

Determinants of Dividend Payout of Financial Firms and Non-Financial Firms in Ghana

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Abstract This paper examines the consistence of the determinants of dividend payout in financial and non-financial firms in Ghana. The sample for the study was drawn from listed firms on the Ghana stock exchange from 2000 to 2009. The study used ordinary least squares panel regression model to estimate the determinants of dividend payout. The results revealed that, out of the factors shown to have effect on dividend payout (i.e. profitability, board size, leverage and taxes) only board size exhibited consistence for both financial and non-financial firms in Ghana.

Key words Dividends, Determinants, Consistence, Financial, Non-Financial, Ghana

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1. Introduction

According to Lease *et al.*, (2000) dividend policy refers to “the practice that management follows in making dividend payout decisions, that is, the size and pattern of cash distributions over time to shareholders”. Comprehensive digestion of the subject matter of dividend policy has been somewhat difficult notwithstanding the many studies done on the subject as stated by Black (1976) who wrote that “... the harder we look at the dividend picture, the more it seems like a puzzle, with pieces that just don’t fit together”. The situation is not much different today, where Brealey and Myers (2003) list dividends as one of the ten important unresolved problems in finance. De Angelo and De Angelo (2006) challenge Black’s proposition and state that this “puzzle” is not a puzzle because it is founded in the mistaken idea that Miller and Modigliani’s (1961) irrelevance theorem applies to payout/retention decisions. Miller and Modigliani (1961) provide an accepted argument for dividends irrelevance in a world with perfect capital markets since 1961. However, this argument has been challenged at present. If dividends are irrelevant, why do companies still pay dividends? and why are investors aware of dividends?. Previous studies have identified profitability, leverage, ownership structure, firm size, risk, age, firm growth, collateral capacity, board size, board independence, audit type, market-to-book ratio, institutional shareholding and dividend changes as having an effect or influence on dividend payout ratio (see Eriostis and Vasiliou, (2003), Abor and Amidu, (2006), Al-Malkawi, (2007), Kowaleski, Stetsyuk and Talavera, (2007), Al-Shababi and Ramesh, (2011), Bokpin, (2011), Al-Najjar and Hussainey, (2009), Yiadom and Agyei, (2011). In Leung’s (2006) study, he concludes that, of the six determinants of dividend payout considered in his study of firms in the United Kingdom, made up of, future earnings, earnings volatility, dividend volatility, cash flow volatility, stock price volatility and log of revenue, only log of revenue and volatility of dividend showed a consistent pattern. In Africa, no such a study of the consistence of the determinants of dividend payout ratio has been done. The few studies on dividend payout determinants were conducted by Abor and Amidu (2006), and Yiadom and Agyei (2011) which explored only the determinants of dividend payout ratio in Ghana. The two studies however, failed to examine the

consistence of the determinants of dividend payout. This study examines whether or not the determinants of dividend payout in financial firms in Ghana are consistent with those of the non-financial firms.

1.1 Overview of the Ghana Stock Exchange

The Ghana Stock Exchange (GSE) was incorporated as a private company limited by guarantee under the Companies Code 1963 (Act 179) in July 1989 but operations commenced in November 1990. In October 1990, the stock exchange gained recognition to operate under the stock exchange Act 1971 and it became a public company limited by guarantee in April 1994. The Companies Code 1963 (Act 179) governs companies listed on the stock exchange and it is based on UK legislation and supported by the Securities Industries Law 1963 (PNDCL 333) as amended by the Securities Industry (Amendment) Act 2000 (Act 590). As part of the financial sector reforms in Ghana, there have been renewed efforts aimed at promoting investments and listings on the Ghana stock market to open access to capital for corporate bodies and greater returns for investors. The stock market provides an added dimension of investment opportunity for both individuals and institutional investors with the fall in the returns on government treasury bills and bonds.

