Determinants of Dividends

A STUDY OF COMPANIES LISTED

In

BSE 100 INDEX

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ABSTRACT

This paper investigates the determinants of dividend decisions of the firms listed in BSE100 index. The impact of fundamental variables like profitability, size, risk, growth and liquidity on dividend payout is examined. Statistical techniques of correlation and regression have been used to explore the relationship between the key variables. The findings provide a strong support to the argument that profitability and risk of a firm have a significant impact on the dividend policy decisions of firms. The risk of a firm is also observed to be an important contributor in the dividend decisions and has a significant negative correlation with the dividend payout. It can also be concluded that other variables like liquidity, size and growth do not have a significant impact on the dividend decisions of BSE100 Index companies.

Key words: Dividend determinants, Profitability, BSE 100 index

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INTRODUCTION

Determinants of dividends and optimal dividend payout of companies have interested researchers since a long time. Many theoretical models have also been developed to examine the most important determinants of an organization's dividend policy. Still, there is a lack of clarity on how much of the firm's profits should be distributed as dividends. Hence, companies are required to dwell on a definitive policy of dividend payout ratio.

It is difficult for corporate management to decide whether the dividend payout ratio should be fixed or not. Should companies follow the liberal dividend policy or conservative dividend policy? Whatever be the policy, it has to be critically examined based on what is suitable to the organization depending upon the external or/and internal factors; the select list includes earnings, liquidity, future growth projects, market expectation, size of the firm, market expectation, nature of business, cost of capital etc. There are still no clear guidelines available which can precisely determine the factors influencing the dividend decisions of companies and the extent to which the dividend payout is sensitive to these factors.

Walter and Gordon have both shown the supremacy of regular dividends through their models and proved that there exists a strong relationship between dividend policies and market value of the firm. However, another school of thought was developed by Modigliani and Miller (1961) who propagated the irrelevance theory of dividend payout. They concluded in their study that in perfect capital markets, the dividend policy had no impact on the value of the firm and it was the investment policy and the earnings of the firm which determine the share price.

LITERATURE REVIEW

International Studies

Rozeff (1982) conducted a study from 1974-1980 to analyze growth, beta and agency costs as determinants of dividend payout ratios. This paper concluded that increased dividends relate to lower agency costs but raise the transaction costs of external financing. It further concluded that dividend payout is positively related to the number of stockholders and negatively related to past and expected future growth rate of sales, beta coefficient and percentage of stocks held by insiders. Also, firms with greater investment have lower dividend payouts.

Alli, Khan and Ramirez (1993) investigated the dividend policy decision using factor analysis and OLS regression analysis. They noted variables such as beta, firm's capital expenditure and financial slack are inversely related to dividend payout.

Portaet al (2000) studied dividend payments across 33 countries from 1989 to 1994 and found that firms in countries with better legal protection for minority shareholders pay higher dividends, and companies with higher growth pay lower dividends as shareholders are willing to wait for the rewards.

Pandey (2001) studied companies belonging to six industries listed on the Kuala Lumpur stock exchange during 1993-2000. This revealed a relationship between current earnings and past dividend rate. However, he also observed high adjustments in dividend payments in order to meet the target payout ratio.

Wolmarans (2003) found Lintner's model cannot be used to explain South African dividend payments for 97 companies listed on the Johannesburg Securities Exchange Savov and Weber (2006) conducted a study for a period of 22 years from 1982-2003 for a sample of German companies to investigate the determinants of the dividend decision. A negative relation between the probability for dividend increases and the performance of the firm's shares was found as dividends are increased as a compensation for the poor returns of the current shareholders. Hence, dividend increasing companies performed worse than the overall stock market or corporations that keep dividends constant.

Denis and Osobov (2008) observed that dividends declined in USA, Canada, UK, Germany, France and Japan over 1994-2002. They also report that large and profitable companies have high dividend payouts supporting the view that distribution of free cash flow is the most important element of the dividend decision.

Chen and Dhiensiri (2009) conducted a study from 1991-1999 for a sample of companies listed on New Zealand Stock Exchange. The findings provide a strong support to the agency cost theory and partially support transaction cost and residual dividend theory. It was noted that a dividend payout ratio is positively related to the degree of ownership dispersion and negatively related to the degree of insider ownership. Also, firms that experience recent growth in revenues tend to pay lower dividends.

Al-Kuwari (2009) investigated in a study for a period of 5 years from 1999-2003 the factors influencing the dividend decisions of the firms listed on Gulf Cooperation Council country stock exchanges. The results suggest that dividend payout ratio is directly and strongly related to the government ownership, firm size and firm profitability but negatively related to the leverage ratio. These results, taken as a whole, indicate that firms pay dividends with the intention of reducing the agency problem and maintaining firm reputation, since the legal protection for outside shareholders is limited. In addition, firm's dividend policy was found to depend heavily on firm profitability.

