Impact of Dividend Policy on Stock Price Fluctuation of Listed Companies on Ghana Stock Exchange

Paul Tenkorang Acheampong[1*], Haiyan Shan[2], Laweh Nicholas[3],
Agyemang kwasi Sampene[4]

[1] School of Management Science and Engineering, Nanjing University of Information Science and Technology, Nanjing 210044, China; 20195233005@nuist.edu.cnTel: +86-17558876049

[2] School of Management Science and Engineering, Nanjing University of Information Science and Technology, Nanjing 210044, China; 002212@nuist.edu.cn

[3] School of Business, Nanjing University of Information Science and Technology, Nanjing 210044, China; 201853300011@nuist.edu.cn

[4] School of Business, Jiangsu University, 301 Xuefu Road, Zhenjiang, Jiangsu, China; akwasiagyemang91@gmail.com

Abstract: **This paper aims to investigate the impact of dividend policy on stock price fluctuations on companies listed on the Ghana stock exchange. Annual data from 2009 to 2019 was used for this research. Taking the dividend yield and dividend payout as the indicators of dividend policy, a series of panel data analyses were conducted by using the Ordinary Least Square (OLS) method. The results show that there exists an inverse relationship between dividend yield and stock price fluctuations on the Ghana Stock Exchange and derive that in order to keep the stock prices stable in Ghana, corporate managers must continue to pay cash dividends as the payment because such payment not only helps to stabilize the prices but also encourages potential investors to enter into the Ghana Stock Market.**

*Keywords***: Dividend Policy, Stock Price Fluctuation, Ghana Stock Exchange.**

1. INTRODUCTION

Dividend Policy is concerned with financial strategies that relate to the distribution of parts of a company's profits to its shareholders as a percentage of their authorized shares held by each individual. This payment of earnings to shareholders may be in the form of cash dividends, share splits and share buybacks [1], [2].

Dividend policy is particularly important in the valuation of listed companies since it is translated into capital gains and reflected in stock price. The goal of every financial manager is to maximize the wealth of shareholders. In addition, the financial manager needs to save money (retained earnings) as an alternative loan for the development of the company. The components used to calculate the return on investment are divided into two folds: one is the dividend payout and the other is the capital gain. Although there exists a negative relationship between dividend payout and earnings ratio, dividend payout and retained earnings are identical: both are geared towards optimizing shareholders' capital. The unshared profit (retained earnings) is used by the company to undertake projects that have a positive Net Present Value (NPV) which will ultimately expand the whole value of the company while dividend reflects the ability of shareholders to increase their current consumption [3].

Corporate executives also aim to boost their company's fundamentals, which are suggested by scholars as follows: revenue, dividend coverage, earnings per share, dividend yield and dividend payout ratio. A company's strong

fundamentals are expressed in its stock market share price movement, which essentially translates into optimizing shareholders' capital [4]. [1]

Stock price fluctuation is a measure of the degree of changes in the prices of stocks over time. This change is due to the instability of the company's performance, the unpredictability of the prospect of the company by investors and the overall risk associated with the company. These fluctuations affect the interests of investors and lead to the differences in the prices of shares which implies that risk management (share price volatility) plays an important role in investment [5], [6]. The effect of dividend policy and share price volatility is a concerned research area not only for financial managers but also for policymakers as well as investors who constantly make decisions related to their future portfolios. To academia, it is also a means to evaluate the performance of capital markets [7].

Ghana is an emerging developing country with high-risk potentials and a high return stock market where investors look for greater premiums. It is not surprising that the recent government Eurobond issue in February 2020 was oversubscribed in five folds [8]. In 2017, the country began to reform the financial sector and the main financial indicators in the past three years to strengthen the management of the financial sector. This has opened up the local market to foreign investors leading to stock price volatility. The reforms in the financial sector included the strengthening of the institutional oversight responsibilities, closure of non-performing banks and microfinance, consolidation of emerging banks. No study has investigated the performance of companies listed on the Ghana Stock Exchange and their dividend payment frequency. Hence, the quest to dive into this research.

The capital market in Ghana is substantial and the industry is characterized by firms from different sectors publically seeking funds, however, dividend decisions differ among and within the industry. It can be augured that dividend payment is seen as a common practice among companies listed on the Ghana Stock Exchange. Dividend payment happens on yearly basis and this can be seen from the annual reports and dividend announcement data from the Ghana Stock Exchange irrespective of how insignificant the dividend payment amount will be in a specific period. Many factors could be attributed to why this practice is ongoing, one will say Ghanaians are naturally risk-averse, also the GSE is seen as a weak form of efficiency hence a promise of the cash dividend will be seen as an incentive to drive potential investors into the stock market [9].

