DIVIDEND POLICY AND STOCK MARKET PRICE VOLATILITY IN THE NIGERIAN STOCK MARKET

Dr. Udoka Bernard Alajekwu and Prof. Vincent N. Ezeabasili

Department of Banking and Finance, Chukwuemeka Odumegwu Ojukwu University, Anambra State, Nigeria. Tel: +2347030997856.

ABSTRACT: *One disturbing uncertainty in the stock market is stock market volatility. When a change in stock price a preceded by a similar directional change, it causes variation in stock volatility, creating stock riskiness. The inherent volatility in all stock market scares low risk takers from the financial market and is capable of deterring investments. One of the factors that drives investors' reactions to stock pricings is the dividend policy. This study examined the effect of dividend policy on the volatility stock prices of firms quoted on the Nigerien Stock Exchange for the period spanning eleven (11) years from 2006 to 2016. The study employed the panel data regression technique to analyse data obtained from 60 firms, comparing 19 financial and 41 non-financial. Stock volatility was measured as the standard deviation of stock market prices while dividend policies were captured as dividend payout ratio, and dividend yield with five moderating variables (firm size, growth, leverage, earnings volatility and financial crisis). Findings revealed that dividend payout ratio has significant positive effect on stock market volatility of non-financial firms, and positive but insignificant effect for the financial firms. However, dividend yield has insignificant negative effect on stock market volatility for both financial and non-financial services firms. It becomes advisable that investors in the financial services sub-sector should ignore dividend policies, in share pricing and evaluation of stock riskiness.*

KEYWORDS: Stock Volatility, Dividend Policy, Stock Riskiness, Financial and Non-Financial Firms, Nigeria

INTRODUCTION

Sporadic swings in the prices of securities traded on stock market creates market volatility. Stock market price volatility is the "ups and downs in the stock prices during a time period" (Sadiq, Ahmad & Anjum, 2013). It describes the variation of the changes in a firm share price. This is usually measured using the standard deviation of changes in stock prices (Profilet & Bacon, 2013). According to Wodung (2014:12), "the issue of stock volatility is not that volatility exists, but that the volatility varies, hence the question as to why there is volatility of volatility". This gives rise to volatility clustering which according to Ilaboya and Aggreh (2013), occurs in a financial market, when a high return (positive or negative) is more likely to be followed by another high return, or when a low return (positive or negative) is more likely to be followed by another low return. Ilaboya and Aggreh further explain that volatility-clustering is a natural result of a price formation process when there are heterogeneous beliefs across traders; thus, it is not the result of an autocorrelated news-generation process around public information such as macroeconomic news releases or firms' earnings releases. Rather it is the result of the behaviours of the traders, especially the irrational tendency to miscalculate stock prices further deviation to similar direction.

Volatility is the cause of risk in stock trading. It is precisely the risk of share price changes brings about the stock market volatility (Christina, 2016). This is why it is the standard measure of the risk faced by investors (Ilaboya & Aggreh, 2013). This market wide risk emanating from the volatility of the ordinary stock is the systematic risk faced by investors who possess ordinary stock investments (Guo, 2002). It defines the risk and represents the rate of change in the price of a security over a given time. As the risk is related to the variance of a security's price, higher volatility, increases the chances of a gain or loss in investment in a short period of time. Thus, if a stock is said to be volatile, its price would greatly vary over time, and it is more difficult to say in certainty what its future price will be. In other words, the lesser the volatility of a given stock, the greater its attraction to investors (Criss, 1995 cited in Okafor, Mgbame & Chijoke-Mgbame, 2011).

The importance of stock market volatility cannot be overemphasised. Investors, by nature, are risk-averse. Investors crave to understand the volatility of their investments as this measures the level of risk they are exposed to (Okafor *et al*, 2011). The quantum of anticipated market risk determines the rate of expected return from investment. A market is said to be volatile if the past prices of stocks reflect in the future stock prices. Thus, to be able to input the estimates of the volatility of an underlying asset, one can only observe the stock return series. Therefore, in the financial market; volatility is often referred to as the standard deviation or variance.