Afza and Mirza (2010) analyzed companies listed on Karachi stock exchange for a period of 3 years from 2005-2007 and concluded that ownership, liquidity, size and leverage of a firm are negatively related with the dividend payout of the

companies whereas profitability and operating cash flow are positively related to cash dividend payout.

Indian Studies

Mohanty (1999) studied over 200 Indian companies for the period of 15 years 1982 to 1996 to examine whether the companies that offer bonus shares generate greater returns companies that pay out steadily increasing dividends. He found that for the period 1982-1991 most of the companies either maintained the dividend at the pre-bonus levels or even if dividends were decreased it was less than in proportion to the bonus issue, while some increased dividends.

Reddy (2002) analyzed the dividend payout pattern of Indian companies on BSE and NSE for the period 1990 to 2001 and concluded that there is a positive relation of variables like size, profitability and growth of the firm with the dividend payments. Also, it was established that loss incurred by firms is an important determinant of dividend reduction decisions.

Kumar (2006) studied financial structure, investment opportunities, dividend history, earnings trend and ownership structure for the period 1994 – 2000 and observed positive relation between dividends and earnings and dividend trends but none between foreign ownership and growth in dividend payout.

Kanwal and Kapoor (2008) conducted a study for a period of 7 years from 2000-2006 to empirically analyze the determinants of dividend payout policy decisions in the Indian Information Technology sector. They noted that dividend payout ratio of IT firms is positively related to the profitability and the liquidity of the firms.

Bhayani (2008) examined the influence of earnings and lagged dividend on dividend policy of the 30 Sensex companies 1996-97 to 2004-2005. He found earnings to be the most important factor affecting dividends.

Gupta and Banga (2010) examined factors like leverage, liquidity, profitability, growth and ownership structure for their impact on the dividend policy of companies listed on BSE for the period 2001-2007. Results suggested that there exists a strong negative relationship between leverage that a firm is exposed to and the dividend decisions and a positive relationship between liquidity and dividend payout.

S COPE OF WORK AND RESEARCH METHODOLOGY

The model to examine the impact of profitability, liquidity, risk, size and growth:

Dividend Payout= f {ROCE, Current Ratio, Beta, Market Capitalization, Sales Growth} where Dividend Payout is taken as a percentage of Earnings per share.

Profitability represented by ROCE (Return on Capital Employed) = Earnings before interest and taxes / (Total assets - current liabilities). We expect that firms with higher ROCE will payout higher dividends.

Liquidity represented by Current Ratio= current assets/current liabilities, shows the liquidity of a firm. We expect to find a positive relationship between current ratio and dividends.

Systematic risk represented by Beta as it measures co-movement with the market. We expect companies with higher systematic risk to compensate shareholders by paying higher dividends.

Firm Size is represented by Natural log of Market Capitalization. We want to examine whether smaller firms pay higher dividends in view of perceived risk of smallness.

Growth Rate of sales indicates future prospects and investment opportunities. We want to examine whether faster growing companies pay lower dividends as shareholders are willing to wait for returns.

The companies listed on the BSE100 Index have been analyzed in the study for the purpose of determining the factors affecting their dividend decisions. BSE100 index represents nearly 73% of the total market capitalization on BSE and covers major sectors of the economy. The companies selected in BSE100 Index are on the basis of market capitalization, liquidity and balanced industry representation.

The sample collected is for 99 companies which are constituents of BSE100 index. The cross sectional study has been done on data as on 31st March 2011. The data has been collected from the capitaline database and India info line website. The variables identified can be stated as follows:

$Y=\beta_0+\beta X_1+\beta_2 x_2+B_3 x_3+\beta_4 X_4+\beta_5 X_5$
Where
Y= Dividend Payout
β_i=Change in the dividend Payout due to a change in the factor X_i
X_1=Profitability
X_2=Liquidity
X_3= Systematic Risk
X_4=Size
X_5=Growth

Descriptive statistics and the statistical techniques of correlation and regression have been used to explore the relationship between these variables.