2.   LITERATURE REVIEW

2.1 Dividend Policy

There are volumes of research on dividend policy. But researchers are unable to solve the puzzle on dividend policy. It is still unclear why some managers pay dividends while others don't. Baker et al, [10] examined the puzzle of dividend policy with the quest to find out if all the pieces fit. They concluded, to solve the dividend puzzle, one has to understand the effects of various market imperfection because various imperfections affect firms differently. They concluded that dividend policy may vary substantially from one firm to another. [2]

In a similar spectrum, Jardin, [11] discussed the different facets surrounding dividend policy. In this context, they addressed tax problems, theoretical structures for corporate governance, knowledge asymmetry, and the life cycle of companies. From their analysis, they concluded that corporate institutions, as well as the general public's static view on dividend policy, has increasingly been replaced by a dynamic vision. From this preamble, if the characteristics of a company affect the stock market prices, the company's dividend policy is likely to be a key component of the research that may be carried out.

In the search to find the determinants of dividend policy by Salman[12], eight listed companies on the Pakistani stock exchange were selected between the period of 2017 and 2018 and examined. This paper used the Pearson Correlation and multiple reaction regression to investigate if there is an effect on shareholder expectations and the dividend policy signaling mechanism. They discovered that shareholder expectations and dividend alerts had a favorable and meaningful dividend policy relationship. They concluded that the reaction of investor desires and the signaling aspect of dividends directly relate to the company's dividend policy.

---

[1] Retained earnings are the profit from a company's operations that are not distributed to shareholders but rather reinvested in the business to increase the net worth of the business.
[2] Stock price volatility is the rate at which the prices of stocks change over a period.

Analyzing the long-run persistence of dividend policy [13], investigated the persistence of dividend policy in the long run by using a unique sample of firms listed on the Brussels stock exchange since 1824. They found out that firms develop certain persistent characteristics at an important moment in their life cycle. It was proven in this research that the initial dividend policy measured at the firm's initial public offer (IPO) affects the future dividend policy. They concluded that this effect persists for many years but decreases over the firm's life cycle. They also found out that, over time, a new stable and slowly changing persistent component of dividend policy is formed.

2.2 Stock price fluctuations

A Preference Free Pricing Formula was published in 1973 by Fischer Black and Myron Scholes. Within financial economics, this publication has been a step forward. From this point on, the principle of option pricing has grown into a basic instrument for the design, pricing and hedging of different derivative securities. [7] proclaims that it is very difficult to estimate volatility because volatility doesn't conform to any mathematical model which makes the evolution uncertain.

Many factors affect the fluctuation of stock prices. Different researchers have attempted to establish different factors affecting the fluctuations in stock prices. Sutrisno [14], examined the determinants of stock price volatility in Indonesia. From the period of 2014-2018, the author analyzed variables such as trade value, business size, inflation, and stock volatility exchange rate for Jakarta Islamic Index firms. By using purposeful sampling and panel regression for annual figures. They discovered that market volume greatly influences stock price volatility. Firm size is related to market fluctuations in a negative way. It was reviewed in this paper that the exchange rate and inflation do not affect stock price volatility.

2.3 Dividend policy on stock price fluctuations

Many researchers have attempted to establish the empirical relationship between dividend policy and stock price volatility. However, these researchers are sitting at the opposite edge of the discussion table. Though there is a lot of disagreement on the impact of dividend policy on stock price volatility, both sides agree that dividend payout ratio and dividend yield are the proxies of dividend policy.

In the quest to find the relationship between dividend policy and stock price volatility in insurance companies listed in the Amman Stock Exchange in Jordan, Sufian embarked on this research using a sample from 20 insurance companies and applying multiple linear regression for the period 2008 to 2017, he found out that, there is a significant relationship between share price volatility and dividend yield and payout ratio. This research finding supports the theoretical school of thought that states that there exists a relationship between dividend policy and stock price volatility [15].

A similar study was conducted by Camilleri *et al*.,[16]. To investigate the effect of dividend policy on share price volatility through a sample of Mediterranean region bank's stock which is publicly traded from 2001 to 2016. Using dividend yield and dividend payout as a proxy for dividend policy and regressed these ratios with other controlled variables to model volatility, their evidence suggests that, the dividend yield is more significant when explaining stock price volatility than dividend payout. This means that the amount of dividend yield declared by a company greatly affects the fluctuations in the stock prices of such companies. [16].

In Jordan, Ala'a Adden also set on a similar adventure and he titled it "Financial Constraints, Capital structure, and Dividend Policy". The focus of his study was to examine the relationship between the financing and investment decisions where he tried to measure the effect of financial constraints on the firm's investment decisions. The aspect that looked at dividend policy sort to answer specific questions such as the main determinants of dividend policy behavior in Jordan; do firms in Jordan have dividend policy and finally, they examined if firms in Jordan have target dividend ratio. To achieve his goals, he used Logit to estimate the probability that a firm pays dividends and Tobit to estimate the amount of dividend paid. He also adapted GMM to estimate the form's target dividend payout ratio. The result showed that the probability that a firm pays a dividend is positively affected by the firm's profitability [17].