Rajni and Mahendra (2007) highlighted a couple of negative implications of stock price volatility amongst which includes that it affects consumers spending. A fall in stock prices will weaken consumer confidence. Stock price volatility may also affect business investments, and economic growth directly. Similarly, a rise in stock price volatility can often be interpreted as a rise in equity and thus a shift of funds to less risky assets. This move has been known to lead to a rise in the cost of funds to firms and, thus new firms (new entrants) might bear this effect as investors turn to the purchase of stocks in mainly well-known firms (Osundina, Jayeoba & Olayinka, 2016).

Most often, stock market price volatility tends to rise when new information is released into the market, though the extent to which it influences price changes is a function of the relevance of that new information as well as the degree to which the news surprise investors (Black, 1976; Rajni & Mahendra, 2007; Osundina, *et al.*, 2016). Stock market price volatility, as a result, is a good indicator for capturing the market trends as an increase or decrease in volatility results from changes in investor's reaction in the marketplace.

In an ideal efficient market, all information about a firm's asset fundamentals and growth opportunities should be properly reflected in its share price. Dividend decisions send strong signals to the market about firm's fundamentals. In early corporate finance practice, dividend policy referred to a corporation's choice of whether to pay its shareholders a cash dividend or to retain its earnings. It addressed the frequency of such payments (whether annually, semi-annually or quarterly) and how much the company should if it decides to pay. Dividend policy, in today's corporations, has progressed beyond this scope to include such issues as whether to distribute cash via share repurchase or through specially-designated rather than regular dividends. Other issues considered are how to balance the preferences of highly taxed and relatively 'untaxed' investors; how to maintain, and improve the value of its shares and stocks in the market, etc. In Nigerian business environment, for many investors holds the traditional belief that making returns on investment is the essence of engaging in any investment or business venture (Proshare (2016).

THEORETICAL FRAMEWORK

The study anchored on three theories of dividend policy including the Miller and Modigliani Theory of Dividend Irrelevance, Gordon's (1962) theory of "The bird-in-the-hand" and Lintner's (1956) Signalling Effect Theory (information content theory).

Miller & Modigliani (MM) Theory

The theory posits that dividend policy is irrelevant and had no influence on a firm's share price as only the basic earning power and business risk can determine a firm's value. Thus, splitting the firm's earnings between dividends and retained earnings does not have an effect on its value. This means that firm's value can only improve by quality investment policies and not by whether the earnings are reinvested or distributed to the shareholders. Following this proposition, investors need to maintain their own cash inflows regardless of whether the stocks pay dividends or not. This suggests that, if the investors know the investment decision that is considered by the firm there would be no need for them to consider dividend policy in their investment analysis (Panigrahi & Zainuddin, 2015).

The MM theory equally argued that dividend and capital gain are two main ways that can contribute profits of a firm to shareholders. When a firm chooses to distribute its profits as dividends to its shareholders, then the stock price will be reduced automatically by the amount of a dividend per share on the ex-dividend date (Lashgari & Ahmadi, 2014).

The MM theory applies only to a unique situation under the assumptions that there is no transaction or flotation cost and no influence of investors on the market value of the share. Further to these assumptions is that there is no existence of taxes, as seen in the assumption relation to investment policy; and that financial leverage has no effect on the cost of capital; investors and managers have the same information about prospects; the distribution of income has no effect on the cost of equity, and capital budgeting policy is independent of its dividend policy (Panigrahi & Zainuddin, 2015).

The assumptions made by the MM theory do not have a strong logical backing and has faced strong criticisms. Among the loopholes is the assumption of no transaction cost and no taxes which is not possible in the real economic world. On this basis, it is believed that this theory will not work in the real world of market imperfection. Thus, the bird-in-the-hand theory has been developed by Gordon in the year 1962, to show that dividend policy can affect shareholder value.

