

Effect of Dividend Policy on Stock Price Volatility in Nigeria Stock Exchange

Felix Ebun Araoye (Corresponding author)

Internal Audit, Bells University of Technology, Ota, Ogun State, Nigeria

Tel: 234-0805-770-5859 E-mail: araoyefelix@yahoo.co.uk

Akinola Michael Aruwaji

Department of Management and Accounting, LadokeAkintola University of Technology

Ogbomosho, Oyo State, Nigeria

Tel: 234-0803-949-9777

Emmanuel OlusuyiAjayi

Department of Economics, Accounting and Finance, Bells University of Technology

Ota, Ogun State, Nigeria

Tel: 234-0802-302-3761

Received: September 14, 2017 Accepted: May 8, 2019 Published: May 12, 2019

doi:10.5296/ijafr.v9i2.11861 URL: https://doi.org/10.5296/ijafr.v9i2.11861

Abstract

This paper seeks to determine the effect of dividend policy and dividend payment on share price volatility in Nigeria. Several literatures have showed evidence that dividend policy vary inversely proportional with share price volatility with duration effect. The study used data from the actively trading companies listed in the Nigeria Securities Exchange for a period of ten (10) years from 2005–2014. The estimation is based on panel data analysis between dividend policy measures (dividend payout, dividend per share, earnings after tax, dividend declared and number of share) and Share price volatility. The findings from the random effects regression results showed dividend per share is the major determinants of share price volatility in NSE ($\beta = 0.6870$, $\rho < 0.05$). Dividend payout ratio negatively affect share price



volatility (β =0.612, ρ >0.05) and earnings after tax negatively affect share price volatility (β =0.038, ρ >0.05). Thus, the higher the payout ratio the less the share price volatility, and the higher the earnings after tax lower the share price volatility. In conclusion, dividend per share has positive effect and inclusive relationship with market share prices. It is recommended that firms should try and improve on their financial performance that will enable consistent increase in the dividend per share for positive impact on market value.

Keywords: Share price volatility, Dividend payout, Dividend per share, Dividend declared

1. Introduction

1.1 Background of the Study

The significance of dividend policies on dividency cannot be underestimated in corporate organization, the going concern of an entities depend majorly on the source of their finances, and it had been the source of controversies over long periods. Brealey and Myers (2005) also describe dividend policy as one of the ten most difficult unsolved problems in financial management as earlier identified by Black (1976) when he summarized these confusionsamong dividend policy researchers, when he said 'the harder we look at dividend picture, the more it seems like puzzle, with piece that don't fit together'. Oyinlola and Ajeigbe (2014), emphasized on the significance of dividend policy by relating same to various stakeholders such as investors, managers, lenders, financial consultants/analysis and so on specifically, they observed that dividend is more than a source of income but also a means of evaluating the company's performance as an investment. Khan (2012), explained that the main objective of investing in the stock market is to maximize expected returns which could be in terms of dividends or capital gains. These are determinants of maximization shareholders wealth. Dividend thus represents an immediate return to the ordinary shareholder while retained earnings have to do with deferred benefits.

The importance of resolving the trade-off between dividend and retention by companies should be the way corporate results trend of dividend paying companies tend to significantly outpace those of non-paying companies.

1.2 Statement of Problem

Many researches have been carried out on the issue of dividend Policy and stock price volatility both in developed and developing nations. There are still dearths of studies in Nigeria that actually focus on this area. Few studies were carried out in nigeria on effect of dividend payout, earning yield and dividend yield on the stock prices witout looking at the trend in dividend payment by companies under studies over a period of time (Okafor et al., 2011; Oyinlola and Ajeigbe, 2014; Anike, 2014; Wodung, 2014). This study will address this shortcoming by looking at the pattern of dividend policies among the sampled listed companies in Nigeria. The trend estimation shows the dividend policy on the market share prices of companies with dividend per share that determine the growth of market. This study will therefore contribute to knowledge by taken care of gaps that have been left unfilled in terms in Nigeria studies by analysing the pattern of dividend policy over the period of study.



1.3 Objective of the Study

The broad objective of this study is to examine the effects of dividend policy on market value of shares of listed companies in Nigeria. The specific objectives are to;

- i. Determine the pattern of dividend policies among selected listed companies in Nigeria.
- ii. Evaluate the impact of dividend payment on share prices of selected listed firms in Nigeria.
- iii. Examine the relationship between dividend payout ratio and price volatility in Nigeria's Stock Market.