Mohammed and Ahmad examined the relationship between dividend policy and share price volatility in the Malaysian market. In this research, a sample of 319 companies from the Kuala Lumpur stock exchange was analyzed using regression analysis, they found out that dividend yield and dividend payout have a negative relationship with share price volatility. Another controlled variable such as long-term debt is positively related and the relationship is statistically significant [18].

Sharif et al investigated the effect of dividend policy on stock prices. Their goal was to see if there exists any relationship between dividend policy and stock prices. 45 non-financial companies listed on the KSE-100 index was analyzed using regression, fixed, and random effect test. Their result showed that the dividend payout ratio which was used as a proxy for dividend policy had a significant positive relationship with share prices. This result confirms the bed in hand theory of dividend policy which indicates that shareholders will give a preference to a dollar of estimated dividend to possible capital gains [19].

In analyzing the relationship between dividend policy and share price volatility in the Malesia stock market, Mohammad Hashemijoo and his group began research into 142 consumer product companies listed in the main market of Bursa Malesia. With five years of data set from 84 sampling firms, they use regression analysis to test their hypothesis. The outcome of this research indicates a negative correlation between the volatility of share prices and the dividend policy [20].

2.4 Limitations of the related research

Even though the various aspect of the research topic has been touched upon by different researchers, I couldn't find published papers with evidence from the Ghanaian market with recent data. I will be using data from Ghana for this research. This will broaden the scope of the study and bring to light new evidence from developing countries like Ghana.

2.5 Research Contribution

From the above literature, it could be observed that all researchers sit at the two spectrums of the discussing table. There is the school of thought who believes that dividend policy affects stock price volatility and there is the other school of thought who believes dividend policy has no impact on stock price volatility. This research is combining the variables used by the above researchers who are sitting at the two ends of the spectrum and come up with a supermodel which takes into consideration all the relevant variable and construct a new hypothesis which will be using regression analysis to solve the above problems. The finding of this research will be a base for the future research area.

The precedent of this paper is organized as follows: Chapter 3 describes the type of data used for this research as well as the methodology adopted. Chapter 4 gives a detailed interpretation of the research finding in sequential order. Chapter 5 talks about the summary of the findings from this research and chapter 6 conclude the research with recommendations and future research to be carried on.

3.   DATA SOURCE AND METHODOLOGY

3.1 Data Source

The data for this study will be retrieved from the Ghana stock exchange and the published annual reports of listed banks on the Ghana Stock Exchange from the period of 2005 to 2019. Data from these sources are verified, authorized, and very reliable for various research. ([21]. Various renowned scholars used data from this source for their research work. For instance, in determining the impact of dividend policy among listed banks in Ghana, [9] resulted in these sites for his source of data. In determining the impact of microeconomic variables on stock market returns, Kuwornu & Victor[22] used data from the Ghana stock exchange. Similarly, the quest to find out if microeconomic variables play any role in the stock market movement Adam & Tweneboah [23] resulted in data from this same site. In analyzing credit risk management and performance of banks in Ghana, Boateng [24] used data from the annual financial report of banks in Ghana. Determining capital adequacy, cost-income ratio, and performance of banks, Antwi [25] also resulted in data from the annual report of banks in Ghana. The usage of data from these sites by various researchers proves the credibility of my source of data.

3.2 Methodology

The goal of this research is to analyze the causal impact of dividend policy and stock price fluctuation. The model function is constructed as follows:

$$SPF = f(D - Yield, D - Payout)\ldots\ldots\ldots (1)$$

where SPF represents stock price fluctuation which is the market risk of the listed companies, $D - yield$ represents the dividend accrued in one financial year and $D - payout$ represents the actual dividend that is paid out to shareholders within one financial year.

The dependent variable which is the stock price fluctuation will be measured using the established formula by Baskin[26] where he used the annual range of stock prices divided by the average of the higher and lower prices within one financial year raised to the second power. As shown in equation (2)

$$SPF_{it} = \sqrt{\frac{HP_{it} - LP_{it}}{(\frac{HP_{it} - LP_{it}}{2})2}} \ldots\ldots\ldots\ldots (2)$$

where SPF is the stock price fluctuation company i in time$t$. HP represents the highest stock price for company i in time t and LP represents the lowest stock price recorded by company $i$in – dividend yield and dividend payout. There will be an infusion of other controlled variables which are: the size of the company, earnings volatility, financial leverage, and growth rate of the company.