For the purpose of this paper, the sample data used (i.e. 30 firms) classified firms into two sectors. Firms that are in the financial sector and firms that are in the non-financial sector. Firms engaged in the provision of financial services are said to be in the financial sector. In all, these firms are 13 in number, representing 43 percent of the sample data used for the study. Firms that are not into the provision of financial services are collectively said to belong to the non-financial sector. These firms are 17 in all, representing 57 percent of the sample data used for the study.

The rest of the paper is organized as follows: section 2 reviews some literature of the study variables and the methodology in section 3. Section 4 presents the analysis and discussion of findings, followed by the conclusion in section 5.

2. Literature Review

2.1 Study Variables

2.1.1 Profitability

The size of a firm's profit has been a long standing determinant of dividend policy. Directors normally recommend the payment of dividend when the firm has made sufficient profit to warrant such payments. Profitability is among the main characteristics that strongly and directly influences dividend policy, Al-Kuwari (2009). Pruitt and Gitman (1991) conclude that current and past years' profits, the year-to-year and prior years' dividend are important factors that influence dividend policy. Consequently, it is expected that profitable firms are likely to pay dividend as compared to non-profitable firms (Eriostis and Vasiliou, 2003; and Ahmed and Javid, 2009). Gill *et al* (2010) posit that there is the possibility of a non-linear relationship between dividends and profitability. Thus, the impact of profitability on dividends changes sign after a certain level of profitability.

2.1.2 Investment Opportunity Sets

The investment opportunities available to the firm constitute an important component of market value. According to De Angelo *et al.* (2006), investment opportunity set represents a firm's investment or growth options but to Myers (1977) its value depends on the discretionary expenditures of managers. Myers (1977) further explains investment opportunity as a yet-to-be realized potentially profitable project that a firm can exploit for economic rents. Thus, this represents the component of the firm's value resulting from options to make future investments (Smith and Watts, 1992). The higher the growth opportunities, the more the need to finance expansion, and hence the higher the chance to retain earnings (Chang and Rhee, 1990). In addition, this negative relationship is in line with Myers and Majluf (1984) findings. They suggest that firms with high growth opportunities tend to have low payout ratios. An investment opportunity has been measured in various ways by various writers. These include market to book value of equity (Collins and Kothari, 1989), book to market value of assets (Smith and Watts, 1992).

2.1.3 Taxation

Farrar and Selwyn (1967) show that with the differential in ordinary dividends and capital gains taxes, the policy of paying zero dividends maximizes share value. King (1974) also argues that in such a setting, investment is financed internally and subsequently payout is less. These arguments are corroborated by Masulis and Trueman (1988), who opine that as tax liability increases (decreases), the dividend payment decreases (increases) while earnings reinvestment increases (decreases). As explained by Lasfer (1996), companies set their dividend policies to minimize their tax liability and to maximize their after tax return of their shareholders. In particular, firms that are unable to deduct the advanced corporation tax from their tax liability are found to pay low dividend. Contrary to the theoretical negative relationship between dividends and taxes, Abor and Amidu (2006) find a positive relationship between corporate tax and dividend payout ratio in Ghana, indicating that, increasing tax is associated with increase in dividend payout.

2.1.4 Leverage

Firms that finance their activities mostly with debt put pressure on their liquidity. Debt principal and interest payments reduce the ability of firms to have residual income to guarantee dividend payment. Consequently, it is expected that debt would impact negatively on the amount of dividend paid for a period. Kowalski *et al.* (2007) argue that more indebted firms prefer to pay lower dividends. Also, Al- Kuwari (2009) confirms that dividend payout is negatively related to leverage ratio. Nonetheless, the use of debt has been associated with lower agency cost and enhanced firm profitability, both of which have the tendency of improving dividend payment. Agrawal and Narayanan (1994) found that payout ratios for all-equity firms are significantly larger than those for levered firms. Among other empirical studies, Gugler (2003), Aivazian *et al.* (2003) and Abor and Bokpin, 2010 report a negative relationship between dividend payments and leverage.