Bird-in-the-Hand Theory

The Gordon's (1962) theory of the "The bird-in-the-hand" posits that investors prefer dividends (certain) to retained earnings since the stock price risk declines as dividends increased. This theory countered the Miller and Modigliani's theory of dividend irrelevance and proposed that the dividend policy of firms affects the market value of stocks even in the perfect capital market (Lashgari & Ahmadi, 2014). Gordon (1962) noted that investors are concerned about risk and preferred dividends received in the present to the firm's promising prospect with a high capital gain in the future. Hence, Gordon indicated that a change in the firm's dividend payout ratio would change investors' risk level when investing in stocks of the firm (Panigrahi & Zainuddin, 2015). A high dividend paying firm would reduce the risk or limit uncertainty about future income flows for shareholders, thus attracting more investors, and vice versa.

The foregoing is possible because investors prefer present dividend instead of future capital gains because the future situation is uncertain even in a perfect capital market. Many investors will tend to prefer dividend in hand in order to avoid risk related to future capital gain. The Gordon's theory further stated that the firm's dividend payout policy and the relationship between its rate of return (r) and the cost of capital (k) influences the market price per share of the company. The dividend yield and the future growth of the dividend provide the total return of the equity investors. Thus, this model insists that dividend yield is an important measure for the total return to the equity investors than the future growth rate of the dividends. Future growth and capital gains cannot be estimated with accuracy and are not guaranteed at all as it may lose the entire market value of the stock (Panigrahi & Zainuddin, 2015).

This theory assumed that there is no debt and all the capital structures achieved are from the equity. This implies that there is no external financing and the capital is financed by retained earnings. Furthermore, corporate taxes are not accounted for in this model. This model indicates that the market value of the company's share is the sum total of the present values of infinite future dividends to be declared.

The Gordon's model can also be used to calculate the cost of equity if the market value is known and the future dividends can be forecasted. The Gordon's model believes that the dividend policy impacts the company in various scenarios. If the growth rate of return is above the cost of capital (CoC), shareholders will be benefited more if the company reinvests the dividends rather than distributing it. In addition, when the internal rate of return (IRR) is equal to the cost of the capital (CoC), the reinvestment of the dividends would not make any difference. This model has therefore been greatly criticized due to the assumption of constant IRR and CoC, which is not accurate, as it means business risks are not accounted (Panigrahi & Zainuddin, 2015).

The "bird-in-the-hand" theory is however relevant to stock market volatility. Time value of money is the focal point of the argument. Thus, cash dividend paid today is expected to worth more than capital gain expected in the future.

Signalling Theory

The Signalling Effect Theory, also known as information content theory posits that dividend payment carries material information to shareholders and investors in the stock market about the prospects of its performance. The theory has its origin in Lintner (1956) which revealed that the price of a company's stocks usually changes when the dividend payments change. It formally came to the limelight following the criticisms of the Modigliani and Miller (1961) postulations and agreement that investors and management have asymmetric information. Miller and Modigliani (1961) then suggested that dividend changes convey material information and that share prices react positively to the announcements of dividend changes (Al-Qudah & Badawi, 2014). Al-Qudah and Badawi explained that 'the signalling hypothesis had further been generalized to include not only information about share prices but the information content of earnings announcements, and the association between dividend and earnings changes as well as the future cash flows of the firms" (pg. 2).

The firm managers have the necessary information about the financial position and costing which the investors and existing shareholders do not have. The managers relied on this information to make a financial forecast on the future growth prospects of the firm. This

information can be used for or to the detriment of the shareholders. The shareholders use external information as a measure of the intents of managers and prospects of the firm. Thus, the investors and existing shareholders may rely on the external pieces of information, one of which is the one offered by the dividend payment, as an outlook to the business prospects of the firm. Hence, dividend policy has information content that serves as signals. For this reason, the capital market responds quickly to the announcements of share buybacks as they offer new information that is often called a signal to the shareholders or investors about a company's future and hence its share price (Panigrahi & Zainuddin, 2015).

The two important assumptions of the signalling theory are that (1) outside investors have imperfect information regarding the firm's future cash flows and capital gains, and that, (2) dividends are taxed at a higher rate compared to capital gains. Both assumptions are true to the real world: the imperfect capital market system. Thus, this theory could be the most suitable of all the three (3) theories on which this study is based. Bhattacharya (1980) argued that dividends might function as a signal of expected future cash flows. Under these assumptions of the imperfect market, even when there is a tax disadvantage for dividends, firms would prefer dividend payment in order to convey positive signals to investors and shareholders who do not have first-hand information about the firm.

