



## The Effect of Dividend Policy on Share Price Volatility of Selected Companies on the Nigerian Exchange

Adekunle Orelope Koleosho<sup>1\*</sup>

Ishola Rufus Akintoye<sup>2</sup>

Ayodeji Temitope Ajibade<sup>3</sup>

<sup>1,2,3</sup>Department of Accounting, School of Management Sciences, Babcock University, Nigeria.

\*Email: [kolkun2001@gmail.com](mailto:kolkun2001@gmail.com)

<sup>2</sup>Email: [akintoyer@babcock.edu.ng](mailto:akintoyer@babcock.edu.ng)

<sup>3</sup>Email: [ajibadea@babcock.edu.ng](mailto:ajibadea@babcock.edu.ng)

### Abstract

Share price volatility has exhibited different patterns in different global exchange markets, including the Nigerian Exchange (NGX). Various attempts have been made to determine the possible causes of this volatility and how they can be mitigated, but there have been fewer studies in this regard, especially in developing economies such as Nigeria. Hence, this study examines the effect of dividend policy on share price volatility of selected companies listed on the NGX. The study adopted an ex-post facto research design and used the EGARCH to measure volatility. A sample of 49 of 162 companies listed on the Nigerian Exchange during the study period (2010–2020) was randomly selected for the panel data. The study found that the dividend policy has a significant relationship with share price volatility (SPV), with an adjusted R<sup>2</sup> value of 0.116, a Wald<sub>(3, 2156)</sub> value of 32.89, and a p-value of 0.000. The dividend payout ratio (DPR) has a significant effect on SPV (DPR = 0.0036, t<sub>(2156)</sub> = 4.7237, p < 0.05); dividend yield (DY), dividend per share (DPS) and financial leverage (LEV) have a negative insignificant effect on SPV (DY = -0.0003, t<sub>(2156)</sub> = -2.713, p > 0.05; DPS = -0.0508, t-test = -1.8952, p > 0.05; and LEV = -0.2066, t-test = -1.4742, p > 0.05, respectively). The study concludes that dividend policy has a significant effect on share price volatility. Based on the results, it is recommended that companies should focus more on payouts, while investors should opt for corporate entities with a constant payout ratio.

### Keywords:

Dividend  
Earnings  
Leverage  
Nigerian Exchange  
Volatility  
Yield.

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Corresponding Author

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## 1. Introduction

When investing in corporate organizations, shareholders expect to maximize their returns, hence the reason for a long-term investment horizon. It is expected that as companies run their business activities, the end result of any investment decision taken by the business managers must be to increase shareholders' wealth (Agila & Jerinabi, 2018). The announcements of corporate actions by companies over the last decade have been met with various reactions by both current and potential shareholders. These reactions have brought about the erosion of shareholders' wealth, while in some instances we have seen a different appreciation of the values of the shareholders. With earnings announcements, and where companies have had a positive result, the market reaction has been mixed. Earnings related to the book values of the shareholders' returns should drive various

reactions. Corporate organizations have declared below par results with their share prices still at very high levels (Adenugba, Ige, & Kesinro, 2016), and the question around what drives the volatility of the wealth of both current and potential shareholders remains.

When business managers make decisions regarding certain projects or investments, the objective in most instances is to ensure that the expected return exceeds the rate of capital (Brealey & Myers, 1996). Shareholder satisfaction, therefore, is primarily brought about by three major decisions made by the finance managers. The first of these is investment decisions. Investment decisions focus on the benefits to be gained from projects. The projects must generate discounted cash inflows that will exceed the cost invested or expended on the project (Van Horne, 1989). As such, the projects must have a positive net present value (NPV) before they can be accepted. Once the project has a better NPV, the decision is taken to finance the project. The financing decision is the second decision to be made by financial managers. This decision ensures that the project is financed from various financing options that are more beneficial to the organization. The beneficial aspect of financing decisions is based on minimizing the cost of that option of financing. Once the project is financed by the lowest cost method of finance, the dividend decision is made to ensure that the shareholders or stockholders who have financed the projects have a better return (Brealey & Myers, 1996).