2.1.5 Board Size

This represents the total number of the members (executive and non-executive) in the company board (Borokhovich *et al.*, 2005). It is cited by Belden *et al.* (2005) and Bokpin, (2011) that the greater the size of board membership, the higher are the dividends paid to shareholders. They argued that this was because more people monitor the decisions made by the chief executive officer. This means that, larger board size have an advantage over small board size in terms of the spread of expert advice and opinion in monitoring the activities of managers due to the members skills and experience.

3. Methodology of the Study

The study focuses on publicly traded companies listed on the Ghana Stock Exchange (GSE). These companies were chosen based on the fact that, getting the data required for the study was much easier as compared to firms that are not listed on the stock exchange. Again, the Ghana stock exchange forms an integral part of the financial development of not only Ghana but in Africa as well and has seen major development over the years. The study uses panel regression model, with a 10-year period from 2000 to 2009 for financial and non-financial firms listed on the Ghana stock exchange. In all, 30 companies were used for this study. This number represents 81% of listed companies in Ghana. Data were derived from the annual reports of the selected listed firms and the GSE Fact Books during the ten-year period, 2000-2009.

The general form of the panel data model can be specified more compactly as:

$$Y_{i,t} = \alpha_i + \beta X_{i,t} + \varepsilon'_{i,t} \quad (1)$$

With the subscript *i* denoting the cross-sectional dimension and *t* representing the time-series dimension. In this equation, $Y_{i,t}$ represents the dependent variable in the model, which is the firm's dividend payout (policy); $X_{i,t}$ contains the set of explanatory variables in the estimation model; and α_i is taken to be constant over time *t* and specific to the individual cross-sectional unit *i*. If α_i is taken to be the same across units, then Ordinary Least Square (OLS) provides a consistent and efficient estimate of α and β . The model for this study follows the one used by D'Souza (1999) to explain the relationships between dividend payout and the determinants. This takes the form:

$$\text{PAYOUT}_{i,t} = \beta_0 + \beta_1 \text{PROF}_{i,t} + \beta_2 \text{PROFSQ}_{i,t} + \beta_3 \text{MTBV}_{i,t} + \beta_4 \text{TAX}_{i,t} + \beta_5 \text{LEV}_{i,t} + \beta_6 \text{BS}_{i,t} + \epsilon_{i,t} \quad (2)$$

Where:

- $\text{PAYOUT}_{i,t}$ = Dividend per share/Earnings per share for firm i in period t
- $\text{PROF}_{i,t}$ = Aggregate Earnings/Total Assets for firm i in period t
- $\text{PROFSQ}_{i,t}$ = The square of profitability for firm i in period t
- $\text{MTBV}_{i,t}$ = Market-to –Book Ratio for firm i in period t (i.e price per share/ net assets value per share)
- $\text{TAX}_{i,t}$ = Corporate Tax/Net Profit Before Tax for firm i in period t
- $\text{LEV}_{i,t}$ = Total Debt/Total Assets for firm i in period t
- $\text{BS}_{i,t}$ = log of total directors for firm i
- $\epsilon_{i,t}$ = The error term

In view of the empirical discussions of the variables above, the following hypothesized relationships are predicted for each variable with respect to the dividend payout ratio:

- PROF**, and **BS** are expected to be positively related to **PAYOUT**;
- POFSQ**, **TAX**, **MTBV**, and **LEV** should be negatively related to **PAYOUT**.

4. Analysis and Discussion of Findings

4.1 Payout of Firms in the Financial Sector

Table 1 below indicates the number of firms in the financial sector that paid dividend in the years under review and those that did not. The percentage make-up of the firms in the financial sector that paid dividend and those that did not pay dividend in the review years is also presented in the table.