For these reasons, investors and shareholders use dividend policy as an eye into the affairs of the firms (Healy, & Palepu, 1988). They follow dividend policy in making their investment decisions. For instance, Lindeman (2016) would explain that reduction in firm's dividend signals that everything is probably not going as planned and expected financial results were not achieved; as such investors reactions reflect on the share price, presumably making it decrease in value. On the other hand, increasing and high dividend payout will signal growth opportunities and as such, shareholders can re-invest the funds in the high dividend paying firms thereby providing opportunities for expansion in the future (Duke, Ikenna & Nkamare, 2015). Presumably, this expectation may bring about the rise in the share price. However, Duke, *et al* explained that level of dividend payment (high or low) does not always connote that a firm is doing well or poorly. Duke's *at al* explanation is true especially when firms can go out of their way to pay a dividend from past years reserves.

According to Oppong (2015:26), the dividend signalling theory has several implications for the firm. These include: (1) Firms will pay dividends to signal quality to the market; (2) Firms will be very reluctant to cut their dividend because that will provide a negative signal; (3) Firms will not increase their dividend unless they feel comfortable that they can maintain the dividend in the future; (4) as a result, the pattern in dividend payments will be much smoother than the pattern in earnings or cash flows; (5) As dividend increases are associated with positive stock price changes, and dividend cuts associated with negative stock price changes, firms may forego projects that add value to the firm in order not to have to cut the dividend. Further to this, Oppong (2015:26) asserted that firms would normally be reluctant to cut dividends. As investors know this, they would hence interpret dividend cuts to indicate a serious problem; this makes firms more reluctant to cut dividends. This theory is therefore of huge significance to this study, as it implies that dividend policy can be employed to convey information about the cost of investment.

Empirical Studies

A considerable volume of empirical literature on dividend policy and stock market price volatility nexus abounds in across countries including the developing economies. These studies on the subject have adopted a blend of several dividend policy variables including dividend per share (DPS), dividend payout ratio (DPR) and dividend yield (DY). These studies have posited some levels of positive, negative, no, and mixed effects. The proponents of positive effects states that dividend policy variables is a source investment profits from stock volatility. On the negative school of empirical revelation, the majority of the researchers aver that dividend policy announcements trigger stock volatility situations that heighten the risk levels inherent in investments in a manner to manner to increase loss. However, a few authors among the effect proponents such as Nishat and Irfan (2006) and Okafor *et al* (2011) assert dividend reactions to or on stock volatility is a function situational factors arising from length of time, size of firm and nature of corporate governance reforms. Instance, Okafor *et al* (2011) dividend per share shows negative and positive effects on stock volatility at various time periods; on which Nishat and Irfan (2006) further averred that such fluctuations on dividend policy effects is as a result of arbitrage realization effect, duration effect and information effect. Nonetheless, the no effect proponents also abound and claims that dividend policies does not determine stock volatility. These groups of authors are classified on Table 1 into Positive Effect, Negative Effect, No Effect and Mixed Findings proponents to dividend policy on stock market volatility.

Table 1: Synthesis of Empirical Positions on Dividend Policy and Stock Volatility Nexus.

Independent variables	Findings			
	Positive Effect	**Negative Effect**	**No Effect**	**Mixed Findings**
DPS	Osundina, *et al* (2016)		Egbeonu, Paul-Ekwere & Ubani (2016)	
DPR	Ajayi & Seyingbo (2015), Egbeonu, Paul-Ekwere & Ubani (2016), Profilet and Bacon (2013) Zakaria, Muhammad and Zulkifli (2012)	Wodung (2014), Rashid and Rahman (2008 Nazir, Abdullah and Nawaz (2011) Hooi, Albaity and Ibrahimy (2015) Javed and Ullah (2014) Kenyoru, Kundu and Kibiwott (2013) Al-Shawawreh (2014) Hashemijoo, Ardekani and Younesi (2012) Lashgari and Ahmadi (2014)	Ilaboya & Aggreh (2013), Ugvdd, Wan and Smrk (2015)	Okafor, *et al* (2011) (time variant) Nishat and Irfan (2006)

