.19	24.91	31.88	11.88	26.16	30.08
1997	41.55	38.60	40.10	38.03	38.41	37.09	42.12	41.51	49.55	25.36	27.92	19.67	39.37	36.32
1998	24.53	26.04	23.53	25.20	25.90	22.86	27.26	26.93	25.48	31.72	24.28	13.83	26.31	24.77
1999	21.22	21.17	21.82	23.44	21.10	21.32	21.93	21.53	20.00	88.45	29.85	16.04	20.59	28.45
2000	19.20	18.64	19.76	19.47	18.64	19.03	19.31	19.36	20.24	9.87	20.13	14.35	18.77	21.31
2001	21.11	21.13	21.86	21.82	21.09	21.09	22.01	22.04	23.32	14.85	23.91	9.46	20.88	24.21
2002	23.02	23.61	23.97	24.17	23.54	23.16	24.71	24.71	26.41	19.82	27.68	4.57	22.99	27.12
2003	24.93	23.92	26.72	26.86	23.55	25.48	24.78	24.93	31.49	21.12	24.24	5.08	24.04	23.91
2004	20.12	19.88	20.91	20.53	19.76	20.34	19.89	20.19	20.15	13.22	21.71	8.01	19.71	21.86
2005	22.70	22.05	23.73	23.37	21.88	22.90	22.99	23.07	25.14	21.33	21.84	14.01	22.12	26.85
2006	24.48	23.41	24.75	22.88	23.19	24.06	23.61	23.98	21.50	23.87	25.52	13.33	23.71	24.73
2007	17.95	18.00	18.37	17.67	17.98	18.16	18.17	18.20	11.91	28.06	25.32	12.87	17.69	23.30
2008	20.78	19.96	21.56	21.06	19.76	20.81	19.53	19.52	20.53	21.74	21.07	21.49	20.00	21.25
2009	18.17	18.48	19.49	19.94	18.53	18.96	17.97	17.83	19.06	21.25	18.36	15.09	18.37	18.63
2010	15.73	17.36	15.95	15.63	17.33	16.18	17.44	17.51	14.42	15.16	16.69	13.31	17.27	16.11
2011	19.43	19.40	20.06	20.65	19.32	19.62	19.58	19.65	20.79	22.58	20.75	12.21	19.48	21.10
2012	13.75	14.41	14.31	21.16	14.64	14.40	12.42	12.59	5.74	12.68	22.52	18.38	14.13	20.10
2013	20.20	19.27	20.81	20.55	19.21	20.20	16.55	20.08	16.31	22.22	24.59	15.02	19.44	22.52

6.5 Trends in Dividend Payout Ratio of Continuously Dividend Paying Companies Across Different Firm Characteristics

The table 6 shows the trend in dividend payout ratio for continuously dividend paying companies across different types of firm characteristics such a size, profitability and investment opportunities during 1995-2013. The dividend paying companies are divided into small and large size, high and low profitable and high and low investment opportunities companies based on the threshold value. The average of annual median value of a particular firm-specific characteristic is used as a threshold value for classification. The companies having market capitalization, return-on-asset and market-to-book ratio greater than threshold value are considered as larger size, more profitable and low investment opportunities companies and vice-a-versa. Table 6 entails that dividend payout ratio of larger, more profitable companies and companies with low investment opportunities is comparatively higher than smaller, less profitable and high investment opportunity companies during the entire period of study. This result is consistent with the theoretical arguments.