EMPIRICAL ANALYSIS OF DATA

For the analysis of the data, a correlation matrix was constructed and bivariate and multivariate regression analysis used Descriptive statistics of the data is presented Table 1:

Table 1: Descriptive Statistics

	Dividend Payout (%)	ROCE (%)	Current Ratio	Beta	Market Capitalization	Sales Growth (%)
Mean	29.13	23.08	2.51	0.92	10.33	78.29
Standard Error	2.39	2.20	0.50	0.04	0.10	50.40
Median Standard	24.34	16.7	1.33	0.91	10.17	22.24
Deviation	23.69	21.89	4.99	0.35	0.95	501.45
Sample Variance	561.1	479.14	24.92	0.12-	0.91-	251447.6
Kurtosis	22.78	9.28	45.51	0.18	0.38	96.82
Skewness	1.34	2.67	6.08	0.03	0.44	9.79
Range	145.37	136.53	43.07	1.67	4.27	5065.04
Minimum	-13.31	-0.6	0	0.05	8.48	-74.50
Maximum	132.06	135.93	43.07	1.72	12.75	4990.54

Table 1 provides the descriptive statistics for all the regression variables.

Sales growth has the highest mean value, highest standard deviation, highest sample variance, highest range and highest maximum value. Market capitalization has the highest minimum value.

In order to understand the relationship between the various combinations of variables, a correlation matrix has been constructed which is presented in Table 2:

Table 2: Correlation Matrix

	Dividend Payout (%)	Return on Investment (%)	Current Ratio	Beta	Market Cap.	Growth of Sales (%)
Dividend Payout (%)	1					
Return on Investment (%)	0.45	1				
Current Ratio	-0.12	-0.14	1			
Beta	-0.38	-0.50	0.095	1		
Market Cap.	0.02	0.08	-0.00096	-0.0087	1	
Growth of Sales (%)	-0.15	-0.11	0.82	0.0575	0.006117858	1

Table 2 illustrates that there is a significant positive correlation between dividend payout and Return on Investment. This implies that as the profitability of a firm increases, the dividend payout also increases. Also, there is a significant negative correlation between dividend payout and beta of a firm suggesting that dividend payout of high risk firms is lower. A negative correlation also exists between growth of a firm in respect of sales and the dividend payout which supports the argument that fast growing firms have high capital requirements and since the cost of external financing is high, their dividend payout is low. Current ratio is also found to be negatively correlated with the dividend payout. Market capitalization is weakly correlated with dividend payout as is apparent from the correlation matrix.

To get a better picture of the relationship among the key variables, regression analysis has also been performed.

REGRESSION RESULTS

Bivariate Regression Results

Table 3: R square Values

Variable	R Square	P value
ROCE (Profitability)	0.204137361	2.68E-06
Current Ratio (Liquidity)	0.015377938	0.22136
Beta (Risk)	0.145677089	9.7E-05
Market Cap. (Size)	0.000426793	0.839162
Sales Growth	0.021275705	0.1497

Table 3 suggests that regression coefficients of profitability and risk are highly significant.

Also, the maximum variation of 20.4% in dividend payout is explained by profitability followed by the risk of a firm which accounts for 14.5% change in the dividend payout.

Multivariate Regression Results

Table 4: Regression Results of Empirical Model

Multiple R	R square	Adjusted R square	Standard Error
0.497288854	0.247296204	0.206828258	21.0966126

Table 4 shows the overall dividend behavior of BSE100 Index companies as explained by the existing model.

A deeper look at the R^2 value reveals that the existing model explains 24.73 % of the dividend payment pattern of the BSE100 companies since it assumes a value of 0.2473.

Table 5: Regression Coefficients and their Significance

	Regression Coefficients	P value
Constant (Intercept)	35.51689276	0.145484
ROCE (Profitability)	0.369150732	0.001627
Current Ratio (Liquidity)	0.338463618	0.653878
Beta (Risk)	14.10961648	0.048511
Market Cap. (Size)	0.218592407	0.922546
Sales Growth	0.007346579	0.327183

Table 6: ANOVA Results

	Dof	SS	MS	F value	Significance F
Regression	5	13598.83641	2719.767	6.110916	0.00006147
Residual	93	41391.23689	445.0671		
Total	98	54990.0733			

The regression results obtained in table 5 confirmed results which were obtained from correlation matrix. The results show that two variables- profitability and risk of a firm have significant regression coefficient at 5% level of significance. Also, the same two variables have significant correlation with dividend payout as evident from correlation matrix. Our results regarding a positive and statistically significant relation between profitability and dividends are similar to the studies by Pandey (2001), Bhayani (2008), Kanwal and Kapur(2008), Al Kuwari (2009), Afza and Mirza (2010). The negative and ststistically significant relationship between risk and dividends is similar to Rozeff(1982) and Ali et al (1995).

The regression results indicate a negative and insignificant relationship between dividend payout and market capitalization and dividend payout and growth of a firm. The liquidity of a firm also has an insignificant impact on the dividend payout. This clearly indicates that these are not the important factors that influence the dividend payment decisions of BSE100 index companies.

In table 6, The F value is noted to be significant at 5 % level of significance suggesting the overall applicability of the existing model.

