

Determinants of Dividend Payout in Emerging Economies: Evidence from Pakistan

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Abstract

Dividend policy is one of the top ten most difficult unsolved problems in financial economies. The harder we look at the dividend picture, the more it seems like a puzzle, with pieces that don't fit together". Lot work has been done in developed economies, while few researchers addressed this phenomenon in emerging economy. This study aims to investigate the determinants of dividend payout in Pakistan. For this purpose non-financial firms (consistently paying dividend from 1999 to 2009) listed on Karachi Stock Exchange are selected for the study. From different sectors only 35 dividend paying firms are selected for the study. The results show that current earnings and net earnings have significant relationship with dividend payout, while profitability, firm size, and financial leverage have insignificant relationship with dividend payout in Pakistan. Sales growth and corporate tax are significant at 90% confidence interval in emerging economy like Pakistan.

Keywords: Dividend payout, Determinants of Dividends payout, emerging economies, OLS

Introduction

Dividends are payments that organizations pay to its shareholders in the form of cash, stocks, and liquidating dividends from its earnings. Dividend policy is related to why and how much dividend will be paid to shareholders. Dividend policy has been analyzed for many decades, but no universally accepted explanation for companies observed

dividend behavior has been established. Brealey & Mayers (2005) described dividend policy as one of the top ten most difficult unsolved problems in financial economies. This description is consistent with Black (1976) who stated that “The harder we look at the dividend picture, the more it seems like a puzzle, with pieces that don’t fit together”.

Dividend payout is a puzzling phenomenon. Researchers proposed various theories regarding dividend payments but there is no single theory on which they decide to agree. The debate regarding dividend policy started from the work of Miller & Modigliani (1961). They proposed dividend irrelevance theory in which they demonstrated that dividend is irrelevant whether companies pay it or not, it does not affect shareholders wealth. Their theory is based on certain assumptions. According to this theory the overall value of the shareholders is same in both cases if a firm pays dividend or it gives earning to shareholders in form of capital gains. The assumptions on which MM Irrelevance Theory is based on are:

- There is a perfect market.
- Information is equally available to all stakeholders.
- There are no taxes.
- There are no transaction costs.
- There are no agency costs.

This irrelevance hypothesis was supported by many researchers (Black & Scholes, 1974, Miller & Scholes, 1982, Bernstein, 1996, Uddin & Chaudary, 2005, Kaleem & Salahudin, 2006).

Besides the support of MM irrelevance hypothesis there are also many researchers who rejected this hypothesis (Baker et al. 1985, Partington,

1985, Siddiqui, 1995, Baker & Powell, 1999, Rasheed and Rehman, 2009).

Gordon & Lintner (1963) introduced “Bird in Hand” theory of dividend policy, which states that investors are risk averse so they prefer dividends instead of future capital gain, thus increase in dividends will also increase firm’s value. According to Gordon (1959) there are three reasons for investment in stocks. The first one is to get dividends and earnings. The second one is to get dividends only, and the third one is to get earnings only. He also argued that dividend affect share prices more than retain earnings.

There are also many theories addressing dividend policy such as tax preference theory, agency theory of Jensen & Meckling, signaling theory, transaction cost and residual theory, and life cycle theory of dividend. All these theories are explained in greater detailed in the coming section.

The introduction of Code of Corporate Governance by Securities and Exchange Commission of Pakistan (SECP) in 2002 led to increase interest in analyzing the dividend behavior of the firms. In particular, the focus involved the determination of dividend policies in Pakistan, which is the central issue of this area. The importance of this study is that a lot of research is done in developed markets, while little attention has been paid to dividend policy in emerging markets like Pakistan. The nature, characteristics, and efficiency of dividend policy are different in emerging and developed markets.

Research Question

What are the main determinants of dividend payout in Pakistan?