Table 6. Characteristics of dividend paying companies

Characteristics	Size (Market Capitalization)		Profitability (ROA)		Investment Opportunities (Market-to-Book ratio)	
	Small	Large	Low	High	High	Low
	< 10000 ₹ Crores	≥ 10000 ₹ Crores	< 20 %	≥ 20 %	< 6	≥ 6
1995	0.23	0.29	0.26	0.33	0.41	0.24
1996	0.23	0.27	0.24	0.32	0.43	0.23
1997	0.25	0.30	0.28	0.33	0.42	0.26
1998	0.27	0.29	0.28	0.29	0.37	0.26
1999	0.30	0.30	0.28	0.41	0.38	0.27
2000	0.28	0.34	0.27	0.43	0.35	0.27
2001	0.29	0.30	0.28	0.34	0.39	0.27
2002	0.33	0.35	0.32	0.38	0.43	0.30
2003	0.29	0.32	0.27	0.46	0.45	0.28
2004	0.27	0.37	0.28	0.71	0.69	0.25
2005	0.26	0.28	0.27	0.28	0.44	0.24
2006	0.27	0.29	0.26	0.41	0.42	0.22
2007	0.22	0.24	0.22	0.29	0.35	0.20
2008	0.21	0.23	0.19	0.39	0.44	0.18
2009	0.22	0.23	0.21	0.33	0.62	0.21
2010	0.21	0.27	0.24	0.44	0.56	0.19
2011	0.26	0.27	0.23	0.35	0.60	0.18
2012	0.28	0.28	0.23	0.44	0.51	0.23
2013	0.30	0.42	0.24	0.50	0.63	0.23

7. Empirical Results

The table 7 presents descriptive statistics for the dependent variable and all the independent variables employed in the study. The result in table 7 indicates that the dividend yield varies from 0.002 to 0.155 with a mean of just over 0.04. The dividend payout ratio ranges from a minimum of 0.16 to a maximum of 1.27 with an average value of 0.30 and a median value of 0.26. The sample firms' profitability ranged from 0.01 to 0.40 and the leverage mean of 0.83 is much higher than the median of 0.63 suggesting that there are a large number of firms with high leverage in our sample. The value of skewness and kurtosis for the dependent and all independent variables are within the acceptable range i.e. the skewness value is between ± 3 and kurtosis value is between ± 10 which suggests that the data is normalized (Kline, 2005).

The table 8 shows the Pearson's correlation coefficient between all the independent variables employed in the study. The correlation coefficient between each pair of independent variables should not exceed 0.80 value; otherwise the independent variables with a coefficient in excess of 0.80 between them may be suspected of exhibiting multicollinearity (Bryman and Cramer, 1997). The correlation matrix shows that the correlation between the independent

variables is either low degree or moderate degree, i.e. the correlation coefficient between all the independent variables is less than 0.80, which suggests that there is absence of multicollinearity.

Table 7. Summary Statistics

Variable	Mean	Median	Std. Dev.	Skewness	Kurtosis	Min	Max
DPR	0.30	0.26	0.18	1.37	2.91	0.16	1.27
DYLD	0.04	0.03	0.03	1.47	1.87	0.002	0.155
MBR	2.31	1.40	2.66	2.67	8.80	0.15	18.54
DER	0.83	0.63	0.91	2.50	9.51	0.00	6.69
FCF	0.09	0.09	0.08	0.11	0.25	-0.16	0.34
TANG	0.31	0.31	0.16	0.16	-0.59	0.00	0.74
DDT	0.03	0.03	0.03	1.18	1.81	0.00	0.16
BR	0.03	0.02	0.02	2.54	9.39	0.01	0.18
AGE	39.51	35.00	22.32	0.89	0.58	2.00	134.00
MCAP	8.16	8.01	2.09	0.35	-0.25	1.56	15.07
CR	1.36	1.21	0.77	2.15	7.08	0.15	6.18
ROA	0.13	0.12	0.07	1.14	1.41	0.01	0.40

Notes: This table presents descriptive statistics for dependent and all independent variables employed in the study. DPR is dividend payout ratio of a firm defined as the ratio of total annual dividend paid to profit after tax, DYLD is a firm's dividend yield defined as the ratio of annual dividend paid per share to market price per share, MBR is a firm's market-to-book ratio measured as the ratio of market value of equity to book value of equity, DER is debt-to-equity ratio of a firm measured as the ratio of total debt to total equity, FCF is free cash flow defined as net operating cash flow scaled by total assets, TANG is the tangibility of assets measured as the ratio of net fixed assets to total assets, BR is a firm's business risk defined as the standard deviation of first difference of operating income divided by total assets, AGE is the age of firm measured as the year the firm has been into existence, MCAP is the natural log of market capitalization, CR is current ratio which is measured as current assets divided by current liabilities, ROA a firm's return on assets measured as earnings before interest and taxes divided by total assets, DDT is defined as the dividend distribution tax dividend by profit after tax.