### *1.1. Statement of the Problem*

There have been various studies on dividend theories that focus on corporate performance, leverage, and shareholders' perceptions with mixed conclusions. Agila and Jerinabi (2018); Balagobei and Selvaratnam (2016); and Ehikioya (2015) carried out research on the relationship between dividend policy and share prices with different conclusions on the discourse. Agila and Jerinabi (2018) concluded that dividend policy has an impact on firm performance and shareholders' wealth, focusing more on dividend per share and earnings per share. The study by Sijol and Basit (2016) was inconclusive regarding the impact of share prices on the manufacturing industries listed on the NASDAQ Index. Farrukh, Irshad, Shams Khakwani, Ishaque, and Ansari (2017) and Ojeme, Mamidu, and Ojo (2015) also concluded on the dividend relevance theory and its impact on shareholders wealth.

In the last ten years (2010 to 2020), shareholders' stock performance, measured by the All-Share Index (ASI), has shown a high level of volatility. In 2008, the ASI was 66,371.20, but this dropped to 20,838.90 in April 2010. The ASI index reached lows of 19,732.34 in August 2011 and 20,669.38 in April 2020 (Nigerian Exchange, 2021). The various changes in ASI are a reflection of the value of shareholders' wealth. In 2020, the Nigerian Stock Market gained about 50% as measured by the ASI, but the problem of high volatility in shareholders' wealth remains a cause for concern, especially for portfolio investors and clients' investment decisions. Studies carried out by various researchers have reached differing conclusions on the relationship between dividend elements and shareholders' wealth. Alajekwu and Ezeabasili (2020) found a mixed result between dividend policy proxy and stock market volatility and recommended the non-inclusion of dividends in the valuation of shareholders' wealth as well as stock riskiness. Araoye, Aruwaji, and Ajya (2019); Uniamikogbo, Ezennwa, and Bennee (2019) also reached mixed conclusions from the variables. While Araoye et al. (2019) concluded that dividend per share is the major determinant, the dividend payout ratio showed a negative effect on stock price volatility, thereby resulting in a mixed conclusion. This was also the case with Osakwe, Ezeabasili, and Chukwunulu (2019), where the overall conclusion did not agree with some of the variables in the study. The dividend yield exerted a negative effect on the market price per share, which should be a significant factor in the conclusion of the study, though dividend payout had a positive impact. From an investor analysis perspective, the important factor is always the dividend yield rather than the absolute dividend value paid out. The works of Uniamikogbo et al. (2019); Araoye et al. (2019); Ohiaeri, Akinbowale, and Ogumeru (2019); Agila and Jerinabi (2018); Nwaiwu and Ali (2018); and Ehikioya (2015) concluded that dividend policy is relevant to the wealth of shareholders using different proxies.

The above gave rise to different gaps regarding the impact of dividends on the stock price volatility of listed entities on the Nigerian Exchange (NGX). What effects have the various proxies, such as dividend yield, dividend payout and leverage, had on the volatility of share prices in Nigeria? The impact of the number of shares available to be traded as well as the ownership structure at any given period have not been fully explored to know their effect on the volatility of shareholders' wealth. These gaps left the need for a follow-up study on the effects of dividend policy on the volatility of shareholders' wealth in listed companies on the Nigerian Exchange (NGX), which is the main focus of this study.

### *1.2. Objective of the Study*

The main objective is to ascertain the effect of dividend policy on share price volatility of selected entities listed on the NGX.

### *1.3. Research Questions*

To what extent does dividend policy affect the share price volatility of the selected companies listed on the NGX?

#### *1.4. Hypothesis*

*H<sub>01</sub>: Dividend policy has no significant effect on share price volatility of selected companies listed on the NGX.*