To be able to estimate the relationship between the dependent variable and the independent variables, the following regression equation is constructed:

$$SPF_{it} = \alpha + \beta_1 DY_{it} + \beta_2 DPO_{it} + \beta_3 Soc_{it} + \beta_4 FL_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots (3)$$

where SPF is the stock price fluctuations for company i at time t, α represents the constant, $\beta_i DY_{it}$ represent the dividend yield of company i at time$t$. $\beta_2 DPO_{it}$ represent the annual dividend paid by company i at time$t$. $\beta_3 SoC_{it}$ represent the size of company i at time$t$. $\beta_4 FL_{it}$ represent the financial leverage of company i at time t and ε represent the error term which covers every other factor that can influence the fluctuations of stock prices but is not covered in the model above.

4. EMPIRICAL ANALYSIS

This section presents the result of the findings of this research. It starts by giving a descriptive snapshot of the dataset used in the descriptive statistics table, then proceeds to the main findings.

4.1 Descriptive Statistics

Table 1 gives an illustration of the descriptive statistics of both the dependent and the independent variables for this study. The rows represent the mean, median, maximum, minimum, standard deviation, skewness, kurtosis, Jarque-Bera, probability sum and sum squared deviation of all variables under this study.

Table 1: Descriptive Statistics

Variables	SPF	DY	DPO	FS	FL
Mean	1.847150	0.917346	3.956272	6.133123	1.900993
Median	1.832185	0.904376	3.954735	6.205950	1.898803
Maximum	2.108042	1.803960	4.255731	10.13459	2.193015
Minimum	1.812913	0.893207	3.954495	0.301030	1.853884
Std. Dev.	0.041745	0.072495	0.021390	1.897823	0.022117
Skewness	2.724405	9.911607	13.96366	-1.361596	11.67685
Kurtosis	13.09029	116.3322	195.9909	6.240926	155.3284
Jarque-Bera	1084.904	108654.9	313709.7	146.3415	195932.1
Probability	0.000000	0.000000	0.000000	0.000000	0.000000
Sum	3657358	180.7172	783.3419	376.3966	
Sum Sq. Dev	0.343307	1.030078	702.3376	0.096364	
Observation	198	198	198	198	

From the descriptive statistics table, it can be observed that the Size of a firm has the highest mean among the selected variables. It recorded a mean value of 6.133123 and dividend yield recorded the lowest mean value of 0.917346. The median simply tells us the middle values for each of the five variables while the maximum and the minimum values tell us the highest and lowest peaks in each of the variables. The standard deviation tells as the deviation from the sample mean for each of the variables. From Table 1, it could be observed that DY and SPF have a standard deviation of 0.724 and 0.417 respectively. These two variables recorded the highest deviation from their respective means. FS has a mean deviation of 1.89 which is the closest among all variables.

ISSN 2349-7807

International Journal of Recent Research in Commerce Economics and Management (IJRRCEM)
Vol. 8, Issue 1, pp: (151-161), Month: January - March 2021, Available at: **www.paperpublications.org**

Looking at the skewness values of various variables, it could be observed that all values are positively skewed except for the size of the firm. This tells us that the distributions for these variables are not symmetric around their mean values. The positive skewness of SPF, DY, DPO and FL indicates that these distributions will have a long right tail.[3] Meaning the dis there has higher values than the sample mean. On the other hand, the negative skewness of FS indicates that there will be a long left tail skew with lower values than the sample mean. Dividend payout recording the highest skewed value of 13.96369 and size of the firm recording the lowest skewed of -1.361596.

Comparing the individual sample mean and their Kurtosis values, it could be observed that all values are leptokurtic which indicates that the distribution of these variables are peaked curved, indicating that there are higher values than the sample means for these variables.

The Jarque-Bera statistics measure the difference between the skewness and the kurtosis of each of the selected variables. The null hypothesis for the Jarque-Bera statistics is that the distribution is normal. From the probabilities of the Jarque-Bera statistics, we reject the null hypothesis of a normal distribution because the probability values of all variables are statistically significant. This tells us that the distributions for the selected variables for this study are not normal. This could be seen even from the kurtosis and skewness of these variables.

4.1.1 Correlation Metrix

A correlation matrix is a table that gives a snapshot of the correlation coefficient that exists between and among variables under consideration. Statistically, the correlation matrix measures the degree t which two variables are linearly related. Conducting a correlation analysis is useful as it helps to identify the predictive relationship among variables.

