IOSR Journal of Economics and Finance (IOSR-JEF)
e- ISSN: 2321-5933, p-ISSN: 2321-5925. Volume 9, Issue 5 Ver. III (Sep – Oct. 2018), PP 39-47
www.iosrjournals.org

Determinants of Dividend Policy: Evidence From Non-Financial Firms Listed With Dhaka Stock Exchange

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Abstract: *Dividend policy is one of the most significant issues in modern corporate finance. The focus of this report is to study the determinants of dividend payout for listed non-financial firms of DSE (Dhaka Stock Exchange), an emerging market in South Asia. In order to understand the dividend policy of non-financial firms in Bangladesh, this report has examined the influence of liquidity, leverage, profitability, growth, size and historical dividend on the dividend payout ratio of firms. The predictor variables include profitability, size of the firm, liquidity, growth opportunity, leverage, firm's risk and previous year's dividend. This report has explained each determinant supporting the literature review. Then empirical analysis has been conducted including descriptive statistics, pooled OLS regression model, fixed effect and random effect model. In additions, multicollinearity Test, Pearson Correlation Test, Homoscedasticity test, Jarque Berra Test and Shapiro-Wilk Test have been conducted to ensure the normality of dataset. Then this study has conducted Hausman Test to evaluate whether fixed effect model or random effect model can provide better result in the given data set. In hausman test, the chi square value is 31.07 and the probability value is very low, only 0.0001 which is less than 5 percent. So fixed effect model is the appropriate model to explain the outcome according to hausman test. Empirical results show that the dividend payout policies are positively affected by the firm size, liquidity, growth, firm's risk and previous year's dividends, but are negatively affected by the financial leverage and profitability. The results are statistically significant for only three variables named size, firm's risk and previous year's dividends which are also positively associated with dividend payout ratios.*

Keywords: *Dhaka Stock Exchange, Dividend Payout Ratio, Fixed Effect Model, Random effect model, Pooled Regression Model, Hausman Test.*

Date of Submission: 02-10-2018 Date of acceptance: 18-10-2018

I. Introduction

Researchers and companies are always concerned about dividend payment while investors are interested to know the value of dividend. Some issues have arisen in terms of proportions of dividend from income which should be distributed to shareholders, that is, whether they should be paid cash dividend, stock dividend or they should not be paid at all. Therefore, many controversies have emerged from prior empirical studies related to dividend policy and factors affecting dividend payout. There are a few studies on determinants of dividend payout for Bangladeshi firms. But dividend policy is important for investors, managers, lenders and for other stakeholders. It is important for investors because investors consider dividends not only the source of income but also a way to assess the firms from investment points of view. Firms, on the other hand always look for an optimal dividend policy, one that strikes a balance between current dividends and future growth and maximizes the firm's stock prices. In this regard they need to understand the factors that affect the dividend payout. Since there is a dearth in the academic literature in this specific subject for Bangladeshi companies, this paper is set to fill the gap by examining the determinants of dividend payout for publicly listed non- financial companies in Bangladesh.

II. Material And Methods

There are 15 non financial sectors listed with Dhaka Stock Exchange in Bangladesh. They encompass 193 companies conducting business in different arena. This report has taken a sample of 20 nonfinancial companies listed with DSE before 2006.

Study Design: Identifying Determinants of dividend policy, examine the influence of liquidity, leverage, profitability, growth, size and historical dividend on the dividend payout ratio of firms, and the relationship between dividend payout ratio and these explanatory variables.

Study Location: This report has studied on listed non financial firms of Dhaka Stock Exchange (DSE), Bangladesh.

Study Duration: June 2016 to September 2016.

Sample size: 20 Non-financial companies listed with Dhaka Stock Exchange (DSE) .

Sample size calculation: Population of this research includes all the non-financial firms listed in DSE before 2006. The period of the study is ten years, ranging from 2006 to 2015. Only final dividends paid by the companies have been considered and we have ignored stock repurchases by the companies. To determine the factors affecting dividend payout, 20 non-financial firms have been used. The sample units are selected based on the requirement of 10 years information. So n=20 and t=10, thus total number of observation is 200.