| DY | Ilaboya & Aggreh (2013), Christina (2016) Javed and Ullah (2014) Kenyoru, Kundu and Kibiwott (2013) Al-Shawawreh (2014) | Okafor, *et al* (2011), Wodung (2014), Nazir, Abdullah and Nawaz (2011) Profilet and Bacon (2013) Hooi, Albaity and Ibrahimy (2015) Sadiq, et al (2013) Hashemijoo, Ardekani and Younesi (2012) | Egbeonu, Paul-Ekwere & Ubani (2016), Rashid and Rahman (2008) Ugvdd, Wan and Smrk (2015) Zakaria, Muhammad and Zulkifli (2012) | Nishat and Irfan (2006) |

METHODOLOGY

Population and Sampling

The population of the study comprised all the 173 firms quoted on the Nigerian Stock Exchange as at June 20, 2017 ("Nigerian Stock Exchange", 2017). The population is considered finite and divided into twelve sectors consisting of agriculture, conglomerates, construction/real estate, consumer goods, healthcare, ICT, industrial goods, natural resources, oil and gas, services, financial services and utilities. However, no firm has been registered under the utility sector as at date.

Table 2: The Number of Firms Quoted on the Nigerian Stock Exchange by Sector

SN	Sectors quoted on NSE	Total Number of Companies*	Sample	Percentage Distribution	
				Population	**Sample**
1	Agriculture	5	2	2.9%	3.3%
2	Conglomerates	6	2	3.5%	3.3%
3	Construction/Real Estate	8	3	4.6%	5.0%
4	Consumer Goods	22	8	12.7%	13.3%
5	Healthcare	11	4	6.4%	6.7%
6	ICT	7	2	4.0%	3.3%
7	Industrial Goods	17	7	9.8%	11.7%
8	Natural Resources	4	2	2.3%	3.3%
9	Oil and Gas	12	3	6.9%	5.0%
10	Services	24	8	13.9%	13.3%
11	Financial Services	57	19	33.0%	31.8%
12	Utilities	0	0	0%	0%
	Total	173	60	100%	100%

Sources: **Author's computation, *Extracts from the list firms of quoted on the Nigerian Stock Exchange.

The sample of the study is 60 firms purposively selected from the firms quoted on the Nigeria Stock Exchange which is about 34.7% of the total population of 173 firms. The sample size is justified by the claim that a good sample covers at least 10%-30% of the representative population (Mugenda & Mugenda, 2003). Thus, with 34.7% coverage, the researcher supposes that the sample is a fair representation of the population and thus sufficient for this study.

However, the proportional sampling technique was adopted to adequately accommodate the eleven active sectors in the Nigerian Stock Exchange. This technique is suitable for sampling from a population that is not homogeneous (Kothari, 2007).

Model Specification

The model used both dividend payout ratio and dividend yield as proxies for dividend policy decisions of the selected firms. This approach is adapted from extant literature across different economies such as Nigeria (Okafor, *et al,* 2011; Ilaboya & Aggreh, 2013; Wodung, 2014; Pakistan (Nishat, *et al*, 2006; Habib, *et al*, 2012); Bangladesh (Rashid, *et al,* 2008); Kenya (Kenyoru, *et al*, 2013); Malaysia (Hashemijoo, *et al*, 2012; Zakaria, *et al*, 2012); Jordan (Al-Shawawreh, 2014); Sri Lankan (Ugvdd, *et al*, 2015) and even in developed economy of the USA (Profilet & Bacon, 2013). The use of this approach could be suitable for a study in Nigeria because the economies in which they were applied are developing economies like Nigeria.

In order to control for firm-specific factors, the model was developed to combine both the dividend policy variables (dividend payout ratio and dividend yield) and control variables. This approach was adopted as in Nishat, *et al* (2006), Rashid, *et al* (2008), Hashemijoo, *et al* (2012), Zakaria, *et al* (2012), Kenyoru, *et al* (2013) as applied to stock volatility model. The included control variables would assist in limiting the confounding complications that may apply Hashemijoo, *et al*, 2012; Zakaria, *et al*, 2012; Kenyoru, *et al*, 2013).