Table 8. Correlation Matrix

Variable	MBR	DER	FCF	TANG	DDT	BR	AGE	M_CAP	CR	ROA
MBR	1.0000									
DER	-0.1762	1.0000								
FCF	0.1593	-0.2134	1.0000							
TANG	-0.1992	0.1336	0.2655	1.0000						
BR	0.061	-0.2661	0.0841	-0.097	1.0000					
AGE	0.1145	-0.1125	-0.0198	-0.131	-0.0477	1.0000				
MCAP	0.5403	-0.1536	0.078	-0.2048	-0.0911	0.3383	1.0000			
CR	-0.0614	-0.0877	-0.025	-0.1386	0.0252	-0.1089	-0.0774	1.0000		
ROA	0.4652	-0.3172	0.4269	-0.0669	0.1937	-0.0171	0.2437	0.1153	1.0000	
DDT	0.1132	-0.1128	0.0511	-0.0658	-0.0103	0.1694	0.1888	-0.1035	-0.0462	1.0000

Notes: This table reports the correlation matrix between the variables used in this study. For variable explanation see notes in the Table 7.

To find out a specified model for estimation we have conducted various statistical hypothesis tests. As shown in Table 9 and 10 the restricted F-test result suggests that there is an individual effect, so the pooled or panel model is to be preferred over the Ordinary Least Square (OLS), the results of Breusch and Pagan LM (Lagrange Multiplier) test indicate that the panel model is to be preferred over the pooled model and the Hausman test result contends that the fixed effects model is more efficient than the random effects model. Thus the most robust of all is the fixed effects panel model, so we report results of the fixed effects panel regression in Table 9 and 10. Table 9 presents the results for dividend payout ratio as dependent variable while Table 10 shows the results when dependent variable is dividend yield. The dividend payout ratio and the dividend yield are regressed against the ten explanatory variables during the entire period of study i.e. 1995-2013 and two sub-periods i.e. 1995-2003 a post-liberalization period and 2004-2013 a period of second generation reform.

Table 9. Fixed Effects regression results

Dividend Payout Ratio as dependent variable						
	1995 - 2013		1995 - 2003		2004 - 2013	
Variable	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
MBR	-0.003	-3.12**	-0.002	-1.18	-0.003	-2.85**
DER	-0.006	-2.14*	-0.014	-2.28*	-0.001	-0.29
FCF	0.022	0.84**	0.004	0.1	0.024	0.83
TANG	0.007	0.37	0.053	1.36	0.017	0.69
BR	-0.494	-5.03**	-0.645	-3.31**	-0.326	-2.91**
AGE	0.007	13.21**	0.0003	0.3	0.004	4.48**
MCAP	0.009	3.59**	0.011	2.15*	0.006	1.57
CR	0.003	0.86	0.009	1.56	0.002	0.75
ROA	0.662	16.90**	0.871	11.81**	0.490	11.38**
DDT	3.493	47.04**	2.213	17.68**	4.488	49.41**
No. of Observation	4541		2151		2390	
R ²	0.0737		0.1684		0.4510	
F-Test	F(10,4292) = 318.24 (0.0000)		F(10,1902) = 71.06 (0.0000)		F(10,2141) = 332.21 (0.0000)	
Restricted F-Test	F(238, 4292) = 10.06 (0.0000)		F(238, 1902) = 5.21 (0.0000)		F(238, 2141) = 3.86 (0.0000)	
LM Test	$\chi^2(01) = 1318.51$ (0.0000)		$\chi^2(01) = 542.89$ (0.0000)		$\chi^2(01) = 221.97$ (0.0000)	
Hausman Test	$\chi^2(10) = 974.75$ (0.0000)		$\chi^2(10) = 313.51$ (0.0000)		$\chi^2(10) = 262.54$ (0.0000)	

Notes: ** indicates significance at 1% level, * indicates significance at 5% level. For variable explanation see notes in the Table 7.

