EFFECT OF DIVIDEND POLICY ON STOCK PRICE VOLATILITY IN NIGERIA STOCK EXCHANGE

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Abstract
This paper seeks to determine the effect of dividend policy and dividend payment on share price volatility in Nigeria. Several literatures has 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 (= 0.6870, <0.05). Dividend payout ratio negatively affect share price volatility (=0.612, >0.05) and earnings after tax negatively affect share price volatility (=0.038, >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.

Keywords: Share Price Volatility, Dividend Payout, Dividend Per Share, Dividend Declared.

1. Introduction
1.2 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 confusions , among 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 Ajegbe (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. (Al-Masum 2014, 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.

1.3 Research Statement Problem
The problem of share price volitalty was constructive developed by controller of corporate financial institution and the regulatory agency of capital stock market. the long run objectivity of adapted rule based culture diluted with principle based made it unclear, unconnected and undependable. The issue of dividend policy has raised a lot of disagreement despite ages of theoretical and empirical research, on the linkage between dividend policy and stock price risk (Allen and Rachim, 1996). Paying large dividends reduces risk and thus influence stock price (Gordon, 1963) and is a proxy for the future earnings (Baskin, 1989). Several theoretical contrivants has revealed that dividend yield and payout ratios vary inversely with common stock volatility. These are duration effect, rate of return effect, arbitrage pricing effect and information effect. Duration effect implies that high dividend yield provides highly cash flow. So, if dividend policy is stable, there will be high dividend stocks with lower duration. Definitely, high-dividend received will be less responsive to variation of discount rates and lower price volatility. Relatively, Nigeria Stock Exchange experiences volatility of dividend policy with negative effect on the the standard of share price movement in the arena of stock market. This work model on specificity and the trend of dividend policies among selected listed companies and the impact of dividend payment on share prices, and the mechanism of dividend payout ratio and price volatility in Nigeria's Stock Market.

1.4 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;
1. Determine the pattern of dividend policies among selected listed companies in Nigeria.
2. Evaluate the impact of dividend payment on share prices of selected listed firms in Nigeria.
3. Examine the relationship between dividend payout ratio and price volatility in Nigeria's Stock Market.

1.5 Research Hypotheses

The following hypotheses, stated in Null form are proposed for this study.
1. There is no significant influence in the blueprint of dividend policies of listed companies in Nigeria.
2. Dividend policy has no effect on share prices of listed firms in Nigeria.
3. There is no relationship between dividend policy and price volatility in Nigeria.

2. Literature Review
2.1 Theoretical Review
2.1.0 Dividend Irrelevance Theory

Dividend policy has been a bone of contention in finance, this is evidenced by numerous studies beginning from Linner (1956) to Modigliani and Miller (1961) to Bhattacharya (1979) and more recently DeAngelo et al (1996), Fama and French (2001), Al-Malkawi (2007) and Al-Najjar and Hussainey (2008). 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 went further to 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;
1. That there is 100% payout of dividend by management in every period
2. That there exists perfect capital markets.
3. Those investors are rational and that they value securities based on the value of discounted future cash flow to investors.
4. That Managers act as the best agents of shareholders.
5. And that 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.

2.1.1 Relevance Theory 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 (1956) 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:

$$P = \frac{D}{K} + \frac{r(E-D)K}{K} \quad \text{...} (1)$$

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 (1962) 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):

$$Div = \text{target dividend} = \text{target ratio x EPS1} \quad \text{-------} \quad (i)$$

The dividend change would equal:

$$Div_1 - Div_0 = \text{target change} = \text{target ratio x } EPS_1 - Div_0 \text{-------} \quad (ii)$$

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

2.1.2 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.

2.1.3 Agency Theory: Agency cost relates to conflict of interest cost that arise 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.

2.1.4 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.

Empirical Review

Some researchers 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 etal (2012), reveal a significant positive relationship between dividend payout and market value of shares. The study of Khan (2012), also confirm 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 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.

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

Table3.1 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

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Table 3.2List of Selected Listed Companies in NSE by Industry/Sector

S/N	Industry/Sector	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 Nig Plc	Guinness Nig. Plc			
3	**Oil and Gas**	Mobil Nig. Plc					
4	**Healthcare**	Niemeth Nig. Plc					
5	**Construction 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).

3.4 Model Specification
For the purpose of the study the equation and variable used are as follows;
MPSnt=a+bDPSnt+ cDPRnt+ dEATnt + eDDnt+ fNSnt+Ent ……… (i)
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 Policy and 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 functional 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 4.1 OLS Pooled Regression

Variables	Coef.	Std. Err.	t	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**		

** < 0.05, * < 0.1

4.2 Analyses of Relationship between Dividend Policy and Price Volatility in Nigeria
The fixed effects model accepts the heterogeneity or individuality, allowing having 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 positively significant relationship with dividend per share. Dividend payout ratio and earnings after tax while shows

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negatively noteworthy relationship with stock market price. Whereas variables like dividend declared and number of share have insignificant relationship. 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 4.2 Fixed-Effects (Within) Regression

variables	Coef.	Std. Err.	t	P>|t|	F-value	p-value
_cons	19.93	7.236	0.028	0.007		
dpr	-0.344	0.478	-0.72	0.473		
dps	0.146	0.026	5.65	0.000*	6.47	0.0000
eat	-0.023	0.039	-0.59	0.556		
dd	0.014	0.075	0.02	0.985		
ns	-0.027	0.072	-0.00	0.997		

*< 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 are 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) equal 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 68.70 % change in dependent variable is because of change in independent variables.