Table 2: Correlation Analysis

Variables	SPF	DY	DPO	SoC	FL
SPF	1.000000				
DY	0.017886*	1.000000			
DPO	-0.050734*	0.876012	1.000000		
SoC	-0.126396	0.036001	0.006573	1.000000	
FL	-0.008901	0.010184	-0.009153	0.120776	1.000000

Values are significant at 1% ***, 5%**, 10%*. LNSPF= Log of Stock Price Fluctuation, LNDY=Log of Dividend Yield, LNDPO= Log of Dividend Payout, LNFS= Log of Firm Size and LNFL= Log of Financial Leverage

From the correlation table, it can be observed that dividend yield which is the first proxy for dividend policy is positively (0.0179) correlated with stock price fluctuations and this relation is statistically significant at a 10% confidence level. This result is in line with Ali et al., [19] who also studied the relation between dividend policy and stock price fluctuation on the Malaysian stock market, and C et al., [27] who study this same topic in the Nigerian stock market. This result is also in contrast with the result found out by Shah & Noreen[28] on the Pakistan market and Phan & Tran[29] with evidence from Ho Chi Minh Stock Exchange and Hanoi Stock Exchange. The second main proxy variable which is Dividend payout has a negative correlation with SPF and it also shows at a 10% significant level. This result is in line with Hussianey et al. 2011 and Ali et al 2017 who brought a similar result from the KSE-100 index. The negative relation between dividend payout and stock price fluctuations confirms the bed in hand theory dividend policy which indicates that shareholders will give a preference to a dollar of estimated dividend to possible capital gains. It also explains why companies in Ghana are currently paying cash dividends as compared to a stock dividend. The stock market in Ghana is seen as a weak form and one way to drive investors being it foreign or local into this market is by providing incentives such as cash dividend.

Moving on to the controlled variables, Size of the company (SOC) it can be observed that there exists a negative correlation between dividend policy and stock price fluctuation. The literature on dividend policy tells us that the bigger the size of the company, the lower the growth opportunities at their disposal. Such companies are heading towards their maturity stage and such companies pay most of their earnings as dividends. The more dividend they pay, the higher the payout ratio which ultimately affects fluctuations negatively. From the correlation table, SOC shows a negative relation

---

[3] Normal skewness has a value of 0 which means the distribution is symmetric around its mean.

correlation with stock price fluctuations. This result is at a 1% confidence level. The final controlled variable which was used also has a negative correlation between the financial leverage of firms listed on the stock market and the stock price fluctuations.

4.2 Multiple regression Results and Analysis

This study made use of the multiple regression model. This procedure was adopted to deal with multicollinearity that could exist between the proxies of dividend policy. This procedure is in line with previously published papers such as Phan & Tran [29], Raza et al., [30], and Ali et al.,[19]. From the correlation table, there is a higher correlation significance between dividend yield (DY) and dividend payout (DPO). The regression results presented below suggest that eliminating one of the proxies from the model estimation will make either of DPO and DY insignificant from this result, we concluded to include both proxies (DY and DPO) in one model estimation to come up with significant results.

4.2.1 Regression with proxies of dividend policy

To deal with the multicollinearity issue between dividend policies DY and dividend payout DPO, the first regression model was estimated by incorporating the dependent variable SPF and the two main proxies for dividend policy DY and DPO. This approach has been used by previous researchers such as Hussainey et al., [31]. The table below represents the FEM result. Thus, the Panel Estimate ordinary Least Squares (OLS). The estimation of the first regression model is shown below:

$$SPF_{it} = \alpha + \beta_1 DY_{it} + \beta_2 DPO_{it} + \varepsilon_{it} \text{ …………. (4)}$$

where i and t show the cross-sectional and time frame of this research respectively. SPF is the stock price fluctuation, DY is the dividend yield, DPO is the dividend payout ratio and ε is the error term.

Table 3: Regression with Proxies of Dividend policy

Method: Panel OLS Estimation (Cross-session Fixed Effect Model)				
Dependent Variable: SPF				
Variable	**Coefficient**	**Standard Error**	**t-statistics**	**P**
C	3.852873	0.978362	3.938086	0.0001
DY	0.185366**	0.078079	2.374067	0.0187**
DPO	-0.549975**	0.978362	-2.088098	0.0383**
R-Squared	0.482481			
Prob (F-statistics 0.000000				

Values are significant at 1%***, 5%**, 10%* level of significance. SPF: Stock Price Fluctuations, DY: Dividend Yield, DPO: Dividend Payout, OLS: Ordinary Least Square

From Table 3, it could be observed that there exists a positive relationship between DY and SPF in the Ghana stock exchange at a significant level of 5%. While DP has a negative relationship with SPV and this relationship is statistically significant at 5%. This positive and negative relationship between SPF, DY and DPO respectively are in line with previous studies such as [30]. From this analysis, it could be concluded that both variables have a significant impact on stock price fluctuation.