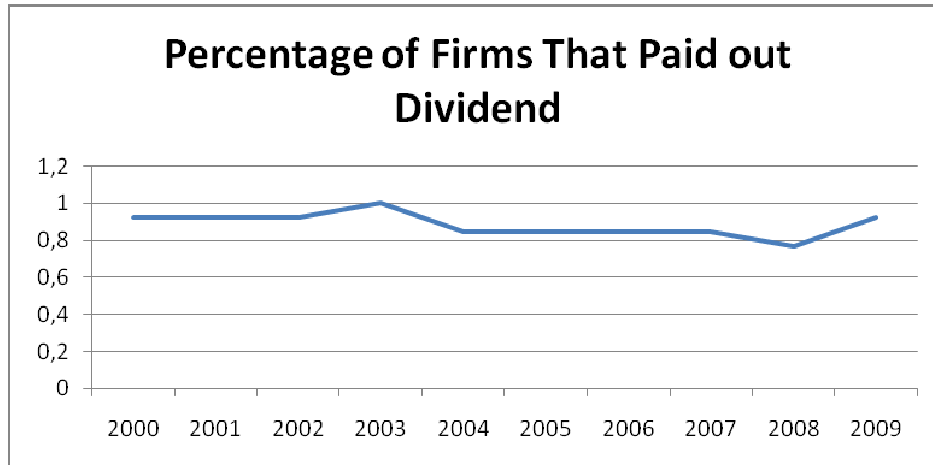
Figure 1 displays a graph of the percentage of firms in the financial sector that paid dividend in the study period. The graph exhibits a fluctuating pattern of rising and falling in the percentage of firms that paid dividend in the study period. In years 2000 to 2002 the percentage of firms that paid dividend in this sector was stable at 92.31 percent. This percentage then sharply rise to 100 percent in 2003 and a fall again in years 2004 to 2007 to 84.62 percent. There was yet a further fall in the percentage of dividend payers in 2008 to 76.92 percent and then a rise in 2009 to 92.31 percent. The sharp rise in the percentage of dividend payers in 2003 to a 100 percent of firms in the financial sector all paying dividend could be due to the significant jump in the growth rate of Gross Domestic Product (GDP) (constant prices) in 2003 to 15.32 percent (see International Monetary Fund -2010 World Economic Outlook). The sharp fall in the percentage of dividend payers in the financial sector in 2008 to 76.92 percent could be attributed to the severity of the financial crises in that year.

Table 1. Percentage of Dividend and Non-Dividend Paying Firms (Financial Sector)

Year	Firms that paid dividend	Firms that did not pay dividend	Total	Fraction of Firms that paid out dividend	Fraction of Firms that did not pay dividend
2000	12	1	13	0.9231	0.0770
2001	12	1	13	0.9231	0.0770
2002	12	1	13	0.9231	0.0770
2003	13	0	13	1.0000	0.0000
2004	11	2	13	0.8462	0.1538
2005	11	2	13	0.8462	0.1538
2006	11	2	13	0.8462	0.1538
2007	11	2	13	0.8462	0.1538
2008	10	3	13	0.7692	0.2308
2009	12	1	13	0.9231	0.0770

Source: Computed from Data

Figure 1. Percentage of Firms that Paid Out Dividend (Financial Sector)



4.2 Payout of Firms in the Non-Financial Sector

Table 2 below indicates the number of firms in the non-financial sector that paid dividend in the years under review and those that did not. The percentage make-up of the firms in the non-financial sector that paid dividend and those that did not pay dividend in the review years is also presented in the table.