Research Objectives

- 1) To explore the relationship between net earnings and dividend payout.
- 2) To find out the relationship between corporate tax and dividend payout.
- 3) To find out the relationship between sales growth and dividend payout.
- 4) To explore the relationship between firm size and dividend payout.
- 5) To explore the relationship between financial leverage and dividend payout.
- 6) To explore the relationship between profitability and dividend payout.
- 7) To explore the relationship between current or anticipated earnings and dividend payout.

Literature Review

From the last five decades several theoretical and empirical studies are done indicating and exploring mainly three outcomes; market value of the firm is affected by increase or decrease in dividend payout or firm market value is not affected by dividend payout at all. However, literature and empirical evidence show that the determinants of dividend policy are very mixed.

Baker & Nurgler (2004) proposed catering theory which is that managers give incentives to the investors according to their needs, wants, and in this way cater the investor by paying smooth dividends. Adaoglu (2000) explore the determinants of dividend policy of the firms listed on Istanbul Stock Exchange and found that main determinants of dividend payments are firm's earnings. Angelo et al.

(2004) also found a highly significant association between the decision to pay dividend and the ratio of earned equity. Naceur et al. (2006) investigated the determinants of dividend policy of Tunisian Stock Exchange. They found that firms with higher growth rate and a stable earning, generate a larger positive cash flows and because of this they pay larger dividends. Furthermore, larger dividend payments will attract investors. They also found that there is no impact of ownership concentration on dividend payments. There is negative relationship between liquidity of the firm's and dividend payments. Reddy (2006) found that firms having paying consistent dividends are profitable, large in size, and growing. Amidu & Abor (2006) also explored dividend payout policy decision of listed firms of Ghana Stock Exchange. They found that cash flow, profitability, growth, and future investment opportunities influence dividend payout decisions.

A comprehensive study of dividend policy in Australia and Japan was conducted by Ho (2002). He examined a panel data of stocks from ASX 200 & Nikkei 225 Index using fixed effect regression model. The study found that there is a positive association between dividend policy and size of the firms in Australia, and there is a positive relationship between liquidity and dividend policy and negative relationship with risk in Japanese context. Myers & Frank (2004) explored the impact of financial variables on dividend decision. To assess the impact they examine a sample of 483 firms from Moxex Investor Database using OLS regression. They found that high P/E ratio is related with high payout ratio because of low risk. They also found that debt to equity ratio was positively related to dividend payout ratio.

Dhanani (2005) explored the determinants of dividend policy by using survey methodology. The sample of the study consisted of 800

financial and non-financial firms listed on London Stock Exchange. The main focus of the study was to find the importance and relevance of various theories of dividend in UK listed companies. The study found that UK managers support the general dividend relevance hypothesis. Companies generally refute residual dividend policy for investment decision, and also believe that dividend decisions allow limited flexibility with which they influence capital structure which is in line with signaling hypothesis. Ayub (2005) explored the impact of firms' specific factors on corporate dividend payments in Pakistan. The sample of his study consisted of 180 firms listed on Karachi Stock Exchange from 1981 to 2002. The study found that only 23% of profits are distributed in form of dividend, and the remaining 77% profits are kept for additional investments. Moreover, in those firms where directors own a large number of shares pay high dividends. He also found that profitability, insider's ownership and retained earnings are positively, while liquidity is negatively associated with cash dividends. Kumar (2006) studied the relationship between dividend payout and corporate governance in India. He found significant positive relationship of dividend with investment opportunities and earning trends and negative relationship with debt-to- equity.

Hypothesis of the Study

The literature led us to the following hypothesis:

- 1) There is a positive relationship between net earnings and dividend payout.
- 2) There is a negative relationship between corporate tax and dividend payout.
- 3) There is a positive relationship between sales growth and dividend payout.

- 4) There is a positive relationship between firm size and dividend payout.
- 5) There is a negative relationship between financial leverage and dividend payout.
- 6) There is a positive relationship between profitability and dividend payout.
- 7) There is a positive relationship between current earnings and dividend payout.