Table 10. Fixed Effects regression results

Dividend Yield as dependent variable						
	1995 - 2013		1995 - 2003		2004 – 2014	
Variable	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
MBR	-0.0004	-2.58*	-.00007	-0.25	-0.0001	-0.98
DER	-0.003	-6.12**	-0.005	-4.99**	-0.001	-1.98
FCF	0.023	4.93**	0.003	0.44	0.008	1.91*
TANG	0.004	1.30	0.004	0.75	-0.002	0.61
BR	-0.132	-7.43**	-0.215	-6.71**	-0.045	-2.68**
AGE	0.001	9.99**	0.004	20.17**	0.001	8.37**
MCAP	0.016	36.09**	0.020	24.24**	0.012	21.87**
CR	.00009	-0.19	0.001	0.96	0.001	.04
ROA	0.056	7.96**	0.073	6.10**	0.059	9.16**
DDT	0.149	11.08**	0.087	4.31**	0.131	9.55**
No. of Observation	4541		2151		2390	
R ²	0.2176		0.0121		0.1109	
F-Test	F(10,4292) = 287.57 (0.0000)		F(10,1902) = 155.11 (0.0000)		F(10,2141) = 82.32 (0.0000)	
Restricted F-Test	F(238, 4292) = 8.86 (0.0000)		F(238, 1902) = 9.52 (0.0000)		F(238, 2141) = 6.21 (0.0000)	
LM Test	χ^2 (01) = 1721.48 (0.0000)		χ^2 (01) = 867.65 (0.0000)		χ^2 (01) = 650.64 (0.0000)	
Hausman Test	χ^2 (10) = 367.66 (0.0000)		χ^2 (10) = 382.80 (0.0000)		χ^2 (10) = 364.33 (0.0000)	

Notes: ** indicates significance at 1% level, * indicates significance at 5% level. For variable explanation see notes in the Table 7.

These variables include investment opportunity, leverage, free cash flow, tangibility of assets, business risk, age of firm, size, liquidity position, profitability, dividend distribution tax. The regression results in Tables 9 and 10 show that all the variables except tangibility and current ratio are statistically significant during the entire period of study 1995-2013.

The significant negative coefficient on the investment opportunity variable market-to-book ratio for the entire period of study 1995-2013 supports the pecking order argument and implies that firms with high investment opportunities reduce dividends. The result is consistent with the results of previous studies (see Rozeff, 1982; Myers and Majluf, 1984; Amidu and Abor, 2006). The coefficient of the leverage variable, a proxy for transaction costs is negative and significant for both the Tables 9 and 10 for the entire period of study 1995-2013, which entails that the firms with high proportion of debt in total capital distribute lower proportion of dividends to shareholders. Among other empirical studies, Higgins, (1972), Fama, (1974) and Al-Malkawi (2008) report a significant negative relationship between dividend payments and leverage and are in line with our result. The free cash flow variable which is a proxy for the agency problem between the insider (manager) and outsider (shareholders) is statistically significant and show positive association with the dividend

payout ratio and the dividend yield for the entire period of study 1995-2013. This is consistent with the results found by Jensen and Meckling (1976), Rozeff (1982), Easterbrook (1984) and Mollah (2011). The tangibility i.e. collateralized assets variable is statistically insignificant and has positive relationship with the dividend payout ratio and the dividend yield according to our hypothesis for the entire period of study 1995-2013.

The business risk variable, a proxy for signaling is significant and inversely related to dividend payment decisions for both the Tables 9 and 10 for the entire period of study 1995-2013, suggesting that, high-risk firms pay lower dividends to their shareholders. The reason might be that the firms experiencing high volatility in earnings face difficulty in paying dividends and thus have lower dividend payout ratio. *Ceteris paribus* the firms having stability in earnings are approximately able to anticipate their future and could be able to signal to the investor in the form of dividends. Thus, the firms with high business risk pay less dividends and the firms with lower business risk pay more dividends to the shareholders. The life cycle variable i.e. age of a firm is statistically significant and has positive relationship with the dividend payout ratio and the dividend yield for the entire period of study 1995-2013, which means that the mature firms pay higher dividends as compared to young firms. The reason is based on the tradeoffs between the benefits (e.g. savings in the cost of flotation) and costs (e.g. agency costs of free cash flow) of paying dividends and these costs and benefits are not similar for all the firms. The result is consistent with the findings of Grullon and Michaely (2002) and DeAngelo, et al., (2006).

