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Determinants of Dividend Yield in the Case of Indian Companies

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Abstract: The dividend policy of a firm is a major aspect of corporate financial management. It has possible effects on share prices, financing through retained profits, equity financing and gearing ratio. The present study examines the determinants of corporate dividend decision of Indian companies included in the Nifty 50 and Nifty Junior as on 1st October 2014. The data has been sourced from CMIE Prowess database. In order to identify the determinants of dividend yield, organizational variables like Age of the firm (AGE), Earnings Per Share (EPS), Market Price To Book Value Ratio (MBR), Market Capitalization (MCAP) and Debt-Equity Ratio (DER) were used as independent variables. The results of the regression shows that Market Capitalization and Earnings Per Share has significant influence on dividend decision of a company whereas other factors like Age, Market Price To Book Value Ratio and Debt-Equity Ratio did not show a significant relationship with dividend yield.

Keywords: Dividend yield; Earnings per share; Market capitalization.

1. Introduction

The factors that drive dividend policy of a company have been topic of extensive research for a long time now. Since there are financial and non-financial factors which could influence the dividend policy of a firm, researchers have used different methods to assess and analyse the factors and its influence. But may at times, the results were inconclusive in nature and has given contradicting results too. Established finance researchers have taken a long-standing position that dividends are irrelevant, and they have no influence on the share price, given that the capital markets are perfect (Miller and Modigliani, 1961). But given the fact the capital markets are not perfect, there are researchers who follow a different school of thought which suggests that dividends do matter. Many empirical works also support this view as it was proved that investors and managers prefer dividends. Though considered as a residual decision, financial analysts, academicians and researchers are always curious about the impact of dividend decision on the wealth maximization objective of a firm. Because the dividend decision which deals with the residue has strong links with the financing and investment functions of a firm. As the underlying objective of all financial decisions is to maximize shareholders' wealth, is important to understand the firm characteristics which are significant in determining the dividend policy.

The primary objective of this study is to understand and analyze the determinants of dividend yield of Indian firms. Specially, the study focuses on and seeks to answer the question: What are the major determinants of dividend yield as far as Nifty 50 Index and Nifty Junior companies in India are concerned?

This paper is divided into five sections. Section I is the introduction followed by section II which reviews the related literature. In section III, methodology used in the research is discussed. The analysis and interpretation of results have been done in section IV, followed by the conclusion in the last section.

2. Review of Literature

The topic of dividend policy is one of the most complex topics in corporate finance. This section provides an overview of major empirical papers and theories in the area of dividend decision. The purpose of this section is to explain meaningfully the theoretical issues related to corporate dividend policy and to arrive at the research problem.

Lintner (1956) model, which is based on the assumption that the companies have long – run plans on dividend payout ratios, suggested that dividend of a firm is influenced by a firm's current earnings and dividend of the previous year. The model also proposed that sustainability of earnings increase the share price. It was also pointed out that 'mature companies' with stable earnings generally pay out a high proportion of earnings and growth companies have low payouts.

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According to Deshmukh (2003), the size of the company is a key determinant in dividend decisions. A large company finds it easier to raise funds from the markets when it is required, so its dependence on internal funding will be less. The big companies can reduce the costs associated with raising of funds from the markets. So large companies tend to increase their dividend payout ratio. But along with the size of the company, the proportion of debt component in its balance sheet also influences the dividend payout as large proportion of debt could reduce the cash surplus with the firms.