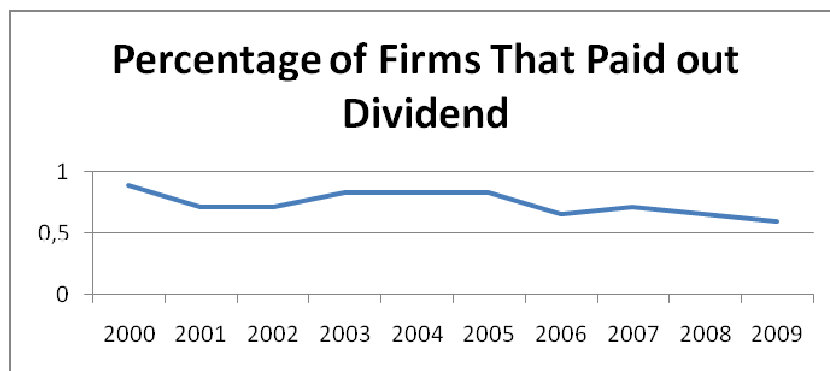
Figure 2 show a graph of the percentage of firms in the non-financial sector that paid dividend in the study period. The graph also exhibits a fluctuating pattern of falling and rising in the percentage of firms that paid dividend in the study period. In the year 2000, 88.24 percent of firms in the non-financial sector paid dividend. This percentage fell to 70.59 percent in years 2001 and 2002. In years 2003 to 2005, there was a rise again to 82.35 percent and a further fall in years 2006 (64.71 percent), 2007 (70.59), 2008 (64.71 percent) and a deep fall in 2009 (58.82 percent). The rise in the percentage of dividend payers could also be linked to the growth in GDP in year 2003 even though the impact of the growth as an incentive to pay dividend by these firms was less as compared to the firms in the financial sector. The sharp fall in the percentage of dividend payers in 2008 and 2009 may be due to the financial crises. Yet again, the impact of the crises seems to be much severe to firms in the non-financial sector as compared to those in the financial sector.

Table 2. Percentage of Dividend and Non-Dividend Paying Firms (Non-Financial Sector)

Year	No. of Firms that paid dividend	No. of Firms that did not pay dividend	Total	Fraction of Firms that paid dividend	Fraction of Firms that did not pay dividend
2000	15	2	17	0.8824	0.1176
2001	12	5	17	0.7059	0.2941
2002	12	5	17	0.7059	0.2941
2003	14	3	17	0.8235	0.1765
2004	14	3	17	0.8235	0.1765
2005	14	3	17	0.8235	0.1765
2006	11	6	17	0.6471	0.3529
2007	12	5	17	0.7059	0.2941
2008	11	6	17	0.6471	0.3529
2009	10	7	17	0.5882	0.4118

Source: Computed from Data

Figure 2. Percentage of Firms that Paid Out Dividend (Non-Financial Sector)



4. 3 Summary statistics

Table 3 below presents the descriptive statistics for the determinants of dividend payout of firms in the financial sector in Ghana. From the table, mean, median, minimum and maximum values for each of the variables are displayed. The average (median) dividend payout ratio (measured as dividend per share/ earnings per share) is 69.8 percent (31.5 percent) and the average (median) profitability is 36.80 percent (34.32 percent). This means, on the average, firms pay about 69.8 percent of their earnings after tax as dividends and the average return on assets stands at about 37 percent. Average (median) market-to-book value for the firms is 7624.908 (4.3201). Corporate tax rate on average is 33.8 percent (33.7 percent). The mean (median) debt ratio under the period of study is 27.16 percent (25.40 percent). The average (median) board size under the period of study is 8 (2). The maximum for board size is 18 and the minimum is 2 which indicate that the sample used in this research contained small as well as large companies.

Table 3. Descriptive Summary Statistics (Firms in the Financial Sector)

Variables	Mean	Std. Dev	Minimum	Median	Maximum
PAYOUT	0.698230	28.66744	-10.85573	0.315026	350.7465
PROF	0.368095	0.311411	-0.186679	0.343223	1.000000
PROFSQ	0.231825	0.277146	1.10E-09	0.117802	1.000000
MTBV	7624.908	19349.75	-7.795889	4.320146	78633.00
TAX	0.33892	263.5002	-0.005556	0.337232	865.0000
LEV	0.271625	2.434804	0.000000	0.234000	9.000000
BS	8.396285	7.141495	2.000334	5.855098	18.65500

Note: Prof represents Profitability, Profsq is the square of Profitability, Mtbv is the market-to-book ratio, tax is corporate tax, Lev is debt ratio or leverage and BS is board size.