1.4 Research Hypotheses

The following hypotheses, stated in Null form are proposed for this study.

- i. There is no significant influence in the blueprint of dividend policies of listed companies in Nigeria.
- ii. Dividend policy has no effect on share prices of listed firms in Nigeria.
- iii. There is no relationship between dividend policy and price volatility in Nigeria.

2. Literature Review

2.1 Theoretical Review

2.1.1 Dividend Irrelevance Theory

Dividend policy has been a bone of contention in finance; this is evidenced by numerous studies beginning from Lintner (1956) to Modigliani and Miller (1961) to Bhattacharya (1979) and more recently DeAngelo et al (1996), Fama and French (2000) and Al-Malkawi (2007). Some of the theories of dividend policy include: Modigliani and Miller (1961) observed that "the dividend policy is irrelevant". The dividend policy has no effect on the price of shares and it has no impact on a shareholder's wealth under the Perfect Capital Market (PCM) which assumes rational investors. They therefore concluded that dividend policy has no impact on shareholder's wealth and that all dividend policies are equivalent. As a matter of fact, firms are continuing to pay dividend to their shareholders. According to them, the shareholder's wealth is affected by the income generated by the investment decisions a firm makes, and not by how it distributes that income. Modigliani and Miller further argue that regardless of how a firm distributes its income, its value is determined by its basic earning power and its investment decisions. They stated that "given a firm's investment policy, the dividend payout policy it chooses to follow will affect neither the current price of its shares nor the total returns to shareholders". In order words, investors calculate the value of companies based on the capitalized value of their future earnings, and this is not affected by whether firms pay dividends or not and how firms set their dividend policies. Modigliani & Miller went further to suggest that to an investor, all dividend policies are effectively the same since investors can create "homemade" dividends by adjusting their portfolios in a way that matches their preferences. That stockholder's wealth is unchanged when all aspects of



investment policy are fixed and any increase in the current payout is financed by fairly priced stock sales. The assumptions of the theory include;

- There is 100% payout of dividend by management in every period.
- There exist perfect capital markets.
- Investors are rational and that they value securities based on the value of discounted future cash flow to investors.
- Managers act as the best agents of shareholders.
- There is certainty about the investment policy of the firm.

In the light of the foregoing, Modigliani and Miller concluded that the issue of dividend policy is irrelevant.

2.1.2 RelevanceTheory of Dividend

The dividend relevance group believes that under conditions of uncertainty, investors are not indifferent as to how the earnings stream is split between dividends and retained earnings.

Walter (1963) argued that dividend policy should be dependent on the investment opportunity available to the company or firm. He was of the opinion that so long as there are investments opportunities from which the firm earns its rate of return (r) which is higher than the firms weighted average cost of capital (Ko) the firm should pay dividend to its shareholders. But if there are no such opportunities, the firm should payout a part of its profits.

Judging Walter's suggestions tends to highlight the information content of dividends. That is, the payment or omission of dividend by a firm is a means of announcing to the public what the firm's future will look like. A firm that pays no dividend will be looked like as a weak firm with little or no future prospect and vice-versa. Going further, Walter (1963) came up with model explaining how dividend policy affects the value of a share in the stock exchange:

$$P = \underline{D} + \underline{r(E-D)K}$$

$$K \qquad K$$
(1)

Where:

P = Market price per share

K = Cost of capital

E = Earnings per share

D = Dividend per share

I = Internal rate of return.

Walter's Model portrays that an optimal dividend policy will depend on the relationship between the firms internal rate of return (r) and the cost of capital (k). Lintner (1956) developed a simple minded observation which is consistent with these facts and explained



dividend payments well. Here it is: suppose that a firm always stuck to its target payout ratio, and then the dividend payment in the coming year (Div1) would equal a constant proportion of earnings per share (EPS1):

Div= target dividend = target ratio
$$x EPS1$$
 (i)

The dividend change would equal:

$$Div_1 - Div_0$$
 =target change = target ratio x EPS₁ - Div_0 (ii)

A firm that always stuck to its payout ratio would have to change its dividend whenever earnings change.