4.2.2 Regression with Dividend Policy and control variables

In order to avoid the multicollinearity issue, this study added other controlled variables to verify if there will be any changes in the values of the proxy for dividend policy estimates and their significant linkage with stock price volatility. To achieve this objective, the following model estimation was contracted

$$SPF_{it} = \alpha + \beta_1 DY_{it} + \beta_2 DPO_{it} + \beta_3 Soc_{it} + \beta_4 FL_{it} + \varepsilon_{it} \text{ ………… (3)}$$

where i and t are the cross-sectional and the period for this study respectively. SPF is the stock price fluctuation, DY represents the dividend yield of the various companies under this study, DPO is the dividend payout ratio, SOC is the size of the companies under this study and FL is the financial leverage of each company. The ε is the error term that covers every other variable that influences stock price fluctuation which is not included in this model specification.

Performing the regression on this model specification which is denoted by the above equation (4), the results are presented in Table 4 which is the representation of cross-session, fixed effect (FEM).

Table 4: Regression with Dividend policy and controlled variables

Method: Panel OLS Estimation (Cross-session Fixed Effect Model)				
Dependent Variable: SPF				
Variables	**co-efficient**	**std. Error**	**t-statistic**	**prob.**
C	4.002483	1.012003	3.955010	0.000
DY	0.202165**	0.077946	2.592649	0.010
DPO	-0.597424**	0.262907	-2272375	0.024
FS	-0.004455**	0.001842	-2.418017	0.017
FL	0.026403	0.1353997	0.233306	0.815
R^2	0.501187			
Adjusted R^2	0.406321			
F- Statistic	5.283100			
Prob (F-statistic) 0.0000000				

Values are significant at 1%***, 5%**, 10%* level of significance. SPF: Stock Price Fluctuations, DY: Dividend Yield, DPO: Dividend Payout, SOC: Size of Company, FL: Financial Leverage, OLS: Ordinary Least Square

From Table 4, It can be observed that DY is positively related to SPF whiles DPO is negatively related to SPF and both variables are significant at 5% which tells us that there exists no multicollinearity between DY and DPO and that each variable affects SPF independently.

Moving to the controlled variables, it could be observed that the size of the company is significantly related to SPF, and the significance level is at 5%. However, financial leverage also has a negative correlation with SPF and this relation is significant at 5%. These results are in line with the result of other renounced papers in this field (Hussainey *et al.*, 2011; Ali *et al.,* 2017 and Mohammed *et al.,* 2015).

4.2.3 Hausman Test and Model Appropriateness

After performing the regression using REM and FEM on the basic model, this study applied the Hausman test on the regression to determine the best fit model using the Chi-square distribution. Following the Null and Alternate hypothesis under the Hausman test[4]:

H_o: Random Effect Model (REM) is appropriate

H_i: Fixed Effect Model (FEM) is appropriate

Table 5: Hausman Test and Model Appropriateness

Correlation random effect – Hausman Test				
1. Test Cross-section random effect				
Test Summary	**Chi-square statistics**	**Chi-square df**	**P**	
Cross-section random	3099747	4	0.5413	
Period Random Effect Test Comparisons				
Variables	**Fixed**	**Random**	**Var (Diff.)**	**Probability**
DY	0.169955	0.168038	0.000178	0.8858
DPO	-0.551847	-0.567107	0.002658	0.7673
FS	-0.003370	-0.003241	0.000000	0.5327
FL	0.040602	0.024311	0.000436	0.4352

---

[4] The Hausman test is used to evaluate the consistency of an estimator when compared to an alternative.

From the table above, this paper failed to reject the alternate hypothesis. This is because the probability is above a 5% level of acceptance. This paper's Haussmann test is in line with the study of Hussainey *et al.,* (2011) where the alternate hypothesis was rejected. Accepting the Null hypothesis, the fixed-effect model estimation was then used for the analysis. The Haussmann test proof that the FEM is more appropriate for this panel regression analysis.

4.3 Summary

This research has found out that dividend payout has a negative relation with fluctuation of the stock price in Ghana. That is to say, when more dividends are paid out as cash to investors, prices of such stocks will be stabilized in the long run. This evidence will help players in the Ghana Stock Exchange especially managers of those companies listed on the stock market in making decisions regarding continue paying cash dividends or offering a stock dividend.

5. DISCUSSION

This research aimed to investigate the impact of dividend policy on stock price fluctuation with evidence from companies listed on the Ghana Stock Exchange. To achieve this goal, a sample of 18 companies across different sectors were selected and examined using a multiple regression analysis for a period of 11 years (2009 -2019). Dividend yield and dividend payout was used as the main proxy for dividend policy. A primary regression function was contracted as SPF as a function of DY and DPO. The primary regression model was expanded to include control variables such as the size of the company and financial leverage.