Again, table 4 below also presents the descriptive statistics for the determinants of dividend payout of firms in the non-financial firms in Ghana. The table shows the mean, median, minimum and maximum values for each of the variables used in the study. The average (median) dividend payout ratio (measured as dividend per share/ earnings per share) is 51.66 percent (32.8 percent) and the average (median) profitability is 34.44 percent (30.00 percent). This means, on the average, firms pay about 52 percent of their earnings after tax as dividends and the average return on assets stands at about 34 percent. Average (median) market-to-book value for the firms is 1934.45 (3.5640). Corporate tax rate on average is 29.1 percent (28.7 percent). The mean (median) debt ratio under the period of study is 22.8 percent (20.00 percent). The average (median) board size under the period of study is 8 (6). The maximum for board size is 9 and the minimum is 2 which indicate that the sample used in this research contained small as well as large companies.

Table 4. Descriptive Summary Statistics (Firms in the Non-Financial Sector)

Variables	Mean	Std. Dev	Minimum	Median	Maximum
PAYOUT	0.516663	1.113968	-3.627861	0.327660	10.53465
PROF	0.344401	0.323908	-0.067997	0.300000	1.000000
PROFSQ	0.222832	0.277849	7.74E-11	0.090000	1.000000
MTBV	19345.65	71430.45	8.17E-05	3.564074	643667.0
TAX	0.29086	585.5308	0.003000	0.287156	6443.000
LEV	0.228341	3.277396	0.000000	0.20000	23.34400
BS	8.056932	1.129907	2.000550	6.025098	9.876000

Note: Prof represents Profitability, Profsq is the square of Profitability, Mtbv is the market-to-book ratio, tax is corporate tax, Lev is debt ratio or leverage and BS is board size.

4.4 Correlation and Multicollinearity Analysis

The results in table 5 and 6 below show that the presence of multicollinearity among the independent variables is minimal.

Table 5. Correlation Matrix of the Explanatory Variables (Firms in the Financial Sector)

VARIABLES	PAYOUT	PROF	PROFSQ	MTBV	TAX	LEV	BS
PAYOUT	1.000000						
PROF	0.179008	1.000000					
PROFSQ	0.238014	0.945984	1.000000				
MTBV	-0.049632	-0.491181	-0.326836	1.000000			
TAX	-0.062913	-0.496309	-0.335024	0.666765	1.000000		
LEV	-0.108369	-0.455776	-0.322448	0.696015	0.559407	1.000000	
BS	0.657572	0.209966	0.271835	-0.076328	-0.093126	-0.143209	1.000000

Note: Prof represents Profitability, Profsq is the square of Profitability, Mtbv is the market-to-book ratio, tax is corporate tax, Lev is debt ratio or leverage and BS is board size.

Table 6. Correlation Matrix of the Explanatory Variables (Firms in the Non-Financial Sector)

VARIABLES	PAYOUT	PROF	PROFSQ	MTBV	TAX	LEV	BS
PAYOUT	1.000000						
PROF	0.303336	1.000000					
PROFSQ	0.324350	0.336000	1.000000				
MTBV	-0.147562	-0.280303	-0.214580	1.000000			
TAX	-0.180416	-0.357117	-0.269689	0.240163	1.000000		
LEV	-0.258123	-0.500945	-0.391408	0.255180	0.496528	1.000000	
BS	0.578230	0.460596	0.492155	-0.165832	-0.212376	-0.338993	1.000000

Note: Prof represents Profitability, Profsq is the square of Profitability, Mtbv is the market-to-book ratio, tax is corporate tax, Lev is debt ratio or leverage and BS is board size.

Regression Results

The regression is run in a panel manner. Various options of panel data regression were run, fixed effects, random effects and OLS panel. The most robust of all was the OLS panel, thus, the study report results of the OLS panel regression in Table 5 and 6.