III. Subjects & selection method

The reason behind choosing this topic is that cash dividend is a way to passing net profit of firms to shareholders. The board of directors faces difficulty in taking decision whether they should provide a stable & consistent dividend payment policy or change it with financial conditions of the company. To facilitate this decision, I have prepared the report finding out the determinants of dividend payout for listed non financial firms of Dhaka Stock Exchange (DSE). Although there are plenty of potential determinants for the dividend decisions, the explanatory variables that are included in this study are only internal variables which consist of profitability, size, liquidity, leverage, risk, growth and previous year's dividend.

Profitability, in this study, is measured as Return on Equity or Net income divided by Total equity (Freeman et al., 1982). According to the signaling theory of dividend policy, profitable firms are willing to pay higher amounts of dividends to convey their good financial performance (Bhattacharya, 1979; Chang & Rhee, 1990; Ho, 2003; Aivazian et al., 2003). Therefore, a positive relationship is expected between firm's profitability and its dividend payments. The size of the bank is measured by the natural logarithm of total assets as used by Gill et al. (2009) and is included to account for size variability. Lloyd et al. (1985), Jensen et al. (1992), Redding (1997), Holder et al. (1998), Fama and French (2001), Aivazian et al. (2003) and Sawicki (2005) found a positive relationship between dividend payout policy and firm size

Measured by the current ratio, which is equal to current assets divided by current liabilities (Kania & Bacon, 2005; Kanwal & Kapoor, 2008; Ahmed & Javid, 2009), liquidity is an essential factor that affects the dividend policy. According to the signaling theory, firms with higher cash accessibility are able to pay higher dividends than firms with insufficient cash (Ho, 2003). The change in revenues (interest and non-interest revenues) is used as a proxy for growth opportunities. If a firm is growing rapidly, the more is the need for funds to finance the expansion, and the more likely the firm is to retain earning rather than to pay them as dividends (Chang & Rhee, 1990). To analyze the extent to which debt can affect dividend payouts, the ratio of debt (both short term and long term debt) to total assets is used as a proxy for leverage. The empirical evidence regarding the effect of leverage on dividend payout is mixed. However, Kania and Bacon (2005) have found a significant positive relationship, concluding that firms might use debt funds to pay dividends.

Although risk can be measured in different ways, it will be proxied by the P/E ratio. Majority of researchers have demonstrated a strong negative relationship between the level of riskiness and dividend payout ratio (Rozeff, 1982; Al-Kuwari, 2009; Al-Shubiri, 2011). Since high PEs may be linked with low risk, it might lead to higher payout ratios. In the real world, it is often believed that companies pay a steady stream of dividends because investors perceive firms with stable dividends as stronger and more valuable.

Inclusion criteria:
1. Nonfinancial Firms of Bangladesh
2. Enlisted in Dhaka Stock Exchange (DSE)
3. Data of time period 2005 to 2015
4. Final dividends paid by the companies have been considered

Exclusion criteria:
1. All financial Firms of Bangladesh
2. Unenlisted in DSE
3. Data before 2005 and after 2015
4. Stock repurchase by the companies

Data Sources and Collecting Techniques:
Data regarding the completion of this research has been collected mainly from secondary sources. Relevant Data for this study has been accumulated by visiting the website of DSE and other financial portals. No interview or questionnaire has been required to collect the data as all the data is from secondary source. Data has been also been taken from the annual reports of the selected companies.

Procedure methodology

Through observation, 20 non financial companies have been identified from the listed non financial firms in the Dhaka Stock Exchange that have been paying out cash dividend consistently for the past 10 years (2006-2015). The selected companies represent 10 industries of Bangladesh. Most of the companies belong to A category except Hakkani Pulp & Paper Mills Limited and Monno Ceramic Industries Limited which are categorized as B. Although there are plenty of potential determinants for the dividend decisions, the explanatory variables that are included in this study are only internal variables which consist of profitability, size, liquidity, leverage, risk, growth and previous year's dividend.