2.1.3 Bird on Hand Theory

Gordon (1962), confirm the preference of shareholders to a higher dividend policy of the firm. The shareholders according to this theory will prefer payment of dividend in the present as against capital benefit from uncertainty of future investment.

2.1.4 Agency Theory

Agency cost relates to conflict of interest cost that arises between agents and owners. Jensen and Meckling (1976) state that agency there will be agency cost when owner manager divest part of their holdings to outsiders. With regards to dividend policy Easterbrook (1984) argue the use of dividend policy to reduce agency cost.

2.1.5 Signalling Theory

Modigliani and Miller (1961), states that there is perfect knowledge by management and investors. However, it has been confirm by many studies that this conclusion may not be valid afterall thereby creating a gap with the management using dividend policy to bridge the gap in information to the shareholders.

2.2 Empirical Review

Some researches have been carried out globally on the issue of dividend and stock prices. In Nigeria, the study of Adelegan (2009) reveals a positive relationship between dividend payout and share prices. The findings of Adefila et al (2013), affirms that there is no association between dividend paid to shareholders and prices of the quoted shares. In their study Uwuigbe et al (2012), reveal a significant positive relationship between dividend payout and market value of shares. The study of Khan (2012), validate a positive association between dividend payout and share prices. The research of Zakaria et al. (2012) in Malaysia further supports the positive relationship between dividends payment announcement and stock prices. Monday et al (2014), also confirm that dividend payout ratio have a direct relationship with market prices of shares. Oyinlola and Ajeigbe (2104) concluded in their study that both dividend payout and retained earnings has a positive association with market price of shares. In Kenya, Jagongo and Ndede (2014) used OLS diagnostic test to confirm a positive association between cash dividend and share prices. Ndugu (2016) affirm in his study that share price is positively responsive to dividend announcement. However, the study



of Fawaz (2014) on dividend policy and price volatility of Jordanian stock market reveal empirical result of significant negative correlation between share price volatility and dividend payout. Most of these studies especially in Nigeria however failed to look at the pattern of dividend policy of companies studied over period of studies.

3. Methodology

3.1 Population of Study

The population for this study was the listed companies in Nigeria Stock Exchange, the total number of listed companies in Nigeria Stock Exchange are 188, segmented into eleven (11) sectors. Out of the eleven (11) sectors, five (5) most active sectors were selected for the sample frame.

Table 1. Number of listed companies in Nigeria Stock Exchange (NSE)

S/N	Industries/ Sectors	Number of companies	No. Selected	
1	Agriculture	5		
2	Construction Real Estate	9	1*	
3	Consumer Goods	28	3*	
4	Financial services	57	6**	
5	Healthcare	12	1*	
6	Industrial Goods	21		
7	ICT	9		
8	Natural Resources	5		
9	Oil and Gas	13	1*	
10	Services	23		
11	Conglomerates	6		
	TOTAL	188	12	

Source: Researcher's compilation, 2016



Table 2. List of selected listed companies in NSE by industry/sector

S/N	Industry/S ector	Names of Companies					
		I	II	III	IV	V	VI
1	Financial Services	Access Bank Plc	Diamond Bank Plc	UBA Plc	FBN Plc	GTB Plc	Zenith Bank Plc
2	Consumer Goods	Cadbury Nig, Plc.	Flour Mills NigPlc	Guinness Nig. Plc			
3	Oil and Gas	Mobil Nig. Plc			-		
4	Healthcare	Niemeth Nig. Plc	_				
5	Constructi on and real Estates	Dangote Cement Plc	_				

Source: NSE, 2016.

3.2 Sampling and Sample Size

Each sector in the sampling frame is expected to be sampled proportionately thus: The sample size for this study adopted proportional sampling. Companies are selected using systematic sampling approach in which an approximation of 10% of the population was selected from the sampling frame.

3.3 Data Collection Methods

Data for this study was secondary data, obtained from the audited financial statements of selected companies covering ten years period (2005-2014) which also captures the period of stock market crisis that started in 2007.

3.4 Model Specification

For the purpose of the study the equation and variable used are as follows;

Where, **MPSnt:** Market price per share, **DPSnt:** Dividend per share, **DPRnt:** Dividend payout ratio **EATnt:** Earnings after tax, **DDnt:** dividend declared, **NSnt:** number of shares and **Ent:** error term measured per company over time. The subscript 'n' denotes companies selected from a particular industry, and all variables are measured in the 't' time period.