The model developed for the study us thus:

$$SMV_{it} = b_0 + b_1 DPO_{it} + b_2 DY_{it} + b_3 GR_{it} + b_4 LEV_{it} + b_5 SIZE_{it} + b_6 E.Vol_{it} + b_7 FC_{it} + \mu_{it} \qquad (2)$$

Where:

Symbol	Meaning	*Apriori* Expectation
SMV =	Stock Market Volatility	Dependent variable
DPO =	Dividend payout ratio measured as dividend per share dividend by earnings per share	Negative
DY =	Dividend yield measured as divided per share divided by market price per share	Negative
GR =	Growth opportunities measured as income revenue growth	Positive
LEV =	Financial leverage measured by total debt to total asset	Positive
SIZE =	firm size measured as the log of Total Assets	Negative
E.Vol =	Earnings volatility	Positive
FC =	Financial crises as dummy variable of 1 for periods of financial crises and 0 for periods of no crises	Positive

The subscripts t denotes the time frame covered while i subscripts denotes the firms. μ is the error term. b_0 is the constant, b_{1-2} is the coefficients of dividend policy while b_{3-7} are the coefficients of the control variables.

Method of Data Analyses

The Panel data regression model is adopted for the study. Sectoral peculiarities in Nigerian business environment is factored into the study. Following that financial and non-financial firms operate under different regulatory environment; it is permissible to believe that they are highly heterogeneous. Analyses that pool both groups of firms together may give false result about market reactions to firm dividend policies in Nigeria. The analyses are therefore run separately for firms in the financial service sector and firms in the non-financial service sector.

Generally, we can estimate an equation in three different methods, such as- Pooled Ordinary Least Square (OLS), Fixed Effects (FE) Model and Random Effects (RE) model.

The poolability and the Hausman tests were carried out to determine the most suitable regression model for the study.

The poolability test aims to determine whether to employ the pooled OLS or the fixed effect model. The null hypothesis is based on the lack of individual and group effects. The hypothesis is as follows:

Ho: pooled model

Hi: Fixed effect model

Decision Rule: At 0.05 level of significance, reject H0 if the probability of test statistic (H) is less than 5% significant level; otherwise do not reject H0.

On another hand, the Hausman's test determine between Fixed and Random effect analytical techniques to be used for the purpose of making conclusion. The null hypothesis underlying the Hausman's specification test is that fixed and random effects models do not differ substantially. Hausman Test has the following hypothesis:

Ho: Random effects would be consistent and efficient

Hi: Fixed effects would be consistent and efficient

Decision Rule: At 0.05 level of significance, reject H0 if the probability of test statistic (H) is less than 5% significant level; otherwise do not reject H0.

Empirically, if the probability value of the chi-square is greater (less) than 0.05, the estimation based on the Random effects (Fixed effects) will be better off.

DATA ANALYSES AND RESULTS

Table 3 and 4 presented the results of the effect of dividend policy on stock market volatility for the financial and non-financial firms respectively.

Table 3: Result of the Effect of Dividend Policy on Share Price Volatility for Financial Firms

Method / Independent Variables	Pooled OLS	Fixed Effect (*Preferred Model*)	Random Effect
Constant (C)	-147.9099	**5146.869***	-147.9099
	(-0.5113)	**(5.2792)**	(-0.5750)
Dividend Payout Ratio (DPO)	41.7085***	**7.2648**	41.7085**
	(1.8589)	**(0.3419)**	(2.0906)
Dividend Yield (DY)	-12.5227**	**-1.9504**	-12.5227**
	(-2.0856)	**(-0.3138)**	(-2.3455)
Growth Opportunities (GR)	0.9889**	**0.0066**	0.9889**
	(2.1218)	**(0.0137)**	(2.3862)
Firm Leverage (LEV)	1.4524	**1.8987**	1.4524
	(0.8608)	**(0.8419)**	(0.9681)
Firm Size (SIZE)	16.0055	**-627.2892***	16.0055
	(0.3339)	**(-5.2881)**	(0.3755)
Earnings Volatility (E.Vol)	48.4578*	**35.2719***	48.4578*
	(6.5408)	**(4.0664)**	(7.3560)
Financial crises (FC)	-54.8264	**-141.9632***	-54.8264
	(-1.2792)	**(-3.4642)**	(-1.4386)
R-Squared	0.3381 (34%)	**0.5302 (53%)**	0.3381 (34%)
F-statistic (Prob)	12.8474 (0.0000)	**7.1341 (0.0000)**	12.8474 (0.0000)
Durbin Watson (DW)	0.6517	**0.6291**	0.6517
Poolability Statistic		63.0769 (0.0000)	
Hausman test			58.7554 (0.0000)