Based on these internal variables, seven hypothesis have been generated. These are:

Hypothesis 1: Dividend payout is positively associated with profitability.
Hypothesis 2: Dividend payout is positively associated with firm size.
Hypothesis 3: Dividend payout is positively associated with liquidity.
Hypothesis 4: Dividend payout is negatively associated with growth opportunity.
Hypothesis 5: Dividend payout is positively/ negatively associated with financial leverage.
Hypothesis 6: Dividend payout is positively/ negatively associated with firm risk.
Hypothesis 7: Dividend payout is positively associated with previous year's dividend.

Statistical analysis

Descriptive statistics has been used to analyze data of dividend, leverage, profitability, firm size, and liquidity and growth opportunity. Three econometric problems like heteroskedasticity, autocorrelation and multicollinearity have been tested using Modified Wald test, Durbin Watson Stat and correlation matrix respectively to check for violation of assumptions of regression. Then Ordinary Least Square (OLS) method of regression technique has been followed to analyze the Cross-sectional Time series (Panel) data using the following multiple regression model.

$$DPR_{(i,t)}=\alpha+\beta_{(1)}\ PROF_{(i,t-1)}+\beta_{(2)}\ SZ_{(i,t)}+\beta_3\ LIQ_{(i,t)}+\beta_4\ GRO_{(i,t)}+\beta_5\ LEV_{(i,t)}+\beta_6\ PE_{(i,t)}+\beta_7\ PYD_{(i,t-1)}+ e_j$$

Here, variables used in this study are defined in the following table along with the expected sign.

Table 1 : Variables with their symbols and expectations

Variables	Symbol	Description	Expectation
Dividend Payout	DPR	Dividend/ Net profit	
Profitability	PROF	ROE = Net Profit less Preference Dividends/ Shareholder's equity	+
Firm Size	SZ	Natural Logarithm of Total Assets	+
Liquidity	LIQ	Current Assets/ Current Liability	+
Growth Opportunity	GRO	(Current Revenue - previous Revenue)/previous sales	-
Financial Leverage	LEV	Debt/ Total assets	-/+
Firm Risk	PE	Market Price Per share/Earning per share	-/+
Previous Year's Dividends	PYD	Previous Year's Dividend Payout	+

Descriptive Statistics

Here is the detail of descriptive statistics of variables that may affect the dividend policy. This study has taken **20** companies and chosen eight variables such as dividend payout ratio, profitability, size of the firm, liquidity, growth opportunity, leverage, firm's risk and previous year's dividend. The descriptive statistics is shown in the following table which represents the mean, standard deviation of variables, minimum value as well as maximum value of variables. From the table we can see that the mean value of dividend payout ratio is **0.53385** where it can be maximum **5** & minimum **-0.65217** with standard deviation of **0.668598.** Among the independent variables PE has the highest mean value & standard deviation and profitability has the lowest mean value & standard deviation.

Table 2 Descriptive Statistics

Variable	Observation	Mean	Std. Dev	Min	Max
DPR	200	0.533847	0.668598	-0.65217	5
PROF	200	0.160269	0.140048	0.001117	0.745373
SZ	200	21.5308	1.838642	15.89992	25.28985
LIQ	200	1.360841	0.645669	0.137273	4.682213
GRO	200	2.231661	29.637	-0.92676	419.2158
LEV	200	0.634079	0.775207	0.044412	10.80262
PE	200	27.12641	55.84709	-92.1739	4.543.0921
PYD	200	0.489529	0.590434	-0.65217	4.545455