4. Results and Discussion

4.1 Analysis of the Effects of Dividend Policyand Dividend Payment on Market Share Prices of Listed Companies in Nigeria

OLS Pool regression model is a panel data analysis and was used to deny the heterogeneity with the assumption that the companies are similar. The result of this analysis revealed that the model was statistically significant based on the fact that; The F-value (0.000 < 0.050) and Adj $R^2 = 0.6870$ shows that almost 68.70% change in dependent variable is because of change in independent variables. Realistically, the model is used in assumption that all the twelve (12) companies are the same. Meanwhile, the companies were not functionally similar. Obviously, this model is not realistic in the real world, but it indicated postulation of the variables in all the difference companies as if they were the same. Dividend per share and dividend payout ratio is measure for dividend policy and is significant for explaining the market share prices.

Table 3. OLS pooled regression

Variables	Coef.	Std. Err.	Т	P> t	Adj R ²	F-value
_cons	9.966	4.355	0.023	0.024		
Dps	0.237	0.544	15.38	0.000**		
Dpr	0.450	0.470	0.10	0.924*	0.6870	0.0000
Eat	0.561	0.381	0.15	0.883*	-	
Dd	0.998	0.715	-139	0.044**	-	

^{** &}lt; 0.05, * < 0.1

4.2 Analyses of Relationship BetweenDividend Policy and Price Volatility in Nigeria

The fixed effects model accepts the heterogeneity or individuality, allowing to have its own intercept value. Fixed effects are due to the fact that, although, the intercept may differ across the companies, but the intercept does not vary over time, that is, it is time invariant. Fixed effects are appropriate as alternative hypotheses. The fixed effects results show that stock market price has positive significant relationship with dividend per share. Dividend payout ratio and earnings after tax shows insignificant negative relationship with stock market price. Whereas variables like dividend declared and number of share have insignificant positive and negative relationship with stock market prices respectively. F (5,103) = 6.47 and p value 0.000< 0.050, this signifies that the model is significant, because the coefficient is greater than zero (0.7465).



Table 4. Fixed-effects (within) regression

Variables	Coef.	Std. Err.	Т	P> t	F-value	p-value
_cons	19.93	7.236	0.028	0.007		0.0000
Dpr	-0.344	0.478	-0.72	0.473	_	
Dps	0.146	0.026	5.65	0.000*	- - 47	
Eat	-0.023	0.039	-0.59	0.556	- 6.47	
Dd	0.014	0.075	0.02	0.985	_	
Ns	-0.027	0.072	-0.00	0.997		

^{*&}lt; 0.05, Significant

This model determines if the companies have a common value of intercept. Random-effects GLS regression is appropriate as null hypotheses. The Random-effects model shows that dividend per share is positively significant with market share price, while dividend payout ratio, earnings after tax, dividend declared and number of share are negatively insignificant with market share price. The value of Wald chi square test (F-value) equals to 150.53. This signifies that the overall model is statistically significant. The more the Wald chi square test (F value) the more the model is considered significant. Here, Wald chi square test value is 150.53 showing that in general the model is significant with $R^2 = 0.6870$ which shows that

Table 5. Random-effects GLS regression

Variables	Coef.	Std. Err.	Z	P> z	Wald chi2(5)	P-value
_cons	15.123	6.370	0.024	0.018		0.0000
Dpr	-0.621	0.477	-0.13	0.896	_	
Dps	0.213	0.019	11.22	0.000*	- 150.53 -	
Eat	-0.038	0.039	-0.01	0.992		
Dd	-0.052	0.073	-0.72	0.471		
Ns	-0.038	0.049	-0.78	0.433	_	

^{* &}lt; 0.05, Significant



Hausman test was run to make a decision between fixed and random effects, the decision of choice between fixed and random effect is based on p-value of Hausman test. If the p - value of the Hausman test is less than 0.05, we have a preference to use a fixed effects model. On the other hand if the p-value of the Hausman test is more than 0.05, we select to use random effects. However, Hausman test p value is 0.54 by implication is greater than 0.05 that shows that random effects should be considered. The findings, establish a positive relationship between market share prices and dividend per share, while other variables shows negative relationship between market share price