Table-1. Theories and identified proxy variables

Name of Theory	Description	Proxy Variable(s) Identified	Relation
Lintner's model	Dividend depends on firm's current earnings and dividends of previous year which in turn depends on earnings of previous year and dividends of the year before.	EPS (Earnings Per Share)	Positive
Phase of development	Mature companies have stable earnings and so they give high payouts. Growth companies, on the other hand, have low payouts	AGE	Positive
Size of the firm	A large company is likely to pay more dividends than a small company because it has better access to capital markets and therefore less dependence on internal funding	MCAP (Market Capitalization)	Positive
Leverage	A firm with a large debt on balance sheet may not be able to give high dividends because cash flow is required to meet obligations of creditors and lenders.	D/E (Debt to Equity Ratio)	Negative
Signalling hypothesis	It suggests that company announcements of an increase in dividend payouts act as an indicator of firm possessing strong future prospects. A manager who has good investment opportunities is more likely to 'signal' than one who does not because it is in his or her best interest to do so.	SHARE_TURN (Share Turnover)	Negative
Pecking order hypothesis	Firms with better growth and investment opportunities like to retain more funds for internal funding and accordingly pay fewer dividends. The hypothesis suggests that firms finance investments first with the internal finance and if external financing is necessary, firms prefer to issue debt before issuing equity.	MBR (Market to Book Value Ratio)	Negative
Agency cost theory	It involves costs of resolving conflicts between the principals (shareholders) and agents (managers) and aligning interests of the two groups.	NO_STOCK (No. of Stockholders) INSIDERS (No. of Insiders)	Positive
MM dividend irrelevance theory	With no taxes or bankruptcy costs, dividend policy is also irrelevant indicating that there is no effect of dividends on a company's capital structure or stock price	STOCK_PRICE	No effect
Bird-in-hand theory	Because of uncertainty of future cash flow, investors tend to prefer dividends to retained earnings. As a result, a higher payout ratio will reduce the required rate of return (cost of capital) and hence increase the value of the firm	STOCK_PRICE	Positive

Source: <http://vis.sagepub.com/content/16/3/153>

Rozeff (1982) concluded that investment policy of a firm has influence on its dividend policy. He enumerated a number of factors like insider shareholding ratio, past and future revenue growth, beta value of the firm and number of common stock holders which showed significant influence on the dividend policy of a firm, when cross sectional studies are conducted. Holder *et al.* (1998) reported that the agency problem between the shareholders and managers can be reduced with the help of dividends. Dividend payments can reduce the costs associated with information asymmetry and also reduce the cash flow under management control, thereby reducing the agency problems. Another outcome of the agency theory is the impact of 'ownership structure' of a company on dividend policy. In a family owned firm, it is reasonable to expect higher retention ratio, than in a company where the shareholding pattern is diverse.

Fama and Babiak (1968) has made a definitive attempt to explain the dividend decisions. Though they found that Lintner's model continued to explain dividend behaviour quite well, they suggested a slightly different model with lagged earnings (last period's) as well as lagged dividends which has higher explanatory power. Akhigbe *et al.* (1993) studied the common share price response of unregulated firms and their dividend policies and found a positive relation between the two. However, they concluded that market reaction is not related to firm-specific variables like profitability, leverage or firm size. Since financial statements of insurers do not divulge comprehensive information about the market value of some assets, investors depend more on other indications of variations in financial condition. One such signal is a change in dividend policy. In general, firms tend to avoid unwanted changes in their dividend policy as it could have signaling effects.

Glen *et al.* (1995) studied dividend policy of firms in emerging markets. They found that dividends have little signaling content in these markets. Pandey (2003) studied about Malaysian companies and revealed that their dividend behavior is sensitive to changes in earnings. In the study he attempted to answer the questions like whether payout ratios differ across industries (sectors)? (2) What type of dividend actions are possible when earnings are expected to change? and (3) Do Malaysian firms follow stable dividend policies? The results showed that there are significant differences in payout ratios among industries in Malaysia. Hauser (2012) studied the relationship between distribution of earnings and age of a firm and found that dividend payout increases with the age of the firm and both are positively related. This positive relationship could be because of increase in free cash flow of the firm over the years. Jensen and Meckling (1976) and several others claimed that dividend policy has an effect on 'agency cost' and 'capital structure' of a firm. They recommended payment of dividends will reduce monitoring costs which will ultimately reduce the agency cost. Jensen *et al.* (1992) outlined the interface among financial policies, such as dividend policy and leverage, and the relationship between insider ownership and information asymmetries. They examined the cross-sectional differences in insider ownership, debt and dividend policies. Despite strong theoretical and empirical evidence that insider ownership and firm financial decisions are interdependent, the results of their work have been inconsistent.