The Multicollinearity Test

Multicollinearity refers to the situation in which independent variables are highly correlated. Among several ways of multicollinearity tests, Pearson coefficient of correlation between variables and Variance Inflation Factor (VIF) are used detect any problem. The tolerance is simply the reciprocal of VIF (Variance Inflation Factor) and is computed as : Tolerance= 1/VIF. The large values of VIF are unwanted and undesirable. The rule of thumb by researchers is that if VIF exceeds 5, there is collinearity problem. If VIF is about 1, there is no multi collinearity problem. The theoretical maximum value of tolerance is 1 and minimum value of tolerance is zero. The VIF and tolerance value of independent variables are shown in the following table. From the **table 3**, it is observed that the tolerance of the variable PE,PYD, PROF, SZ, GRO, LEV, LIQ are 0.548, 0.566, 0.852, 0.880, 0.925, 0.947 and 0.959 respectively which are highly positive and more than zero. So it is concluded that the variables are free from multicollinearity.

Table 3 Multicollinearity Test

Variable	VIF	1/VIF
PE	1.83	0.547691
PYD	1.77	0.566178
PROF	1.17	0.85198
SZ	1.14	0.879939
GRO	1.08	0.925063
LEV	1.06	0.946928
LIQ	1.04	0.959289
Mean VIF	1.30	

Correlation analysis

Correlation matrix of all variables included in the analysis is presented in **table 4**. For correlation analysis this report has used pearson correlation in stata. . The value of correlation between variables ranges from +1 to -1. The value of 1 means a very strong positive correlation between variables and the value of -1 represents a very strong negative correlation between two variables. 0 represents no correlation between variables. As observed from the table, multicollinearity is not a serious problem since majority of correlation coefficients are below 0.75.

Table 4 Pearson Correlation Test

	DPR	PROF	SZ	LIQ	GRO	LEV	PE	PYD
DPR	1							
PROF	-0.1472	1						
SZ	0.0822	0.2237	1					
LIQ	0.0549	-0.0172	0.0359	1				
GRO	0.0409	0.1215	-0.2017	-0.0032	1			
LEV	-0.1313	0.0478	-0.0156	-0.1857	-0.0062	1		
PE	0.6929	-0.2583	0.0022	-0.0527	-0.0235	-0.0494	1	
PYD	0.7201	-0.113	0.0873	-0.0071	0.0239	-0.1256	0.64	1

The Homoscedasticity Test

The Breusch-Pagan / Cook-Weisberg test is used to test heteroskedasticity in this study as shown in the following table by using stata.

Table 5 The Homoscedasticity Test

Test	Chi-square(chi2)	Prob>chi2
Breusch-Pagan / Cook-Weisberg test	0.05	0.8229

Here null hypothesis is constant variance which means there is no heteroskedasticity in data. The P value is 0.8229 which is greater than 0.05. We cannot reject null hypothesis of constant variance. So data is free of heteroskedasticity and no further corrections for the sample are required.

The Normality Test

Specifically, two numerical methods (Jarque Berra test and Shapiro-Wilk test) have been done to test the normality.

First, the Bera-Jarque statistic would not be significant and p-value should be greater than 5% if the residuals are normally distributed (Brooks, 2008). The results report a P-value of 0.35, higher than 0.05, suggesting that normality assumption holds. Second, and since Shapiro-Wilk is more appropriate for small

sample sizes (less than 50 samples) (Woolridge, 2002), the following table represents the results for this test. Similarly, the reported P-value of 0.1537, which is greater than the significance level of 0.05, suggests that data are normal.

Table 6 Jarque Berra Test

Skewness/Kurtosis tests for Normality					
Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	adj chi2(2)	Prob>chi2
Residuals	200	0.1856	0.7232	2.07	0.3549

Table 7 Shapiro-Wilk Test

Shapiro-Wilk W test for normal data					
Variable	Obs	W	V	Z	Prob>z
Residuals	200	0.96595	1.286	0.494	0.1537

IV. Result

Pooled Regression

This report has pooled all 200 observations together and run the regression model using stata. The result is shown in the following table.