Table 6. Hausman test model

Variables	Coef.		Diff.	chi2(2)	
H/Model	(b)	(B)	(b-B)		
11/Wodel	Fe	Ra	(0-D)		
Dps	0.146	0.213	-0.067		
Dpr	-3.443	-0.621	-2.822	-0.54	
Eat	-0.023	-0.038	-0.022		
Ns	-0.027	-0.038	0.038	_	
Dd	-0.014	-0.053	0.054	_	

b = consistent under Ho and Ha; B = inconsistent under Ha, efficient under Ho;

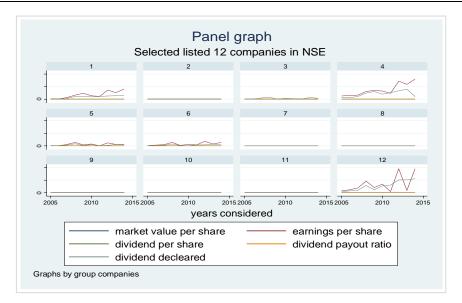
Test: Ho: difference in coefficients not systematic

4.3 Panel Unit Root Test

Ho: null hypothesis contain 12 unit roots, while Ha: alternative hypothesis are stationary at 10. Indicated that the null hypotheses are un-stationary and should be accepted. The p-value (0.000 > 0.050) and statistical adjusted t^* (-5.0980). In all, the tested null hypotheses are significant.

The graph shows the parallel relationship of the dependent variable and the independent variable considering the yearly report of the selected 12 companies, the trend estimation of the dividend policy on the market share prices cross boarder of the selected companies were pointed on scale and graphically related. The graphs shows raisin dividend per share with increases in the growth of market share prices trend. That is, the higher the DPS the higher the MSP.





Source: Researcher's report, 2016.

5. Conclusion and Recommendation

The study examined the effects of dividend policy and dividend payment on market price of listed companies in Nigeria and also examined the relationship between dividend policy and market share prices. The results of the panel data analyses based on random-effects within regression shows that dividend per share have significant relationship with market share prices. One percent (1%) growth in dividend per share will cause 0.213% rise in stock market price and consequently one percent (1%) decline in dividend per share will cause 0.213 % fall in stock market price. It could therefore be concluded (infered) that dividend payment has a very significant impact on the share price of quoted companies in Nigeria. The findings are consistent with the result of Oyinlola and Ajeigbe (2014) and Uwuigbe et al (2012) even though it conflicts with the work of Adefila et al (2013) and Adaramola (2012). It also agreed with the dividend relevant theory of Gordon (1959). On the other hand, variables like Dpr, Eat, Ns and Dd have insignificant negative relationship with market share prices. This indicates that these variables do not really have great influence on Company market share prices determination in Nigeria. From all indication they do not mainly influence the market share prices and therefore could be referred to as secondary determinants of market share prices.

It is therefore recommended that firms should try as much as possible to improve on their financial performance that will enable consistent increase in their dividend per share that will positively impact on market value. This is necessary because according to Lintner's (1956) findings, decrease or non-payment of dividend could convey a wrong signal to investors on the viability or profitability of the company.

References

Adaramola, A. O. (2012). Information Content of Dividend: Evidence from Nigeria. *Developing Country Studies*, 2(2), 74-83. Retrieved from http://www.iiste.org



Adefila, J. J., Oladipo, J. A., & Adeoti, J. O. (2013). The Effect of Dividend Policy on the Market Price of Shares in Nigeria: Case Study of Fifteen Quoted Companies. Retrieved from http://unilorin.edu.ng/publications/adeotijo

Adelegan, O. J. (2009). Price Reactions to Dividend Announcements on the Nigerian Stock Market. *African Economic Research Consortium Research Paper 188*. Nairobi: African Economic Research Consortium.

Al-Malkawi, H. (2007, December). Determinants of Corporate Dividend Policy in Jordan: "An Application of the Tobit Model. *Journal of Economic & Administrative Sciences*, 23(2), 44-70.

Anike, E. A. (2014). The impact of dividend policy and earnings on stock prices of Nigeria banks. *MSc. Dissertation*, pp.16-17. University of Nigeria, Nsuka.