*Dependent Variable: Stock Market volatility (SMV), significant at *1%, **5%, ***10%; () t-statistics*

Source: Extract from Results presented on Appendix 4a

Table 4: Result of the Effect of Dividend Policy on Share Price Volatility for Non-Financial Firms

Method Independent Variables	Pooled OLS	Fixed Effect (*Preferred Model*)	Random Effect
Constant (C)	-32966.66*	**-30844.55****	-34516.08
	(-6.9146)	**(-2.0073)**	(-4.7895)
Dividend Payout Ratio (DPO)	4.4408*	**4.0203***	4.0888*
	(5.6737)	**(6.9937)**	(7.1307)
Dividend Yield (DY)	72.8074	**-204.4007**	-114.5241
	(0.5196)	**(-1.5612)**	(-0.9347)
Growth Opportunities (GR)	-0.0063	**-0.0042**	0.0062
	(-0.0326)	**(-0.0281)**	(0.0419)
Firm Leverage (LEV)	74.6657*	**2.2284**	32.6384
	(3.1252)	**(0.0833)**	(1.3830)
Firm Size (SIZE)	4492.153*	**4997.107****	5194.187*
	(6.6342)	**(2.3352)**	(5.1384)
Earnings Volatility (E.Vol)	42.2076*	**14.9026***	21.8499*
	(9.3521)	**(3.8167)**	(5.8377)
Financial crises (FC)	-969.5728	**-937.0146**	-943.6154
	(-1.0289)	**(-1.3317)**	(-1.3674)
R-Squared	0.3805 (38%)	**0.7072**	0.2388
F-statistic (Prob)	33.9621 (0.0000)	**17.8361 (0.0000)**	17.3478
			(0.0000)
Durbin Watson (DW)	0.62303	**1.1909**	0.9523
Poolability Statistic		360.303048	
		(0.0000)	
Hausman test			50.9335
			(0.0000)

Dependent Variable: Stock Market volatility (SMV), significant at *1%, **5%, ***10%; () t-statistics

Source: Extract from Results presented on Appendix 4b

Each of the Tables shows the results for pooled OLS regression, Fixed Effect and Random Effect Models. The Chow test and Hausman Test were used to selecting the preferred model of the analyses. The result in Table 3 for poolability test rejected the null hypothesis that the pooled OLS is preferred, and the Hausman test rejected the null hypothesis that the Random effect model is preferred. Thus, the Fixed effect is the most preferred model to explain the effect of dividend policy on the stock market volatility of the financial firms in Nigeria.

The fixed effect model in Table 3 showed that dividend policy variables explained 53% of changes in stock market volatility among financial firms quoted on the Nigerian Stock Exchange. The F-statistics (7.1341, p. 0.0000) show that at least one of the explanatory variables of dividend policy has an effect on stock market volatility. Although the dividend payout ratio (DPO) and dividend yield (DY) had a positive and negative effect on stock market volatility, respectively, the coefficients were not statistically significant. This implies that

dividend policy variables (DPO and DY) do not have a significant effect on the stock market volatility of the financial firms.

The coefficient of the control variables indicates that growth opportunities (GR), and financial leverage (LEV) do not have statistically significant effects on stock market volatility. Further results show that firm size (-627.2892) and financial crisis (-141.9632) have significant negative effects on stock market volatility while earnings volatility (35.2719) has a significant positive effect on stock market volatility for the financial firms. The results show that stock market volatility can be reduced by 627 units by a unit increase in firm size. Likewise, an increased financial crisis can reduce stock market volatility by 142 units. Further results show that a unit increase in earnings volatility will result in a 35% increase in stock market volatility.