Table 4.3 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		
dpr	-0.621	0.477	-0.13	0.896		
dps	0.213	0.019	11.22	0.000*	150.53	0.0000
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		

* < 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 4.4 Hausman Test Model

| Variables	Coef.		Diff.	chi2(2)
H/Model	(b)Fe	(B) ra	(b-B)	
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 hypothesis is un-stationary and should be accepted. The p-value (0.000> 0.050) and statistical adjusted t* (-5.0980). In all, the tested null hypothesis is significant.

The graph shows the parallel relationship of the dependent variable and the independent variables 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 raisein dividend per share with increases in the growth of market share prices trend. That is, the higher the DPS the higher the MSP.
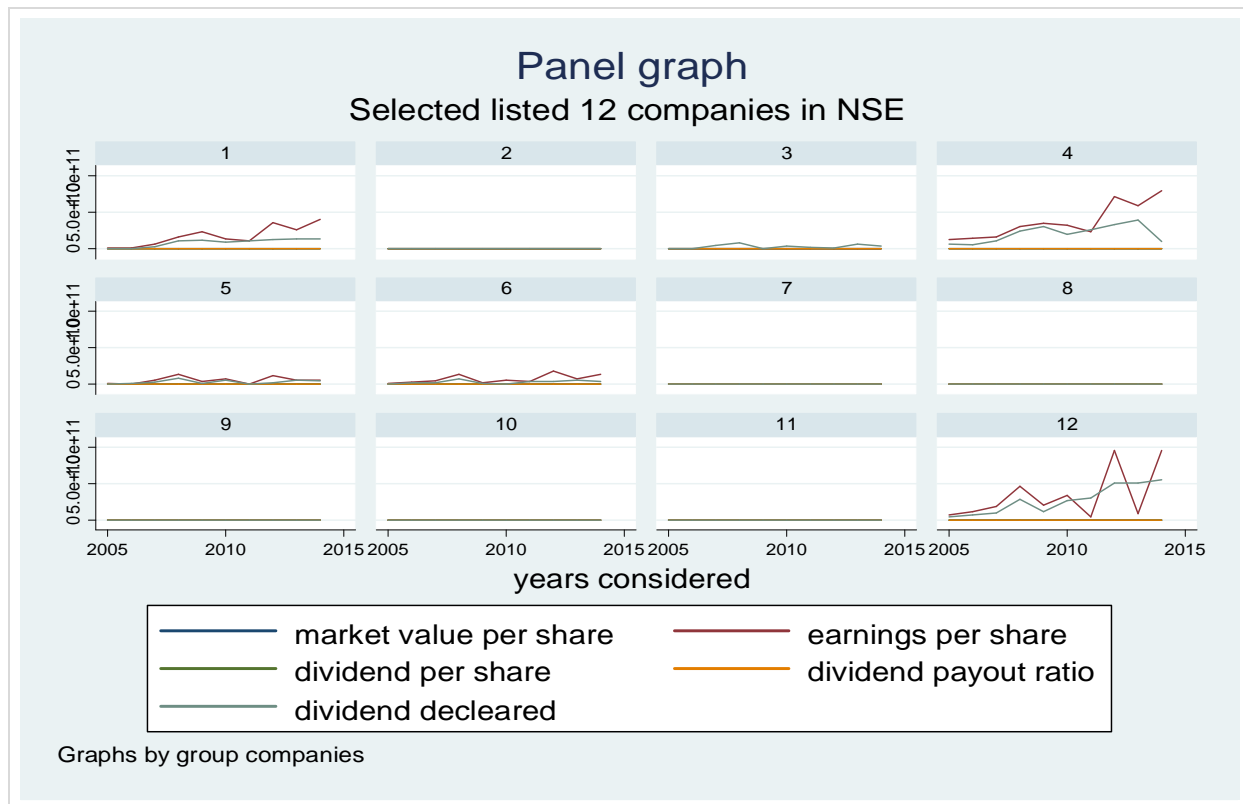
Source: Researcher's report, 2016

5. Conclusion

The study examined the effect of dividend policy and dividend payment on market price of listed companies in Nigeria and also examines 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 statistically significant relationship with market share prices. One percent (1%) growth in dividend per share will cause 21.3% rise in stock market price and one percent (1%) decline in dividend per share will cause 0.213 % fall in stock market price. Other variables have negative significant relationship with market share prices. This indicated that negative variables does not really determine market share prices, from all indication negative variables are not mainly influence on the market share prices, they could referred to as secondary determinants of market share prices. The findings from the random effects regression results showed dividend per share is the major determinants of share price volatility in NSE (= 0.6870, <0.05). Dividend payout ratio negatively affect share price volatility (=0.612, >0.05) and earnings after tax negatively affect share price volatility (=0.038, >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.

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