Methodology

The population of the study consists of all non-financial companies listed on Karachi Stock Exchange. The study focuses on identifying the main factors of dividend payout, so only those firms which consistently pay dividends from 1998 to 2009 are considered for the study. On the basis of this restriction only 35 firms are found from eight different sectors that are consistently paying dividend. Ten firms were selected from textile sector, seven firms from chemical and pharmaceutical sector, seven from engineering sector, two firms from sugar industry, three firms from paper and board sector, four firms from oil and gas sector, one from tobacco sector, and one from miscellaneous sector. These firms are selected on the basis of consistent dividend payments from 1998 to 2009. Data was collected from financial statement analysis, a report issued by State Bank of Pakistan. The data is reliable because it is issued by SBP which is a central regulatory body of the country.

Dependent Variable

Dividend payout is our dependent variable which is measured as dividend over net profit.

Independent Variables

Current or Anticipated Earning: Current earnings are measured as EBIT over total assets.

Corporate Tax: Corporate tax rate (35%), measured as corporate tax over profit before tax.

Sales Growth: Increase in firms sales from previous year to the current year, and measured as current year sales over previous year sales.

Firm Size: Firm size is measured by taking a natural log of total assets.

Financial Leverage: It shows the debt portion of the firm, and is measured as total debt over total equity.

Profitability: The earning of a firm from its equity portion, and measured as net profit over equity.

Net Earnings: Net earnings are the earning per share after tax, and measured as net income over number of share outstanding.

Table 1 Variables Definition

Variables	Description	Expected Relationship
Dividend payout ratio	Dividend / Net Income	
Current Earnings	EBIT / Total Assets	Positive
Corporate Tax	Corporate Tax / Profit before tax	Negative
Sales Growth	Current Year Sales/ Previous year Sales	Positive
Financial Leverage	Total Debt / Total Equity	Negative
Firm Size	Natural log of Total Assets	Positive
Profitability	Net Profit / Equity	Positive
Net Earnings	EPS after tax	Positive

Regression Analysis

Various econometric tools are applied to check the relationship of dividend payout and factors that affect dividend payout ratio. The most important method is Ordinary Least Square (OLS) regression. The general equation of the study is:

$$\text{DPR} = \beta_0 + \beta_1 (\text{CE}) + \beta_2 (\text{FL}) + \beta_3 (\text{CT}) + \beta_4 (\text{SG}) + \beta_5 (\text{NE}) + \beta_6 (\text{FS}) + \beta_7 (\text{PR}) + \mu_t$$

Where,

DPR = dividend payout ratio

β_0 = intercept

β_1 = slope

CE = current earning

FL = financial leverage

CT = corporate Tax

SG = sales growth

NE = net earning

FS = firm size

PR = profitability ratio

Before applying OLS regression there are certain assumptions of OLS which are checked. These assumptions are that there is no multicollinearity in data, there is no auto correlation, there is heterokedasticity in data, and there is no outlier in the data. To fulfill these assumptions, we apply various econometric models.

Heterokedasticity

The condition for linear regression model is that there should be no heterokedasticity in data. It means that variance of error term is constant. Due to heterokedasticity standard error and t-statistic may increase or decrease. To check for this, different tests such as White

heterokedasticity test, Breusch-Pagan Godfrey tests, Harvey test, Glejser test, and ARCH test were available, we applied White test to check heterokedasticity because it considers both linear and non linear relationship. If the probability is less than 5% or equal there is an issue of heterokedasticity. If the probability is greater than 5%, there is no issue of heterokedasticity. The results of White test indicated that there is no issue of heterokedasticity.

Multicollinearity

The assumption of OLS is that there should be no multicollinearity in data. This means that there is no relationship between explanatory variables. If there is multicollinearity in data it will affect beta of the model as well as t-statistic which can lead to unbiased results. If the probability of the relationship between two independent variables is greater than 5% there will be issue of multicollinearity in data. It can be minimized but cannot eliminate. To minimize multicollinearity the first step is that data should be normal; there should be no outlier in data. We can see it also from correlation matrix. Durban- Watson stat also indicate multicollinearity issue. If Durban-Watson value is less than 1.5, than there is an issue of multicollinearity.