Table 7. Determinants of Dividend Payout (Firms in the Financial Sector)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PROF	6.077714	3.438632	1.767480	0.0793*
PROFSQ	-4.909819	3.597768	-1.364685	0.1745
MTBV	1.43E-05	2.20E-05	0.647585	0.5183
TAX	-0.010219	0.002466	-4.144472	0.0001***
LEV	-1.223325	0.251892	-4.856555	0.0000***
BS	4.264544	0.044361	96.13328	0.0000***
Constant	-15.52917	2.371959	6.546981	0.0000***
R ²	0.88363			
Adjusted R ²	0.87615			
S.E. of regression	3.19030			
F-statistic	121.215			
Prob(F-statistic)	0.00000			

Note: The significance levels (two-tail test) are: *10 per cent, **5 per cent and ***1 per cent. Prof represents Profitability, Profsq is the square of Profitability, Mtbv is the market-to-book ratio, tax is corporate tax, Lev is debt ratio or leverage, BS is board size, and R² represents R-squared.

From table 7 above, the results indicates a positive and significant relationship between dividend payout and profitability. This means the higher the profitability of firms, the higher dividend payout. It also shows a negative but insignificant relationship between dividend payout and the square of profitability. Market-to-book value indicates a positive but insignificant association with dividend payout. Corporate tax exhibited a statistically negative and significant association with dividend payout. This means, increasing tax is associated with low dividend payout. In other words as tax liability of firms increases (decreases), the dividend payment decreases (increases) while earnings reinvestment increases (decreases). This results is consistent with the findings of Masulis and Trueman (1988) and contrary to Abor and Amidu 2006; which established a positive association between corporate taxes and dividend payout in Ghana. Leverage exhibited a statistically negative and significant association with dividend payout. This also implies that, the higher the debt level of firms the lower dividend payout. Board size displayed a statistically positive and significant relationship with dividend payout. That is to say, larger board size is associated with large dividend payout.

Table 8. Determinants of Dividend Payout (Firms in the Non-Financial Sector)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
PROF	-2.153752	0.905156	-2.379426	0.0187**
PROFSQ	1.991701	0.974119	2.044618	0.0428**
MTBV	1.01E-06	1.01E-06	1.001580	0.3183
TAX	0.000113	0.000134	0.847155	0.3984
LEV	0.082982	0.030868	2.688267	0.0081***
BS	0.193413	0.079722	2.426102	0.0165**
Constant	-1.483010	0.443981	-3.340258	0.0011***
R ²	0.640224			
Adjusted R ²	0.610667			
S.E. of regression	0.779247			
F-statistic	15.27736			
Prob(F-statistic)	0.000000			

Note: The significance levels (two-tail test) are: *10 per cent, **5 per cent and ***1 per cent. Prof represents Profitability, Profsq is the square of Profitability, Mtbv is the market-to-book ratio, tax is corporate tax, Lev is debt ratio or leverage, BS is board size, and R² represents R-squared.

Table 8 above shows a statistically negative and significant association between profitability and dividend payout. This contradicts existing literature and will rarely be the case in practice. What this means is that, unprofitable firms are likely to pay high dividends compared to profitable firms. Profitability square from

the results also shows a statistically positive and significant relationship with dividend payout. This is also contrary to existing literature. Market-to-book value shows a positive but insignificant association with dividend payout. Corporate tax exhibits a positive but insignificant association with dividend payout. Leverage exhibited a positive and significant association with dividend payout. However, board size showed a positive and significant relationship with dividend payout.

5. Conclusions

The regression results of firms in the financial sector show that the profitability of firms, the tax imposed on firms, the number of directors on the board, and the debt level of firms influence dividend payout. Further, the regression results of firms in the non-financial sector reveals an association between profitability, debt level, the number of directors on the board and dividend payout. Therefore, on the basis of consistency of the determinants of dividend payout, only board size (the number of directors on the firm's board) showed consistence of having a positive and significant influence on the dividend payout decisions of firms in both the financial and non-financial sectors in Ghana.

The study suggests the conduct of future research to examine the consistency of the determinants in the other sectors of the economy.

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