Table 8 Pooled Regression Model

R-squared	0.6202					
Adj R-squared	0.6064					
F(7, 192)	44.79					
Prob > F	0.000					
Dpr	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]	
Prof	-0.02848	0.23003	-0.12	0.9020	-0.48219	0.425232
Sz	0.01842	0.017241	1.07	0.2870	-0.01559	0.052426
Liq	0.072706	0.047021	1.55	0.1240	-0.02004	0.16545
Gro	0.001143	0.001043	1.10	0.2750	-0.00092	0.0032
Lev	-0.035	0.039419	-0.89	0.3760	-0.11274	0.042754
Pe	0.004861	0.00072	6.76	0.0000	0.003442	0.00628
Pyd	0.507306	0.066931	7.58	0.0000	0.375291	0.639321
_cons	-0.31769	0.368355	-0.86	0.3900	-1.04423	0.408852

The Coefficient of Multiple Determination (R^2) shows the amount of variance of DPR explained by PROF, SZ, LIQ, GRO, LEV, PE and PYD. The value of R^2 of the model is 0.6202 which indicates that the independent variables explain 62.02% of the dependent variable (DPR). The adjusted R^2 gives more idea of how well the model generalizes and the value should be same or very close to the value of R^2. Here the value of adjusted R^2 is 0.6064.

Significant of the Model: F-Test

The F-test is shown in the above table which represents the significance of the model. It tests whether R^2 is different from zero. The F statistics of this model is 44.79 (P=0.000) which is statistically significant. It is interpreted that the model significantly improves the ability to predict the outcome variable (dependent variable). The F statistics of the model is significant at 5 percent level of significant indicating that the model provides significant explanation of variation in the dividend payout ratio of nonfinancial sector.

Significant of the Variables/ Model parameters:

The coefficient indicates the individual contribution of each predictor to the model. In the model, the coefficient values of PROF, SZ, LIQ, GRO, LEV, PE, PYD are -.028, .018, .073, .001, -.035, .005, .507 respectively. It infers that SZ, LIQ, GRO, PE and PYD have positive impact on the DPR. On the other hand, PROF and LEV have negative impact on DPR. As per PROF and Gro results, the hypothesis 1 and hypothesis 4 are not accepted in this case. Others hypothesis are accepted as the relationships of DPR with Sz, Liq, Lev, Pe, and Pyd are as expected in the hypothesises.

The t test associated with coefficient value is significant then that predictor is making a significant contribution to the model (if the P value is less than 0.05). The smaller the value of significance, P value (the larger the value of t), is the greater the contribution of that predictor (independent variable). From the **table 8** it is observed that the t value of PROF, SZ, LIQ, GRO, LEV, PE, PYD are -.12 (P=.902), 1.07 (P=.287), 1.55 (P=.124), 1.10 (P=.275), -.89 (P=.376), 6.76 (P=0.00), 7.58 (P=0.00) respectively. We can see that only PE and PYD are significant variable to explain DPR at 5% level of significance.

Model:

$$DPR_{i,t} = -.318 - .028PROF_{i,t-1} + 0.018SZ_{i,t} + 0.073LIQ_{i,t} + 0.001\ GRO_{i,t} - .035LEV_{i,t} + .005PE_{i,t} + .507PYD_{i,t-1}$$

The major problem with this model is that it does not distinguish between the various non financial companies that have been chosen. In other words, by combining twenty companies by pooling we deny heterogeneity or individuality that may exist among ten companies selected from different sectors.

Fixed Effect or LSDV Model (FE)

The fixed effect model or LSDV model allows heterogeneity or individuality among 20 companies by allowing having its own intercept value. The FE explores the relationship between predictor and outcome variables within an entity. The summary of the model is shown in the following **table 9**.