CONCLUSION

CThis study examines the determinants of dividends of BSE100 companies in India using cross sectional data as on 31st March 2011. It can be concluded from the results that there is a positive relationship between dividend payout and profitability which implies that profitable firms pay higher dividends. Also, the bivariate regression results indicate that profitability explains the highest amount of variation in the dividend payout of the companies studied. The risk of a firm is also found to be an important contributor in the dividend decisions and has a significant negative correlation with the dividend payout. It can also be concluded that other variables like liquidity, size and growth do not have a significant impact on the dividend decisions of BSE100 Index companies.

Since the five variables studied explain nearly 25% of the dividend behavior of BSE100 Index companies, future research can be focused on discovering other variables which can explain the remaining 75% of the behavior.

REFERENCES

Afza Talat and Hammad Hassan Mirza(2010), "Ownership Structure and Cash Flows as Determinants of Corporate Dividend Policy in Pakistan", International Business Research, Vol. 3.pp210-221

Al- Kuwari (2009), "Determinants of the Dividend Policy in Emerging Stock Exchanges: The Case of GCC Countries", Global Economy & Finance Journal, Vol. 2 No. 2.pp38-63

Alli, Kasim. L; A. Quayyum Khan and Gabriel G. Ramirez. 1993. Determinants of Corporate Dividend Policy: A Factorial Analysis, The Financial Review, Vol. 28, No.4, pp 523 – 547.

Bhayani, Sanjay J. 2008. Dividend Policy Behaviour in Indian capital Market: A Study of BSE - 30 Companies, DIAS Technology Review, Vol. 4, No. 1, pp 30 – 39.

Chen and Dhiensiri (2009), "Determinants of Dividend Policy: The Evidence from New Zealand", International Research Journal of Finance and Economics, Vol. 34.pp18-28

Denis, David. J and Igor Osobov. 2008. Why Do Firms Pay Dividends? International Evidence on the Determinants of the Dividend Policy, Journal of Financial Economics, Vol. 89, Issue 1, pp 62 – 82.

Eriotis (2005), "The Effect of Distributed Earnings and Size of the firm to its Dividend Policy", International Business and Economics Journal, Vol. 4.No1, pp 67-74

Fama, E.F. and K.R. French (2001), "Disappearing Dividends: Changing Firm Characteristics or Lower Propensity to Pay?", Journal of Financial Economics, Vol. 60 pp 3-40.

Gupta and Banga (2010), "The Determinants of Corporate Dividend Policy", Decision, Vol. 37.pp63-77

Kanwal, Anil and Sujata Kapoor. (2008). Determinants of Dividend Payout Ratios – A study of Indian Information Technology Sector, International Research Journal of Finance and Economics, Issue 15, pp 63 – 71.

Kumar Jayesh (2006), "Corporate Governance and Dividend Payout in India", Journal of Emerging Market Finance, Vol. 5.No. 1, pp 15 – 58.

Modigliani, Franco and Merton H. Miller. (1961). Dividend Policy, Growth and the Valuation of Shares, Journal of Business, Vol. 34., No. 4, pp 411-433.

Mohanty, Pitabas (*1999*). "Dividend and Bonus Policies of Indian Companies: An Analysis" .Vikalpa : The Journal For Decision Makers, *Oct-Dec, Vol.24, No.4 pp35-42.*

Narasimhan, M.S. and Asha, C. (1997), " Implications of Dividend Tax on Corporate Financial Policies", The ICFAI Journal of Applied Finance, Vol. 3.No 2, pp 11-28.

Pandey, I., M. (2001). Corporate Dividend Policy and Behaviour: The Malaysian Experience, Working Paper No. 2001 – 11 – 01, November, pp 1 – 21.

Porta Rafael La, F. López-de-Silanes, A. Shleifer, and R. Vishny (*2000*) "Agency Problems and Dividend Policies around the World,", *Journal of Finance, February*.Volume 55, Issue 1, pp 1 – 33

Ramcharran, H. (2001), "An Empirical Model of Dividend Policy in Emerging Equity Markets", Emerging Markets Quarterly, Spring.pp39-50

Reddy, Y. Subba. 2002. Dividend Policy of Indian Corporate Firms: An Analysis of Trends and Determinants, NSE Working Paper No. 19, December, pp 1 – 47.

Rozeff (1982), "Growth, Beta and Agency Costs as Determinants of Dividend Payout Ratios", The Journal of Financial Research, Vol. V No. 3 Fall, pp 249 – 259.

Savov and Weber (2006), "Fundamentals or Market Movements: What Drives the Dividend Decision?" Working Paper, Social Science Research Network.

Wolmarans HP (2003)"Does Lintner's dividend model explain South African dividend payments? "*Meditari Accountancy Research Vol. 11 pp 243–254*