#### *1.5. Justification of the Study*

Various studies have been conducted over the period looking at the information efficiency of the Nigerian Capital market vis-à-vis dividend announcements and shareholders' wealth. Most of the studies around dividend policy have centered on the impact on stock prices and firm performance. Inconclusive opinions have also been established, while most of them lean towards the dividend relevance theory. Within the Nigerian market, the impact of dividend announcements on shareholders' wealth has been met with mixed reactions. In 2008 and 2020, corporate entities released information on dividends in the market with mixed reactions from investors. Some companies did not release positive information, but their market prices were not impacted, thereby raising questions regarding the information efficiency of markets. Likewise, the performance of some companies has not been released to the public for some time, or as specified by the regulators, with little or no impact on their share prices or shareholders' wealth. While the impact of various dividend policies on the volatility of shareholders' wealth has been studied by various researchers across the globe, focus on the Nigerian market is still scarce. Araoye et al. (2019); Agila and Jerinabi (2018); Olaoye, Olayinka, Ajibade, and Oluwatosin Akinyemi (2016); and Ehikioya (2015) examined the effect of dividends, profitability ratios, and payout ratios on stock price volatility with mixed conclusions. While most of the studies tended toward the dividend relevance theory, the activities in the market over the last decade and market reaction stated otherwise. Also, most of the studies that used event studies focus mainly on the period around the announcement dates. The focus of most studies has always been on profitability, with less analysis of liquidity on stock price volatility. This study was necessary to understand the effects of dividend policy on the volatility of shareholders' wealth.

## **2. Review of Literature**

### *2.1. Conceptual Review*

#### *2.1.1. Share Price Volatility*

The market or share price of any entity refers to the value per share of the entity at the end of each trading day. While the market prices change during any trading day, the price at the close of trading on any particular day represents the price at the end of that day (Nigerian Exchange, 2021). From a total value perspective, when the value per share is multiplied by the number of outstanding shares in any particular period, it gives the market capitalization. The market capitalization of companies listed on the NGX has been on the increase when tracked from 2009 to date. Between 2009 and the end of 2014, the total market capitalization more than doubled, from N7.03 trillion to N18.9 trillion. Specific to the Nigerian Stock Exchange, the aggregate market capitalization appreciated by 17.5% as of June 2017 from the 2016 December position. As of June 2018, the total market capitalization of the 278 equities listed on the NGX was N23.99 trillion, representing an increase of 76% from the December 2017 value of N13.69 trillion, and 26.1% for the corresponding period of June 2017 (Central Bank of Nigeria, 2018). As of December 30, 2020, the Nigerian capital market grew by about 50% to close the year at 40,270.72 (Nigerian Exchange, 2021). The market price of shares is determined by the forces of demand and supply at the end of each trading day. Market price per share is the value of the equity shares as quoted on the NGX daily (Olowe, 2017).

Market price volatility is sometimes referred to as stock price volatility and is the degree of change in the price of companies' shares due to various information released to the market, thereby making it difficult to ascertain what the future price will be. Alajekwu and Ezeabasili (2020) believe that the volatility of the price of shares will vary greatly over time, thereby making the future price difficult to determine. Hence, the lower the volatility of a given stock price, the greater its attraction to both current and potential investors (Okafor, Mgbame, & Chijoke-Mgbame, 2011).

#### *2.2. Dividend Policy*

Dividends are included in the key decisions made by financial managers and represent the outstanding amount paid to the equity holders. According to Brealey and Myers (1996), dividends are often entangled with other financing and investment decisions. Some firms pay low dividends because of the management's future expectations regarding the firm's value and the need to retain earnings for future growth and expansion. Dividend decisions are considered where the company have no pressing strategic needs to drive business growth (Pandey, 2000). The information released by companies on dividends plays an important role in the valuation of the companies' shares (Brealey & Myers, 1996). Harley and Duro (2017) see dividends as the distribution of past or present earnings in real assets among the various equity holders based on their holding structure. The proxies of dividend policy used in this study are explained below.

#### *2.3. Dividend Per Share*

The announcements of corporate financials in any period are expected to be accompanied by various corporate action announcements. When companies decide to pay dividends to existing shareholders on a particular date, the announcements will be accompanied by the dividend payment expectation. The unit or rate

of dividend in naira is expected to be paid on individual units of shares held (Nwaiwu & Ali, 2018). Dividend per share is defined as the total amount of dividend expected to be paid by the total number of qualifying (Hirschey & Nofsinger, 2008). Dividend per share is expected to be constant throughout the announcement period up to the next dividend period. Dividend is paid per period rather than a fraction of the period under consideration (Alajekwu & Ezebasili, 2020).