Holder *et al.* (1998) has investigated on how dividend policy affects firm value by scrutinizing the interaction between the dividend and investment policies. They proposed that both non-investor stakeholders and capital suppliers influence a firm's dividend policy. The results showed that the dividend and investment policies of a firm interact and influence each other. Fama and French (2001) attributed decline in dividends of sample companies to changing characteristics of firms. The waning in the dividend payment is due to the fact that many of the publicly traded firms have moved towards the characteristics such as small size, low earnings, and large investments relative to earnings which are otherwise the characteristics of firms which pay low dividend. Lee and Ryan (2002) analyzed the dividend signaling hypothesis and the direction of causality between earnings and dividends. They found that dividend payment is influenced by recent performance of earnings and free cash flows. Lee and Ryan (2002) examined the information content of dividend initiation and omission announcements by examining the firm's earnings and the impact of growth opportunities on earnings.

Harada and Nguyen (2011) analyzed the effect of ownership concentration on the dividend policy of Japanese firms. It was found that firms with higher ownership concentration pay lower dividends, both in proportion of operating earnings and relative to book value of equity.

Omran (2003) addressed three issues regarding the dividend policy of Egyptian firms namely the role of dividend policy in share price determination; the determining factors of dividend payout ratios; and the factors which help to maintain the stability of dividends. Oskar *et al.* (2007) explored the determinants of the dividend policy in Poland and also tested whether corporate governance practices determine the dividend policy in the non-financial companies listed on Warsaw Stock Exchange. They concluded that corporate governance is an important factor which explains the dividend policy of Polish public companies

Aldin (2008) examined corporate dividend decisions of publicly traded companies in ASE Jordan. The study encompassed of corporate which are dividend payers and non-payers. It was found that the industry effects seems to have no impact on corporate dividend decisions. Rafique (2012) made an effort to understand the dividend payout ratio of non-financial firms listed in the KSE100 Index. The variables considered for the study were earnings, firm size, growth, profitability, and corporate tax & financial leverage. Through observation, 53 such companies were identified from the listed non financial firms in the Karachi Stock Exchange that have been dividend payers consistently for the past 6 years (2005-2010). These 53 companies represent 11 sectors. Results revealed that corporate tax and firm's size had significant relationship with dividend payout. The other four explanatory variables were found to be insignificant in context of Pakistani markets. Hashim *et al.* (2013) investigated the determinants in context of Pakistani banking industry. The four variables namely, liquidity, profitability, previous year dividend and

ownership structure showed highly significant relationship with the dividend payout of Pakistani banks. Komrattanapanya (2013) had tried to determine the factors that influence the dividend payout of all firms listed in the Stock Exchange of Thailand (SET) during year 2006 to 2010. Using the Tobit regression analysis, it was found that financial leverage, investment opportunities, and sales growth negatively affected the dividend payout; on the other hand, size of firm is positively influenced the dividend payout.

Malik et al. (2013) examined the determinants of dividend policy of firms listed on Karachi stock Exchange and are part of KSE-100 index. Using panel data of 100 financial and non-financial firms over the period 2007 to 2009 they found that liquidity, leverage, earning per share, and size are positively related to dividend, whereas growth and profitability are found to be insignificant determinant of dividend policy.

3. Research Methodology

It is indeed advantageous for the stakeholders to discern the factors which influence the corporate dividend policy and hence this study is an attempt to measure the influence of different organizational variables in its dividend policy. The objective of this study is to understand the influence of various organizational variables on the corporate dividend policy in the case of companies in India. For this study, the sample is chosen from the companies which are included in Nifty 50 and Nifty Junior as on 1st October 2014. The companies which satisfy the following criteria from the list are included in the sample: (1) The companies should have paid dividend continuously for the past 10 years. (2) The dividend paid can be either interim dividend or final dividend. The data has been sourced from CMIE Prowess database. The frequency of data is annual. The time period selected is from 2003 to 2013. The dependent variable is Dividend Yield (DYLD) measured as Dividend per share/ share price. The independent variables are Market price to book value ratio (MBR), Age (Years that company has been in to existence), Market capitalization (MCAP), Debt-equity ratio (DER) and Earnings per share (EPS). The limitation of the study is that only companies included in NIFTY 50 and NIFTY JUNIOR were considered for the study. Therefore the results may only be applicable to large companies.