Autocorrelation

Another assumption of OLS regression is that there should be no autocorrelation in data. It means that covariance of error term should be zero, and if it is not equal to zero there will be an issue of autocorrelation in data.

Empirical Results

Descriptive Statistics

Table 2 Descriptive Statistics

	DPR	SG	CT	CE	FL	FZ	NE	PR
Mean	0.459	1.153	0.33	0.154	1.334	7.944	0.187	0.214
Median	0.427	1.120	0.30	0.122	1.170	7.884	0.115	0.208
Maximum	3.034	3.855	9.50	1.288	6.372	11.941	2.019	0.939
Minimum	-0.455	0.422	-0.21	-0.214	0.026	4.006	1.242	-1.363
Std. Dev.	0.359	0.296	0.68	0.147	0.983	1.451	0.275	0.171

Table 2 shows the descriptive stat of data. Dividend payout ratio has a mean value of .459, median value of .427, maximum value of 3.034, minimum value of -.455, and standard deviation of .359, which shows that data of dividend payout ratio is normal. Sales growth has a mean value of 1.153, median value of 1.120, maximum value of 3.855, minimum value of .422, and standard deviation of .296. Corporate tax has a mean value of .33, median value of .30, maximum value of 9.50, minimum value of -.21, and standard deviation of .68. Current earning has a mean value of .154, median value of .122, maximum value of 1.288, minimum value of -.214, and standard deviation of .147. The data for all these variables is normal as shown in the table, so one of the basic requirements of OLS is fulfilled. Thus we expect that there is no multicollinearity in data.

Correlation Matrix

Table 3 Correlation Matrix

SG	CT	CE	DPR	FL	FS	NE	PR
1							
-0.087	1						

0.053	-0.0836	1					
-0.056	-0.0955	0.141	1				
0.184	-0.0004	-0.143	-0.013	1			
0.005	-0.0293	0.125	-0.074	0.240	1	0.140	
0.090	-0.0738	0.127	-0.125	-0.028	0.140	1.000	
0.225	-0.0932	0.480	0.071	0.460	0.109	0.264	1

Table 3 represent correlation matrix of our variables. Correlation matrix shows degree of association among variables, and also direction of relationship among variables. Sales growth has positive but insignificant relationship with dividend payout ratio. However the relationship is significant at 10% of confidence interval. Corporate tax has negative significant relationship with dividend payout ratio. Current earnings have positive but insignificant relationship with dividend payout ratio. However, the relationship is significant at 10% confidence interval. Financial leverage has negative significant relationship with dividend payout ratio. Firm size has also negative significant relation with dividend payout ratio. Net earnings have negative insignificant relation with dividend payout ratio in Pakistan. Profitability ratio has positive and significant relationship with dividend payout ratio. The correlation matrix also shows that the associations among variables are not greater than .5, so it is proof that there is no issue of multicollinearity in data.

Heterokedasticity Test

Table 4 Heterokedasticity Test

Heterokedasticity Test: White				
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F-statistic	1.478818	Prob. F(7,385)		0.1732
Obs*R-squared	10.29015	Prob. Chi- Square(7)		0.1727

By using White test of heterokedasticity, table 4 shows that probability is insignificant (.1732), so there is no issue of heterokedasticity in data. All the assumptions of OLS we stated earlier are fulfilled, now we apply OLS regression to check the relationship between dependent variable and independent variables.