#### *2.4. Dividend Yield*

The dividend yield is the rate of return to the market on the dividends declared by an organization. The dividend yield is a financial ratio that depicts how much a company pays out in the form of dividends to its existing shareholders (CFA, 2018). When dividend is declared, investors' main concern is the return that the dividend will bring back to them based on the prices at which the stocks were bought. As the prices change daily, the current yield on the dividend paid will change from the date the dividend was declared to the dividend closure date when the share price of the entity is marked down on the floor of the exchange (Adesola & Okwong, 2009; Ehikioya, 2015; Olowe, 2017).

#### *2.5. Dividend Payout Ratio*

The payout ratio is the proportion of the earnings after tax that is paid out as dividends to the existing shareholders at the close of the register. Dividends are a fraction of the net income or profit after tax that an entity pays out to shareholders (Akintoye, 2006). The profit after tax can be retained completely, paid out to shareholders completely, or split between the retention and dividend at any period based on the organizations' dividend policy. Black (1996) stated that dividend is very important in determining the fundamental value of the company's shares and, as such, companies should ensure that a part of the profit is paid out to shareholders for the value to be enhanced. Because of the signaling power of dividends, as established by Gordon (1959), the payout ratio as well as the retention ratio, will depict whether the company has the potential to grow its earnings over time. In the dividend valuation model, the amount of dividend is germane in the business growth potentials of the entity (Brealey & Myers, 1996). Miller and Modigliani (1961) challenged dividend payouts and opined that the payment of dividends does not influence the value of the company's shares in a perfect market scenario but rather the investment decisions over time. Investment decisions are expected to dovetail into corporate performance and the growth in earnings over time, and this is what affects a company's shares (De Villiers, Apopo, & Phiri, 2020). The key aspect of the payout ratio has been established by various studies as crucial in the determination of the value of a company.

#### *2.6. Financial Leverage*

Leverage is the debt obligation of firms to provide funding to the business rather than asking investors to bring in fresh funds to dilute the capital mix (Olowe, 2017). It is a financing strategy to increase potential returns on the money invested by the equity holders. Leverage can be measured by dividing the total debt by the equity, or the net debt by the equity. The effect of leverage shows an inverse relationship between stock price volatility and returns on the equity invested (Ajayi & Nageri, 2016). Leverage is part of the capital structure of firms, and Miller and Modigliani (1961) argue that capital structure has no impact on share value. In the pecking order theory, leverage is considered to be a secondary source of finance, as most viable entities prefer to use retained earnings to finance investment opportunities before any other option is considered (Arsalan, Raza, Aslam, & Mubeen, 2016). Shareholders generally have negative perceptions of the use of leverage in the capital structure (Adenugba et al., 2016).

#### *2.7. Theoretical Framework*

The works of various researchers on corporate dividend policy have led to various conclusions. Two theories were reviewed in this discourse: Dividend Relevance Theory and Dividend Irrelevance Theory.

#### *2.8. Dividend Relevance Theory*

This theory was propounded by Graham and Dodd (1934), in which they opined that a given amount of dividend has four times the impact on stock prices for the same amount of retained earnings. This theory is also called the Rightist Theory and states that companies should pay out a higher dividend as this will increase the value of the company's shares by multiple folds (Brealey & Myers, 1996). The proponents believed that the stock market is continuously in favor of liberal dividend payments rather than meagre ones, hence they want corporations to continuously pay dividends to the stockholders. The major supporters of this theory are Walter (1956) and Gordon (1959). Walter (1956), as cited by Brealey and Myers (1996); Akintoye (2006); and Olowe (2017), opined that organizations' dividend payment decisions are a function of the profitability of investment opportunities available to the firm. They stated that the maximization of shareholders' returns depends on the choice between the firm's internal rate of return and the firm's cost of capital. The model employed by Walter (1956) is based on the following assumptions:

The entity is financed strictly by equity only and all investors do not want any level of risk; the investment opportunities will be financed mainly by retained earnings in the business and, as such, there is no external



financing or the raising of new funds; the internal rate of return, earnings per share, dividend per share, and cost of capital are constant throughout the period; all earnings are either paid out as dividends to the shareholders or retained for internal reinvestment; and the entity has a perpetual or lasting earnings stream (Araoye et al., 2019).