Also, the results in Table 4 for poolability test rejected the null hypothesis that the pooled OLS is preferred; and the Hausman test rejected the null hypothesis that the Random effect model is preferred. Thus, the Fixed effect is the most preferred model to explain the effect of dividend policy on the stock market volatility of non-financial firms in Nigeria.

The fixed effect model (F-statistics, 17.8361, p. 0.0000) was significant at 1% level and, about 71% (R-Squared: 0.7072) of the total variations in stock market volatility were accounted for by dividend policy variables of DPO, DY, GR, LEV, SIZE, E.Vol and FC.

The estimated coefficients of DPO (4.0203) was statistically significant indicating that one unit increase in dividend payout ratio would result in about a 4% increase in stock market volatility. Dividend yield had a negative but insignificant effect on stock market volatility.

Furthermore, the coefficients of the control variables such as Growth Opportunities, Financial Crises were negative and statistically not significant; Leverage was positive but insignificant, while Size (4997.107), and Earnings Volatility (14.9026) were positive and statistically significant at 5% and 1% respectively. The results imply that a unit increase in firm size will result in 4997% increase in stock market volatility while a unit increase in earnings volatility would lead to 15% increase in stock market volatility of the non-financial firms quoted on the Nigerian Stock Exchange.

Table 5: Synopsis of the Findings

Variables	Stock volatility	
	Fin	**Non-Fin**
Model Effect	53%*	71%*
DPO	+	+*
DY	-	-
SIZE	-*	+**
GR	+	-
LEV	+	+
E.Vol	+*	+*
FC	-*	-
Model	FE	FE
Hypotheses Testing	Accepted	Rejected

*Note: * denotes significant at 1%, ** denotes significant at 5%; *** denote significant at 10%.*

DISCUSSION OF FINDINGS

The findings of the study revealed that dividend policy variables (dividend payout and dividend yield) did not have a significant effect on the stock market volatility of the financial services firms. This means that firms in the financial services sub-sector cannot employ dividend policies to manage their stock market volatility. The study supports the MM theory of dividend irrelevance that no firm can employ dividend payment as a strategy to influence its stock market volatility.

The present findings that dividend policy variables including dividend payout and dividend yield do not influence stock market volatility, disagrees with existing studies in Nigeria (Ajayi, *et al*, 2015) and Pakistan (Nazir, *et al*, 2011). According to these studies, dividend payout had a positive effect on stock market volatility of banks quoted on Nigerian Stock Exchange (Ajayi, *et al*, 2015), whereas, both dividend payout and yield had negative effects on price volatility among 75 financial sectors listed firms in Karachi Securities Exchange from 2006 to 2010 in Pakistan (Nazir, *et al*, 2011). Other Nigerian based empirical studies that employed dividend pay-out and yield as proxies of dividend policy in a grouped firm (financial and non-financial) studies could not confirm the present findings. Among these studies is the work of Wodung (2014) that found both payout and yield having significant negative effects on stock volatility.

For the non-financial services firms, however, dividend payout had a positive effect on stock market volatility, while yield was negative but insignificant. This aligns with the empirical report from studies in Nigeria (Egbeonu, *et al*, 2016) and, Malaysia (Zakaria, *et al*, 2012) wherein dividend payout was a positive and significant while, yield was negative and insignificant. This means that an increased dividend payout would cause more stock market volatility thereby heightening the riskiness of the stock firms' shares traded. The findings of this study are inconsistent with the dividend theory of the bird-in-the-hand, which expected that a high dividend paying firm would reduce the risk or limit uncertainty about future income flows for shareholders.

CONCLUSION AND RECOMMENDATIONS

The influence of dividend policies differs between financial and non-financial firms. Peculiarities of firm attributes such as size, and earnings volatility affect stock price volatility reactions to dividend policies. The study recommended that Management of firms in the non-financial services sector in Nigeria should factor in firm attributes in their dividend policy strategies more so, investors in the firms in the financial services sub-sector should ignore dividend policies, in share pricing and evaluation of stock riskiness.

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