OLS Regression

Table 5 OLS Regression

Dependent Variable: DPR				
Method: Least Squares				
Date: 11/28/13 Time: 22:38				
Sample: 1 393				
Included observations: 393				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.694	0.124	5.611	0
SG	-0.085	0.061	-1.380	0.168
CT	-0.044	0.026	-1.649	0.100
CE	0.378	0.195	1.938	0.053
FL	-0.010	0.021	-0.491	0.624
FS	-0.017	0.014	-1.222	0.222
NE	-0.181	0.073	-2.497	0.013
PR	0.001	0.172	0.003	0.998
R-squared	0.057			

Adjusted R-squared	0.040			
F-statistic	3.349			
Prob(F-statistic)	0.002	Durbin-Watson stat		1.609

Table 5 shows regression analysis of our variables. Our dependent variable is dividend payout ratio and sales growth, corporate tax, current earning, financial leverage, firm's sales, net earnings, and profitability ratios are our independent variables. As we can see from the table the constant value is significant which means that there are other variables that explain variance in dependent variable but have been left out in the study.

Adjusted R-square shows the explanatory power of the independent variable. The value of Adjusted R-square is .040, which means that 4% variation in dividend payments is explained by our independent variables. The most important value is the F-statistic value which tells about model fitness. The value of F-statistic is 3.349 which is significant (prob F-stat .002) so our model is fit. Durbin-Watson stat gives signals about the issue of multicollinearity. If the value of Durbin-Watson stat is greater than 1.5, than there is no issue of multicollinearity.

As we can see from the table sales growth has negative insignificant relationship with dividend payout ratio at 95% confidence interval. However, the relationship is significant at 90% confidence interval. T-statistic shows significant of relationship between dependent and independent variables. Corporate tax has also negative insignificant relation with dividend payout; however the relationship is significant at 90% confidence interval. Current earning has a positive and significant relationship with dividend payout, which means that

increase in current earning will bring increase in dividend payments. Financial leverage has negative and insignificant relationship with dividend payment, which means that firms with higher level of debt to equity ratio will pay no or less dividend to their shareholders. Firm size has negative and insignificant relationship with dividend payment, which means that large or small firms will pay dividend equally. There is no differentiation that larger firms will pay more dividends to their shareholders than the small firms. Net earnings have negative but significant relationship with dividend payments. Normally net earnings will have positive significant relationship with dividend payments but here the case is opposite which may means that the firms has growth opportunities so they invest. Profitability ratio has a positive but insignificant relationship according to the above results. One possible explanation for that is that firms pay dividends to attract more investors to buy their shares irrespective of their profit.

Conclusion

Dividends are payments that organizations pay to its shareholders in the form of cash, stocks, and liquidating dividends from its earnings. Dividend policy means why and how much dividend will be paid to shareholders. Dividend policy has been analyzed for many decades, but no universally accepted explanation for companies observed dividend behavior has been established. Brealey & Mayers (2005) described dividend policy as one of the top ten most difficult unsolved problems in financial economies. The purpose of the study is to identify factors that affect dividend payout of the firms listed on Karachi Stock Exchange. 35 firms are selected on the basis of consistent dividend payments from 1998 to 2009.

The results show that current earnings and net earnings have significant relationship with dividend payment in Pakistani firms. However, net earnings have negative relationship which may mean that firms have investment opportunities. Sales growth and corporate tax are significant at 90% confidence interval, but their relationship with dividend payments is also negative. One reason for this the relationship could be that firms know their sales are increasing so they retain their earnings to purchase new machinery to fulfill the demand of the market. The relationship between corporate growth and dividend payments is negative, which means that when tax rate increases firms pay less dividends to their shareholders because dividend income are tax deductible at source. Financial leverage and firm size have negative and insignificant relationship with dividend payments. The reason is that in Pakistan firms may pay dividend irrespective of their size (small or large).

Limitations and Future Research

Although current study is significant addressing dividend policy in emerging markets like Pakistan, but there are certain limitations as well such as; the data period of the study is too short which is only 11 years; sample of the study is also minimum consisting only 35 firms; the study only take Pakistani market it will be better to consider others emerging markets like India or Bangladesh; the R-square of the study is too small which shows that others important variables are missed, so one can use more variables to better understand the relationship; also the availability of time and resources are limited. So one can do future research by adding more factors to the regression equation, which affect dividend payments, increase sample size,

increase time period, also select other emerging markets and compare it with Pakistani market.

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