The coefficient on the firm size and profitability variable i.e. natural log of market capitalization and return on assets respectively are positive and significant in both the Tables 9 and 10 for the entire period of study 1995-2013, suggesting that the larger and more profitable firms pay higher dividends. The result supports our hypothesis and is consistent with the findings of Al-Malkawi (2008), Mollah (2011), Hamill and Al-Shattarat (2012) and Patra, et al., (2012). The coefficient on the liquidity variable i.e. current ratio is insignificant for the entire period of study 1995-2013, which intends that Indian firms do not consider liquidity position of short term assets while paying dividends to shareholders. Our result is inconsistent with the findings of Amidu and Abor (2006) and Patra, et. al., (2012) who find a strong positive effect of liquidity on dividend policy. The result of this study surprisingly shows a significant and positive relationship between dividend distribution tax and both the dependent variables for the entire period of study 1995-2013, which is contrary to our hypothesis. This result contradicts the existing literature and indicates that, increasing tax is associated with increase in dividend payments. The reason for the positive relationship between dividend distribution tax and dividend payment decisions might be that instead of high dividend distribution taxes the manager wants to signal the private information of firm to outsiders.

Regarding the results about two sub-periods of study the size, profitability and dividend distribution tax variables are significant and positively associated whereas financial leverage and business risk variables are significant and negatively related with dependent variable dividend payout ratio for the sub-period 1995-2003 as shown in Table 9. For the sub-period 2004-2013 the investment opportunity and business risk variables are negatively significant

whereas the life cycle, profitability and dividend distribution tax variables are positively significant with the dependent variable dividend payout ratio as shown in Table 9. In case of dividend yield as a dependent variable, the life cycle, size, profitability and dividend distribution tax are positively significant and financial leverage and business risk are negatively significant for the sub-period 1995-2003 as shown in the Table 10. The free cash flow, life cycle, size, profitability and dividend distribution tax variables are positively significant and business risk variable is negatively significant with the dependent variable dividend yield as shown in Table 10.

Finally, the profitability and dividend distribution tax variables are positively significant and the business risk variable is negatively significant with both the dependent variable dividend payout ratio and dividend yield for the entire period of study 1995-2013 as well as for the two sub-periods 1995-2003 and 2004-2013 as shown in Table 9 and 10.

8. Summary and Conclusion

This study examines the trend and the determinants of dividend payout ratio of 239 National Stock Exchange (NSE) listed companies in India during the period 1994-95 to 2012-13. The percentage of dividends paying companies declined from 81.05 percent in 1995 to 65.38 percent in 2013. Whereas, the average dividend paid by the dividend paying companies has increased manifold during the period of study which suggests that the dividends paying companies have paid higher amounts of dividends in the later years. The average percentage dividend payout ratio and dividend yield show volatile trend during the entire period of study. The electricity industry has the lowest payout ratio of 4.57% and the Miscellaneous Manufacturing industry has the highest payout ratio of 49.55%. The larger, more profitable companies and companies with low investment opportunities have comparatively higher dividend payout ratio than smaller, less profitable and high investment opportunities companies during the entire period of study.

From the econometric analysis we find that all the variables except tangibility and current ratio are statistically significant during the entire period of study (1995-2013). The empirical result suggests that market-to-book ratio, debt-to-equity ratio and business risk variables are negatively significant while the free cash flow, age, market capitalization, return on assets and dividend distribution tax variables are positively significant with the dividend payout ratio and dividend yield for the entire period of study 1995-2013. This indicates that high free cash flow, larger, more profitable and mature firms have higher dividend payout ratio whereas the firms with high investment opportunity, high financial leverage and high business risk have lower dividend payout ratio. The findings are consistent with the pecking order, transaction cost, signaling and firm life cycle theory of dividend policy and we find a little evidence for agency costs theory.