Table 9 Fixed Effect Model

```
Fixed-effects (within) regression               Number of obs      =       200
Group variable: company_no                      Number of groups   =        20

R-sq:  within  = 0.5543                         Obs per group: min =        10
       between = 0.6614                                        avg =      10.0
       overall = 0.5824                                        max =        10

                                                F(7,173)           =     30.74
corr(u_i, Xb)  = 0.0794                         Prob > F           =    0.0000

------------------------------------------------------------------------------
         dpr |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
        prof |  -.5729216   .3340162    -1.72   0.088    -1.232193    .0863499
          sz |   .0635728    .031404     2.02   0.044     .0015885    .1255571
         liq |   .0139542   .0601458     0.23   0.817    -.1047598    .1326682
         gro |   .0010431   .0010659     0.98   0.329    -.0010606    .0031469
         lev |  -.0175426   .0414587    -0.42   0.673    -.0993725    .0642874
          pe |    .005434   .0007596     7.15   0.000     .0039347    .0069332
         pyd |   .3330098   .0763845     4.36   0.000     .1822443    .4837753
       _cons |  -1.063722   .6674285    -1.59   0.113    -2.381073    .2536296
-------------+----------------------------------------------------------------
     sigma_u |  .21246687
     sigma_e |  .40676536
         rho |  .21435005   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

Coefficient of Multiple Determination (R^2)

Here number of observation is 200 and number of groups is 20 meaning that there are 20 companies. The Coefficient of Multiple Determination (R^2) shows the amount of variance of DPR explained by PROF, SZ, LIQ, GRO, LEV, PE and PYD. The value of R^2 of the model is 0.5543 (within) which indicates that the independent variables explain 55.43% of the dependent variable (DPR).

Significant of the Model: F-Test

The F-test is shown in the above table which represents the significance of the model. It test whether R^2 is different from zero. The F statistics of this model is 30.74 (P=0.000) which is statistically significant. It is interpreted that the model significantly improves the ability to predict the outcome variable (dependent variable). The F statistics of the model is significant at 5 percent level of significant indicating that the model provides significant explanation of variation in the dividend payout ratio of nonfinancial sector.

Significant of the Variables/ Model parameters

The coefficient indicates the individual contribution of each predictor to the model. The coefficient values tell about the relationship between DPR and each predictor. In the model, the coefficient values of PROF, SZ, LIQ, GRO, LEV, PE, PYD are -.573, .064, .014, .001, -.018, .005, .333 respectively. It infers that SZ, LIQ, GRO, PE and PYD have positive impact on the DPR. On the other hand, PROF and LEV have negative impact on DPR. As per PROF and Gro results, the hypothesis 1 and hypothesis 4 are not accepted in this case. Others hypothesis are accepted as the relationships of DPR with Sz, Liq, Lev, Pe, and Pyd are as expected in the hypothesises.

The t test associated with coefficient value is significant then that predictor is making a significant contribution to the model (if the P value is less than 0.05). The smaller the value of significance, P value (the larger the value of t), is the greater the contribution of that predictor (independent variable). From the table it is observed that the t value of PROF, SZ, LIQ, GRO, LEV, PE, PYD are -1.72 (P=.088), 2.02 (P=.044), 0.23 (P=.817), .98 (P=.329), -.42 (P=.673), 7.15 (P=0.00), 4.36 (P=0.00) respectively. We can see that only PE and PYD are significant variable to explain DPR at 5% level of significance.

Model

$$DPR_{i,t} = -1.06 - .573PROF_{i,t-1} + 0.064SZ_{i,t} + 0.014LIQ_{i,t} + 0.001\ GRO_{i,t} - .018LEV_{i,t} + .005PE_{i,t} + .333PYD_{i,t-1}:$$

Random Effect Model

A random-effect model depends on treating the effectiveness of treatments or experimental conditions as being randomly sampled from a set population of such levels. The **Coefficient of Multiple Determination (R^2)** shows the amount of variance of DPR explained by PROF, SZ, LIQ, GRO, LEV, PE and PYD. The value of R^2 of the model is 0.5348 (within) which indicates that the independent variables explain 53.48% of the dependent variable (DPR).