The result of this study on the Ghana Stock Exchange was found to be following some path as previous studies and developed countries locations. Base on this research, it was established that the coefficient signs of the independent variable from the basic regression model match the study's expected coefficient signs. The overall outcome of this study in both partial regression models supports the existing body of literature on the impact of dividend policy on stock price fluctuations. The positive and negative signs of DY and DPO respectively tells as that if companies in GSE accumulate more dividend and does not pay out such dividend to its investors, we expect more price fluctuations. Likewise, if more dividends are paid out to investors, we expect the rate of fluctuations in stock prices to decrease. Again, the inverse relationship between DPO and SPF also explains why companies on the Ghana Stock Exchange continue to pay a cash dividend to their investors as opposed to a stock dividend.

It was also clear from the regression analysis that the size of the company has a negative correlation with SPF. This tells us that firms at the growth stage have more stable stock prices in Ghana. This is mainly because firms at their maturity stage have less positive NPV projects to undertake hence the zeal to pay most of its accumulated profit as cash dividend to its investors.

6. CONCLUSION AND IMPLICATION

6.1 Conclusion

The purpose of this research was to investigate the relationship between dividend policy and stock price fluctuations of companies listed on the Ghana Stock Exchange. Stock price fluctuation is considered as one of the risk characteristics relating to an emerging market. Evidence from the Ghanaian stock market shows that more than 40% of the variation in stock prices is explained by the dividend payout ratio. The Negative sign associated with dividend payout tells us there exists a negative correlation between dividend policy and stock price fluctuations among companies listed on the Ghana stock exchange. That is to say, as companies listed on the Ghana Stock exchange continue to increases their dividend payments to it shareholders, we expect the rate of fluctuation in stock price to decrease.

6.2 Implication

This research has a policy implication for cooperating managers who manage companies listed on the Ghana Stock Exchange. The findings from this research show that there exists an inverse relationship between dividend payout and stock price fluctuations which means for companies to stabilize the fluctuation that occurs in stock prices in Ghana, they increase the payout ratio of their dividend policy. This action will not only stabilize stock prices but also serve as an incentive to drive potential investors into the Ghana Stock Market and also keep the existing ones from leaving the market.

ACKNOWLEDGEMENT

REFERENCES

[1]   J. Chen, "Dividend Policy Definition," *Investopedia*, 2019.

[2]   N. Mishra, H. K. Soni, S. Sharma, and A. K. Upadhyay, "Development and Analysis of Artificial Neural Network Models for Rainfall Prediction by Using Time-Series Data.," *Int. J. Intell. Syst. Appl.*, vol. 10, no. 1, 2018.

[3]   F. Allen and R. Michaely, "Chapter 25 Dividend policy," in *Handbooks in Operations Research and Management Science*, vol. 9, no. C, 1995, pp. 793–837.

[4]   V. V. Shmatov, "Financial management," *Tsvetnye Met.*, no. 7, pp. 59–63, Sep. 2001.

[5]   V. Petrov, A. Golub, and R. Olsen, "Instantaneous Volatility Seasonality of High-Frequency Markets in Directional-Change Intrinsic Time," *J. Risk Financ. Manag.*, vol. 12, no. 2, p. 54, Apr. 2019.

[6]   U. A. Müller, M. M. Dacorogna, R. D. Davé, R. B. Olsen, O. V. Pictet, and J. E. von Weizsäcker, "Volatilities of different time resolutions — Analyzing the dynamics of market components," *J. Empir. Financ.*, vol. 4, no. 2–3, pp. 213–239, Jun. 1997.

[7]   a. a. Kotzé, "Stock Price Volatility : a primer," *Chaos*, no. January, p. 9, 2005.

[8]   P. R. Unit, "International Capital Markets Reaffirm Confidence in Ghana, as Bond Issuance Results in order book 5 times Required Amount | Ministry of Finance | Ghana," 2020. [Online]. Available: https://www.mofep.gov.gh/news-and-events/2019-02-05/international-capital-markets-reaffirm-confidence-in-ghana%2C-as-bond-issuance-results-in-order-book-5-times-required-amount. [Accessed: 01-Feb-2021].

[9]   E. NKN, "Determinants of Dividend Policy among Banks Listed on the Ghana Stock Exchange," *J. Bus. Financ. Aff.*, vol. 07, no. 01, 2018.

[10]   H. K. Baker, G. E. Powell, and E. T. Veit, "Revisiting the dividend puzzle," *Rev. Financ. Econ.*, vol. 11, no. 4, pp. 241–261, Jan. 2002.

[11]   P. Jardin, "Séverin , E ., du Jardin , P ., 2011 , Dividend policy , Bankers , Markets & Investors , issue 115 ," no. November 2011, 2014.