Comparing the results across the different dividend policy proxies as well as across the different periods we find that only three variables such as business risk, profitability and dividend distribution tax significantly affect the dividend payment decisions of the companies in India. The results are varying across the different dividend policy proxies and the different time periods. The main implication of this study is that the investors can use the key factors

affecting the dividend policy of a firm to decide which firms will have high or low dividend payout ratio and dividend yield and invest accordingly. Also, the managers can use the significant determinants of dividend payment decisions to set appropriate dividend policy for a firm.

Reference

- Aharony, J., & Swary, I. (1980). Quarterly dividend and earnings announcements and stockholders' returns: An empirical analysis. *The Journal of Finance*, 35(1), 1-12. <http://dx.doi.org/10.1111/j.1540-6261.1980.tb03466.x>
- Aivazian, V., Booth, L., & Cleary, S. (2003). Dividend policy and the organization of capital markets. *Journal of multinational financial management*, 13(2), 101-121. [http://dx.doi.org/10.1016/S1042-444X\(02\)00038-5](http://dx.doi.org/10.1016/S1042-444X(02)00038-5)
- Alli, K., Khan, A. & Ramirez, G. (1993), Determinants of dividend policy: a factorial analysis, *The Financial Review*, 28(4), 523-47. <http://dx.doi.org/10.1111/j.1540-6288.1993.tb01361.x>
- Al-Malkawi, H. N. (2008). Factors influencing corporate dividend decision: evidence from Jordanian panel data. *International Journal of Business*, 13(2), 177.
- Amidu, M., & Abor, J. (2006). Determinants of dividend payout ratios in Ghana. *The Journal of Risk Finance*, 7(2), 136-145. <http://dx.doi.org/10.1108/15265940610648580>
- Ang, J. S. (1987). *Do dividends matter?: a review of corporate dividend theories and evidence* (No. 2). Salomon Brothers Center for the Study of Financial Institutions, Graduate School of Business Administration, New York University.
- Anil, K., & Kapoor, S. (2008). Determinants of dividend payout ratios-a study of Indian information technology sector. *International Research Journal of Finance and Economics*, 15(1), 63-71.
- Bhat, R., & Pandey, I. M. (1994). Dividend decision: A Study of Managers' Perceptions. *Decision*, 21(1), 67-86.
- Bhattacharya, S. (1979). Imperfect information, dividend policy, and 'the bird in the hand' fallacy. *Bell Journal of Economics*, 10(1), 259-270. <http://dx.doi.org/10.2307/3003330>
- Bhattacharyya, N. (2007). Dividend policy: a review. *Managerial Finance*, 33(1), 4-13. <http://dx.doi.org/10.1108/03074350710715773>
- Breusch, T. S., & Pagan, A. R. (1980). The Lagrange Multiplier Test and Its Applications to Model Specification in Econometrics. *Review of Economic Studies*, 47(1), 239-54. <http://dx.doi.org/10.2307/2297111>
- Brittain, J. A. (1966). *Corporate dividend policy*. Brookings institution.
- Bryman, A., & Cramer, D. (2002). *Quantitative data analysis with SPSS release 8 for Windows: a guide for social scientists*. Routledge.
- Damodaran, A. (2000). *Corporate Finance* (1st ed.). Singapore: John Wiley & Sons.