Table 10 Random Effect Model

Dpr	Coef.	Std. Err.	Z	P>z	[95% Conf. Interval]	
Prof	-0.02848	0.23003	-0.1200	0.9010	-0.47933	0.422372
Sz	0.01842	0.017241	1.0700	0.2850	-0.01537	0.052211
Liq	0.072706	0.047021	1.5500	0.1220	-0.01945	0.164865
Gro	0.001143	0.001043	1.1000	0.2730	-0.0009	0.003187
Lev	-0.035	0.039419	-0.8900	0.3750	-0.11225	0.042264
Pe	0.004861	0.00072	6.7600	0.0000	0.003451	0.006271
Pyd	0.507306	0.066931	7.5800	0.0000	0.376123	0.638489
_cons	-0.31769	0.368355	-0.8600	0.3880	-1.03965	0.404273

Significant of the Model

The Wald statistics represents the significance of the model. It tests whether R^2 is different from zero. The Wald statistics of this model is 313.56 (P=0.000) which is statistically significant. It is interpreted that the model significantly improves the ability to predict the outcome variable (dependent variable). The Wald statistics of the model is significant at 5 percent level of significant indicating that the model provides significant explanation of variation in the dividend payout ratio of nonfinancial sector.

Significant of the Variables/ Model parameters

The coefficient indicates the individual contribution of each predictor to the model. The coefficient values tell about the relationship between DPR and each predictor. In the model, the coefficient values of PROF, SZ, LIQ, GRO, LEV, PE, PYD are -.0285, .018, .073, .001, -.035, .005, .507 respectively. It infers that SZ, LIQ, GRO, PE and PYD have positive impact on the DPR. On the other hand, PROF and LEV have negative impact on DPR. As per PROF and Gro results, the hypothesis 1 and hypothesis 4 are not accepted in this case. Others hypothesis are accepted as the relationships of DPR with Sz, Liq, Lev, Pe, and Pyd are as expected in the hypothesises. The z test associated with coefficient value is significant then that predictor is making a significant contribution to the model (if the P value is less than 0.05). The smaller the value of significance, P value (the larger the value of z), is the greater the contribution of that predictor (independent variable). From the table it is observed that the z value of PROF, SZ, LIQ, GRO, LEV, PE, PYD are -.12 (P=.901), 1.07 (P=.285), 1.55 (P=.122), 1.1 (P=.273), -.89 (P=.375), 6.76 (P=0.00), 7.58 (P=0.00) respectively. We can see that only PE and PYD are significant variable to explain DPR at 5% level of significance.

Model

$$DPR_{i,t} = -.318 - .028PROF_{i,t-1} + 0.018SZ_{i,t} + 0.073LIQ_{i,t} + 0.001\ GRO_{i,t} - .035LEV_{i,t} + .005PE_{i,t} + .507PYD_{i,t-1}$$

After estimating three models, this study has applied Hausman test to check which model (Fixed effect or Random effect) is suitable to accept.

Hausman Test

There is a test name " Hausman Test " which can tell us whether fixed effect model or random effect model can provide us better result in the given data set. It helps one evaluate if a statistical model corresponds to the data. Here the null hypothesis is that the random effect model is appropriate and alternative hypothesis is that fixed effect model is appropriate (Green, 2008).

Table 11 Hausman Test

	---- Coefficients ----			
	(b)	**(B)**	(b-B)	sqrt(diag(V_b-V_B))
	Fixed	Random	Difference	S.E.
Prof	-0.57292	-0.02848	-0.5444424	0.2421834
Sz	0.063573	0.01842	0.0451527	0.0262482
Liq	0.013954	0.072706	-0.0587514	0.0375038

Gro	0.001043	0.001143	-0.0000994	0.0002187
Lev	-0.01754	-0.035	0.0174528	0.0128451
Pe	0.005434	0.004861	0.0005731	0.0002433
Pyd	0.33301	0.507306	-0.1742965	0.0368075

In hausman test, the chi square value is 31.07 and the probability value is very low, only 0.0001 which is less than 5 percent. So the null hypothesis has been rejected and accept alternative hypothesis. So fixed effect model is the appropriate model to explain the outcome according to hausman test.

In fixed effect model the coefficient of SZ, LIQ, GRO, PE and PYD are positive explaining that they have positive association with DPR.

V. Discussion

This report has studied to find out the influneces of determinants of dividend policy on nonfinancial firms of DSE which is not studied previously in Bangladsh. The determinants have been selected on basis of literature review. For each of the determinants, one hypothese has been developed and the secondary data have been collected to test these hypotheses. Three models have been used to figure out the relatonships between dependent variables (DPR) and the independent variables (PROF, SZ, LIQ, GRO, LEV, PE, PYD).