4. Analysis and Interpretation

As far as the dividend decision is concerned, companies have only two options, either to pay or not to pay dividends. As a result, the observed dependent variable (dividends) exhibits a special feature as it can take only two outcomes. It is either equal to zero or positive. Dividends can never be negative. Therefore, ordinary least square (OLS) is not an appropriate method to analyze the payment of dividends because of the nature of the dependent variable. In such a backdrop, it is better to apply Multiple Regression Model. The regression equation is shown below:

$$DYLD = a + b_1 AGE + b_2 MCAP + b_3 EPS + b_4 MBR + b_5 DER$$

Where DYLD stands for dividend yield

Age stands for age of the firm

MCAP stands for market capitalization of the firm

EPS stands for earnings per share of the firm

MBR stands for market to book ratio

DER stands for debt – equity ratio

The results of multiple regression analysis is given below.

Table-2. Results of Multiple Regression Test
Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.685 ^a	0.469	0.424	18.61496	2.33

a. Predictors: (Constant), DER, MCAP, EPS, Age, MBR

b. Dependent Variable: DYLD
Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-3.21	8.257					
	Age	0.17	0.088	0.191	-0.389	0.699	0.914	1.095
	MCAP	3.95E-05	0	0.687	1.924	0.059	0.937	1.067
	EPS	-0.144	0.064	-0.225	7.015	0	0.917	1.091
	MBR	0.351	0.728	0.048	-2.272	0.027	0.896	1.116
	DER	-0.667	1.468	-0.045	0.482	0.632	0.9	1.111

The results reveal that there is no heteroscedasticity and multicollinearity. The model clearly shows the importance of Size (Market Capitalization) and EPS as significant determinants of dividend policy in Indian scenario using the data from Nifty 50 and Nifty Junior index companies. The result also shows the insignificance of other determinants namely, Age of Firm, Debt-Equity Structure and Growth Opportunities of the Firm (MBR). The regression model of the study is given below:

$$DYLD = -3.210 + 3.952(MCAP) - .144(EPS)$$

The Age of the firm is positively related to the dividend yield but as shown in the tables the coefficient is insignificant i.e. it explains the linear relationship between the age of the firm and dividend yield. The coefficient of MBR is positive but insignificant. Thus a linear relationship exist between MBR and dividend yield. As far as firm's profitability is concerned, the estimates of EPS are significant but contrary to the expectation, negative. This suggests that profitability is a critical determinant of level of dividends paid by Indian companies. The relationship between firm's financial leverage and dividend yield is negative and statistically insignificant as per the estimates of the coefficient on debt-to-equity ratio (DER). This suggests that the level of dividend payments seems to be negatively correlated. Another variable found to be a critical determinant of corporate dividend policy in India is the firm size. As expected result shows that the MCAP is positively correlated with DYLD. Firm size as measured by the market capitalization is positively related to dividend yield. The positive and significant correlation between dividend yield and size suggests the ability of large firms to pay more dividends.

5. Conclusion

The present study was carried out in order to identify the determinants of dividend policy of Indian firms. The organizational variables chosen for the study were age, earnings per share, market price to book value ratio, market capitalization and debt-equity ratio. In order to ensure that the results are robust, several diagnostic tests variance inflation factor test and Durbin-Watson test were performed. Using the multiple regression model, it was found that only two of the determinants, earnings per share and market capitalization are significant for dividend policy determination for the sample companies while other determinants, namely, age, market price to book value ratio and debt-equity structure were found to be insignificant along with negative significance of the earnings per share. The results of the study can be used by investors to take informed decision while deciding on investments based on dividend yield, and significant determinants can be used to predict dividend yields in future.

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