- DeAngelo, H., DeAngelo, L. & Skinner, D. J. (2004). Are dividends disappearing? Dividend concentration and the consolidation of earnings. *Journal of Financial Economics*, 72(1), 425-456. [http://dx.doi.org/10.1016/S0304-405X\(03\)00186-7](http://dx.doi.org/10.1016/S0304-405X(03)00186-7)
- DeAngelo, H., DeAngelo, L. and Stulz, R. (2006). Dividend policy and the earned/contributed capital mix: a test of the life-cycle theory. *Journal of Financial Economics*, 81(1), 227-54. <http://dx.doi.org/10.1016/j.jfineco.2005.07.005>
- Denis, D. J., & Osobov, I. (2008). Why do firms pay dividends? International evidence on the determinants of dividend policy. *Journal of Financial Economics*, 89(1), 62-82. <http://dx.doi.org/10.1016/j.jfineco.2007.06.006>
- Dhameja, N. L. (1976). Corporate dividend behaviour with special emphasis on growth and controlled companies (*Unpublished Doctoral Dissertation*). Indian Institute of Management, Ahmedabad.
- Easterbrook, F. H. (1984). Two agency-cost explanations of dividends. *The American Economic Review*, 650-659.
- Fama, E. and French, K. (2001). Disappearing dividends: changing firm characteristics or lower propensity to pay?. *Journal of Financial Economics*, 60(2), 3-43. [http://dx.doi.org/10.1016/S0304-405X\(01\)00038-1](http://dx.doi.org/10.1016/S0304-405X(01)00038-1)
- Fama, E. F. (1974). The empirical relationships between the dividend and investment decisions of firms. *The American Economic Review*, 304-318.
- Fama, E. F., & Babiak, H. (1968). Dividend policy: an empirical analysis. *Journal of the American Statistical Association*, 63(1), 1132-61. <http://dx.doi.org/10.1080/01621459.1968.10480917>
- Fenn, G. W., & Liang, N. (2001). Corporate payout policy and managerial stock incentives. *Journal of financial economics*, 60(1), 45-72. [http://dx.doi.org/10.1016/S0304-405X\(01\)00039-3](http://dx.doi.org/10.1016/S0304-405X(01)00039-3)
- Grullon, G., & Michaely, R. (2002). Dividends, share repurchases, and the substitution hypothesis. *The Journal of Finance*, 57(4), 1649-1684. <http://dx.doi.org/10.1111/1540-6261.00474>
- Hamill, P. A., & Al-Shattarat, W. (2012). What Determines the Dividend Payout Ratio for Jordanian Industrial Firms?. *Journal of Emerging Market Finance*, 11(2), 161-188. <http://dx.doi.org/10.1177/0972652712454515>
- Hausman, J. A. (1978). Specification tests in econometrics. *Econometrica: Journal of the Econometric Society*, 1251-1271. <http://dx.doi.org/10.2307/1913827>
- Higgins, R. C. (1972). The corporate dividend-saving decision. *Journal of Financial and Quantitative Analysis*, 7(02), 1527-1541. <http://dx.doi.org/10.2307/2329932>
- Holder, M. E., Langrehr, F. W., & Hexter, J. L. (1998). Dividend policy determinants: An investigation of the influences of stakeholder theory. *Financial management*, 73-82.

<http://dx.doi.org/10.2307/3666276>

Jensen, G. R., Solberg, D. P., & Zorn, T. S. (1992). Simultaneous determination of insider ownership, debt, and dividend policies. *Journal of Financial and Quantitative analysis*, 27(02), 247-263. <http://dx.doi.org/10.2307/2331370>

Jensen, M. C., & Meckling, W.H. (1976). Theory of the firm: Managerial behavior, agency costs and capital structure. *Journal of Financial Economics*, 3(4), 305-360. [http://dx.doi.org/10.1016/0304-405X\(76\)90026-X](http://dx.doi.org/10.1016/0304-405X(76)90026-X)

John, K., & Williams, J. (1985). Dividends, dilution, and taxes: A signalling equilibrium. *Journal of finance*, 1053-1070. <http://dx.doi.org/10.1111/j.1540-6261.1985.tb02363.x>

Kline, R. B. (2005), *Principles and Practice of Structural Equation Modeling* (2nd ed.). New York: The Guilford Press.

Li, H., & Wang, W. (2014). Impact of Intangible Assets on Profitability of Hong Kong Listed Information Technology Companies. *Business and Economic Research*, 4(2), 98-113. <http://dx.doi.org/10.5296/ber.v4i2.6009>

Lintner, J. (1956). Distribution of incomes of corporations among dividends, retained earnings, and taxes. *The American Economic Review*, 97-113.

Litzenberger, R. H., & Ramaswamy, K. (1979). The effect of personal taxes and dividends on capital asset prices: Theory and empirical evidence. *Journal of financial economics*, 7(2), 163-195. [http://dx.doi.org/10.1016/0304-405X\(79\)90012-6](http://dx.doi.org/10.1016/0304-405X(79)90012-6)

Mahakud, J. (2005). Shareholding Patterns and Dividend Policy: Evidence from Indian Corporate Sector. *The ICFAI Journal of Applied Finance*, 11(9), 40-54.