Although the signs of the coefficients have not become as expected, the coefficient of the profitability is negative. Supporting this logic, Okpara (2010) concluded that when firms experience surplus earnings, they allocate most of them into retention for the plugging back and growth of the firm. Furthermore, Ferris, et al. (2003) found that firms in the United Kingdom pay dividends while they had negative earnings. But the variable is not significant, so it is not an essential factor in influencing dividend payments for nonfinancial firms listed with DSE. The positive relation between dividend payout and size support the argument of Ghosh and Woolridge (1988), Eddy and Seifert (1988) and Redding (1997), Fama and French (2001) that the probability of paying dividends increases with firm size and large firms will pay large dividends to reduce agency costs. This is statistically significant in fixed effect model. Liquidity displays a positive expected sign, but the coefficient is insignificant. Liquidity positively affects dividend payment. It is consistent with empirical studies (Amadu and Abor, 2006). This shows that financial institutions with less cash and cash equivalent are less likely to pay dividend. The predominance positive relation between dividend payout and liquidity support the work of Amidu and Abor (2006), Anil and Kapoor (2008) Marfo-Yiadom and Agyei (2011). Consistent with our expectation, Growth positively affects dividend payment. This is consistent with other empirical studies (Amadu and Abor, 2006; Marfo-Yiadom and Agyei,2011). However, in this study, it is statistically insignificant. Financial leverage has a negative relationship with the dividend policy but it is insignificant, suggesting that this variable is not an essential factor in influencing dividend payments in nonfinancial firms listed with DSE.

As expected, the result shows a positive significant relationship between PE and dividend payout ratios. Risky firms (Low PE) with high volatility in their cash flows have more difficulty in planning for future investments which will increase their need for external financing, resulting in a lower dividend payout ratio. According to the pecking order theory and because external financing is more expensive, companies choose to decrease their dividend payouts in order to avoid the expensive external financing (Rozeff, 1982; Al-Kuwari, 2009; Al-Shubiri, 2011). Previous year's dividends were also found to be statistically significant determinant variable of the dividend payout ratio in case of nonfinancial firms listed with DSE. The results show that the coefficient of previous year's dividend payments is positive, similar to numerous studies on emerging markets such as Al-Ajmi and Hussain (2011) and Ahmed and Javid (2009).

VI. Conclusion

This study aims at investigating the factors determining the dividend payout policy of the nonfinancial firms listed with the Dhaka Stock Exchange. This study considers the impact of seven variables, namely, profitability, liquidity, leverage, firm size, growth, firm risk and previous year's dividend payout on the dividend payout ratios by using panel data regression(both fixed and random effect) from 2006-2015. The Hausman test shows that fixed effect model is appropriate for this dataset. Empirical results show that the dividend payout policies are positively affected by the firm size, liquidity, growth, firm's risk and previous year's dividends, but are negatively affected by the financial leverage and profitability. The results are statistically significant for only three variables named size, firm's risk and previous year's dividends which are also positively associated with dividend payout ratios.

Acknowledgement

The author wishes to express her deep gratitude to Almighty Creator. The author also wishes to convey her gratitude to the academicians for their time and support to conduct the survey and accomplish this study successfully.

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Sifat Sadia. "Determinants of Dividend Policy: Evidence From Non-Financial Firms Listed With Dhaka Stock Exchange ." IOSR Journal of Economics and Finance (IOSR-JEF) , vol. 9, no. 5, 2018, pp. 39-47.