Bhattacharya, S. (1979). Imperfect information, dividend policy and the bird-in-the-hand fallacy. *Bell Journal of Economics*, *10*(1), 259-70.

Black, F. (1976). The dividend puzzle. *Journal of Portfolio Management*, 2(1), 1-22.

Brealey, & Myers. (2005). Fundamentals of Corporate Finance (3rded.).

DeAngelo, H., DeAngelo, L., & Skinner, D. (1996). Reversal of Fortune: Dividend Signaling and the Disappearance of Sustained Earnings, Growth. *Journal of Financial Economics*, 341-347.

Easterbrook, F. H. (1984). Two agency-cost explanations of dividends. *American Economic Review*, 7(4), 650-659.

Fama, E. F., & French, K. R. (2000). Disappearing dividends: characteristics or Lower propensity to pay?. *Center for Research in security prices working paper No.509*.

Fawaz, K. A. (2014). The impact of dividend policy on share price volatility: empirical evidence from Jordanian stock market. *European Journal of Business and Management*, 133-143.

Gordon, M. J. (1959). Dividends, earnings and stock prices. *Review of Economics and Statistics*, 41(2), 99-105.

Gordon, M. J. (1962). The Savings Investment and Valuation of a Corporation. *The Review of Economics and Statistics*, 44, 37-51.

Gordon, M. J. (1963). Optimal Investment and Financing Policy. *Journal of Finance*, 18(2), 264-272.

Jagongo, A. O., & Ndede, F. W. (2014). Effects of Dividend Policy on Share Price of Firms Listed at the Nairobi Securities Exchange, Kenya. *Research Journal of Finance and Accounting*, 220-230.

Jensen, M. C., & Meckling, W. H. (1976). Theory of the Firm, Managerial Behavior, Agency Cost and Ownership Structure. *Journal of Financial Economics*, 305-360.

Khan, K. I. (2012). Effect of Dividends on Stock Prices - A Case of Chemical and Pharmaceutical Industry of Pakistan. *Management*, 2(5), 141-148.

Lintner, J. (1956). Distribution of incomes of corporations among dividends, retained earnings, and taxes. *American Economic Review*, 61, 97-113.

Modigliani, F., & Miller, M. H. (1961). Dividend policy, growth and the valuation of shares. *Journal of Business*, *34*(4), 411-433.

Monday, M., Enekwe, C.I., & Anyanwaokoro, M. (2014). Effect of dividend payment on the market prices of shares: a study of quoted firms in Nigeria. *Journal of Economics and Finance*, 49-62.

Ndugu, M. M. (2016). Effects of dividend policy on share prices: a case study of companies listed in the Nairobi security exchange. A project submitted to the chandaria school of business for award of the degree of master in business administration (MBA), pp. 42-47.

Okafor, C. A., Mgbane, C. O., & Mgbame, A. M. (2011). *Dividend Policy and share price volatility in Nigeria*. Retrieved August 2017, from www.transcampus.org/journals

Oyinlola, O.M., & Ajeigbe, K. B. (2014). The Impact of Dividend Policy on Stock Prices of Quoted Firms in Nigeria. *International Journal of Economics, Commerce and Management*, 1-17.

Tariq, Z. S., Chaubey, D., & Khalid, S. (2012). A Study on Dividend Policy and its Impact on the Shareholders Wealth in Selected Banking Companies in India. *International Journal of Financial Management*, 2(3).

Uwuigbe1, U., Olowe, O., & Godswill, A. (2012). An Assessment of the Determinants of Share Price in Nigeria: A Study of Selected Listed Firms. *ACTA UNIVERSITATIS DANUBIUS*, 8(6), 78-88.

Walter, J. E. (1963). Dividend Policy: Its Influence on the Value of Enterprise. *Journal of Finance*, 18, 280-291.

Wodung, N. M. (2014). Dividend Policy and Stock Price Volatility in Nigeria. *MSc. Thesis*, pp. 3-4. Ahmadu Bello University, Zaria.

Zakaria, Z., Muhammad, J., & Zulkifli, A. H. (2012). The Impact of Dividend Policy on the Share Price Volatility: Malaysian Construction and Material Companies. *International Journal of Economics and Management Sciences*, 2(5), 1-8.

Copyright Disclaimer

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (http://creativecommons.org/licenses/by/4.0/)