Mahapatra, R. P., & Sahu, P. K. (1993). A note on determinants of corporate dividend behaviour in India—an econometric analysis. *Decision*, 20(1), 1-22.

Manos, R. (2002). *Dividend policy and agency theory: evidence on Indian firms* (Unpublished paper). Institute for Development Policy and Management, University of Manchester.

Miller, M., & Modigliani, F. (1961). Dividend policy, growth, and the valuation of shares. *Journal of Business*, 34(4), 411-33. <http://dx.doi.org/10.1086/294442>

Miller, M. H., & Rock, K. (1985). Dividend policy under asymmetric information. *The Journal of finance*, 40(4), 1031-1051. <http://dx.doi.org/10.1111/j.1540-6261.1985.tb02362.x>

Mohanty, P. (1999). Dividend and bonus policies of Indian companies: An analysis. *Vikalpa*, 24(4), 35-42.

Mollah, S. (2011). Do emerging market firms follow different dividend policies?: Empirical investigation on the pre-and post-reform dividend policy and behaviour of Dhaka Stock Exchange listed firms. *Studies in Economics and Finance*, 28(2), 118-135. <http://dx.doi.org/10.1108/10867371111137120>

Mueller, D. C. (1972). A life cycle theory of the firm. *The Journal of Industrial Economics*, 20(3), 199-219. <http://dx.doi.org/10.2307/2098055>

Mullah, A. (2001). Dividend Policy and Behaviour, and Security Price Reaction to the Announcement of Dividends in an Emerging Market: A Study of Companies Listed on the Dhaka Stock Exchange (Unpublished PhD thesis). Business School, University of Leeds, UK.

Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of financial economics*, 13(2), 187-221. [http://dx.doi.org/10.1016/0304-405X\(84\)90023-0](http://dx.doi.org/10.1016/0304-405X(84)90023-0)

Narasimhan, M. S., & Asha, C. (1997). Implications of dividend tax on corporate financial policies. *The ICAI Journal of Applied Finance*, 3(2), 11-28.

Panda, J., & Lall, G. S. (1993). *Internal Financing in the Corporate Sector: An Indian Experience*. New Delhi: Kanishka Publishers.

Patra, T., Poshakwale, S., & Ow-Yong, K. (2012). Determinants of corporate dividend policy in Greece. *Applied Financial Economics*, 22(13), 1079-1087. <http://dx.doi.org/10.1080/09603107.2011.639734>

Pruitt, S. W., & Gitman, L. J. (1991). The interactions between the investment, financing, and dividend decisions of major US firms. *Financial review*, 26(3), 409-430. <http://dx.doi.org/10.1111/j.1540-6288.1991.tb00388.x>

Rozeff, M. S. (1982). Growth, beta and agency costs as determinants of dividend payout ratios. *Journal of financial Research*, 5(3), 249-259. <http://dx.doi.org/10.1111/j.1475-6803.1982.tb00299.x>

Saxena, A. K. (1999). Determinants of dividend payout policy: regulated versus unregulated firms. *Journal of Applied Topics in Business and Economics*. www.westga.edu

Shamaileh, M. O., & Khanfar, S. M. (2014). The Effect of the Financial Leverage on the Profitability in the Tourism Companies (Analytical Study-Tourism Sector-Jordan). *Business and Economic Research*, 4(2), 251-264. <http://dx.doi.org/10.5296/ber.v4i2.5546>

Singhania, M., & Gupta, A. (2012). Determinants of Corporate Dividend Policy: A Tobit Model Approach. *Vision: The Journal of Business Perspective*, 16(3), 153-162. <http://dx.doi.org/10.1177/0972262912460152>

Subhash Kamat, M., & Kamat, M. M. (2013). Economic reforms, determinants and stability of dividends in a dynamic setting. *Journal of Asia Business Studies*, 7(1), 5-30. <http://dx.doi.org/10.1108/15587891311300990>

Copyright Disclaimer

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/3.0/>).