[12]   A. Salman, "Determinants of dividend policy," *Invest. Manag. Financ. Innov.*, vol. 16, no. 1, pp. 167–177, Mar. 2019.

[13]   L. Moortgat, J. Annaert, and M. Deloof, "The long-run persistence of dividend policy The long-run persistence of dividend policy This version : May 2020 Leentje Moortgat University of Antwerp Post-doctoral research fellow of the Research Foundation Flanders (FWO) Jan Annaert University of Antw," no. June, 2020.

[14]   B. Sutrisno, "The Determinants of Stock Price Volatility in Indonesia," *EAJ (ECONOMICS Account. JOURNAL)*, vol. 3, no. 1, p. 73, Mar. 2020.

[15]   S. R. Almanaseer, "Dividend Policy and Share Price Volatility: Evidence from Jordan," *Account. Financ. Res.*, vol. 8, no. 2, p. 75, 2019.

[16]   S. J. Camilleri, L. Grima, and S. Grima, "The effect of dividend policy on share price volatility: an analysis of Mediterranean banks' stocks," *Manag. Financ.*, vol. 45, no. 2, pp. 348–364, Feb. 2019.

[17]   A. Adden and A. Abuhommous, "FINANCIAL CONSTRAINTS , CAPITAL STRUCTURE AND DIVIDEND

POLICY :,” no. January, 2019.

[18] M. A. Ahmad, A. M. S. Alrjoub, and H. M. Alrabba, “The effect of dividend policy on stock price volatility: Empirical evidence from Amman Stock Exchange,” *Acad. Account. Financ. Stud. J.*, vol. 22, no. 2, pp. 1–8, 2018.

[19] A. Ali, I. Sharif, and F. A. Jan, “Effect of Dividend Policy on Stock Prices,” *J. Manag. Info*, vol. 4, no. 1, pp. 19–28, 2017.

[20] F. K. Al-shawawreh, “The Impact of Dividend Policy on Share Price Volatility : Empirical Evidence from Jordanian Stock Market,” *Eur. J. Bus. Manag.*, vol. 6, no. 38, pp. 133–144, 2014.

[21] “Read File – Ghana Stock Exchange.” [Online]. Available: https://gse.com.gh/readfile/?file=https://gse.com.gh/docs/2013/PR - 066 ETI AUDITED FINANCIAL STATEMENTS FOR THE YEAR ENDED DEC 31, 2012.pdf. [Accessed: 21-Sep-2020].

[22] J. K. M. Kuwornu and O.-N. Victor, “Macroeconomic Variables and Stock Market Returns : Full Information Maximum Likelihood Estimation,” *Res. J. Financ. Account.*, vol. 2, no. 4, pp. 49–64, 2011.

[23] A. M. Adam and G. Tweneboah, “Do Macroeconomic Variables Play Any Role in the Stock Market Movement in Ghana?,” *SSRN Electron. J.*, no. 9301, 2008.

[24] K. Boateng, “Credit risk management and performance of banks in Ghana: The ‘camels’ rating model approach,” *Int. J. Bus. Manag. Invent.*, vol. 8, no. 02, pp. 41–48, 2019.

[25] F. Antwi, “Capital Adequacy, Cost Income Ratio and Performance of Banks in Ghana,” *Int. J. Acad. Res. Bus. Soc. Sci.*, vol. 9, no. 10, 2019.

[26] J. Baskin, “Dividend policy and the volatility of common stocks,” *J. Portf. Manag.*, vol. 15, no. 3, pp. 19–25, Apr. 1989.

[27] E. O. C, E. I. S, and E. D. S, “Effect of Dividend Policy on the Value of Firms (Emperical Study of Quoted Firms in Nigeria Stock Exchange),” *Res. J. Financ. Account.*, vol. 7, no. 3, pp. 17–24, 2016.

[28] S. A. Shah and U. Noreen, “Stock price volatility and role of dividend policy: Empirical evidence from Pakistan,” *Int. J. Econ. Financ. Issues*, vol. 6, no. 2, pp. 461–472, 2016.

[29] T. K. H. Phan and N. H. Tran, “Dividend policy and stock price volatility in an emerging market: Does ownership structure matter?,” *Cogent Econ. Financ.*, vol. 7, no. 1, pp. 1–29, Jun. 2019.

[30] H. Raza, S. Ramakrishnan, S. M. A. H. Gillani, and H. Ahmad, “The Effect of Dividend Policy on Share Price: A Conceptual Review,” *Int. J. Eng. Technol.*, vol. 7, no. 4.28, p. 34, Nov. 2018.

[31] K. Hussainey, C. Oscar Mgbame, and A. M. Chijoke-Mgbame, “Dividend policy and share price volatility: UK evidence,” *J. Risk Financ.*, vol. 12, no. 1, pp. 57–68, Jan. 2011.