The main argument put forward by Gordon (1959) centered on the fact that the payment of dividends to shareholders is to increase the stock price on the floor of the exchange (Hirschey & Nofsinger, 2008). Lintner (1956) gave some propositions to emphasize the need for constant dividend payouts, which are:

- A long-run target dividend payout ratio by firms. This is expected by mature firms who have stable earnings and pay a higher percentage of the profit to investors. Growth firms, on the other hand, will have low payouts in order to ensure the stability of the business (Akintoye, 2006).
- The assumption that the manager focuses more on the changes to the dividend levels rather than the absolute levels in previous years and will therefore pay out a higher dividend in the current year. This should boost the firm's value based on the rush for shares in expectation of the dividend payment.

### *2.9. Dividend Irrelevance Theory*

The major proponent of the dividend irrelevance theory is the hypothesis proposed by Miller and Modigliani (1961). They opined that the payment (or non-payment) of dividends does not have an impact on firm value. They argued that if a company has a given investment decision over time, the dividend payout ratio does not affect shareholders' wealth (Alajekwu & Ezeabasili, 2020). They also argued that the major factor affecting the value of a firm is its earnings or its investment policies and, as such, the split of earnings between dividends and retained earnings is not necessary and will not alter the firm's stock value (Bhalla, 2013; Black, 1996; CFA, 2018). The dividend irrelevance policy is premised on the following assumptions:

- A perfect capital market with balanced investors and perfect certainty of the ruling market prices (Olowe, 2017). According to Miller and Modigliani (1961), in a perfect market, there is no buyer or seller in the market with large enough transactions to impact the ruling price. Hence, all buyers and sellers have equal and free access to information regarding factors that affect the ruling price as well as all other relevant characteristics of the shares.
- Brokerage fees and transaction costs are not incurred when investors buy and sell securities on the exchange and will not impact the value of the shares.
- Tax differentials are not applicable, either between distributed and undistributed profits, or between dividends and capital gains (Araoye et al., 2019). This assumption implies that the same tax rate applies to dividends and capital gains (Agila & Jerinabi, 2018).
- On the rational behavior assumptions, Miller and Modigliani (1961) explained that investors will always prefer to have more wealth rather than a reduction in their wealth. Hence, they are indifferent as to whether their increase in wealth will take the form of cash payments or an increase in the market value of their shares (Brealey & Myers, 1996).
- There is perfect certainty among investors on firms' future investment plans and future profit positions.
- There is no difference between a dividend-paying firm and a non-dividend-paying firm from a market value perspective as long as they are within the same risk class.

The dividend irrelevance theory has been heavily criticized by various scholars based on the assumptions of a perfect market, tax effects and transaction costs. The argument against the theory is that trading of shares on the exchange will always come with transaction costs, tax effects, and bankruptcy costs (Alajekwu & Ezeabasili, 2020). Miller and Modigliani (1961) responded accordingly on the issue of tax shield and bankruptcy costs, stating that the theory of dividend irrelevance remains a puzzle, globally and in Nigeria.

## **3. Empirical Review**

### *3.1. Dividend Policy and Share Price Volatility*

Ugwu, Onyeka, and Okwa (2020) used a multiple regression analysis to examine the effect of dividend policy and corporate financial performance within companies listed on the consumer goods sector of the NGX. Data were collected randomly from 10 companies listed in the consumer goods sectors for the period between 2015 and 2019. In the study, the dividend payout ratio (DPR) and dividend per share (DPS) were used to represent dividend policy, while return on equity (ROE) was used to measure corporate financial performance. The results revealed that the proxies for dividend policy are positively related to ROE. Only DPS showed a positive effect on corporate performance, while DPR and earnings per share showed a statistically insignificant effect.

Hossin and Ahmed (2020) examined the impact of dividend policy on stock price volatility within the Bangladesh capital market between 2009 and 2017. An experimental analysis approach was adopted using the fixed and random effects models on the data collected from 10 companies. One of the variables used is the dividend payout ratio, differentiating between cash and stock dividends. Both types of dividends were examined against the stock price volatility, and the analysis showed that both cash dividends and stock dividends have a positive impact on stock price volatility. The study further concluded that investors in the Bangladesh market

prefer stock dividends to cash dividends. Stock dividends will appreciate over time, and investors are expected to gain more when the shares are sold in the future.

In a related study, [Koleosho, Adegbeie, and Ajayi-Owoeye \(2020\)](#) examined whether there is a significant relationship between dividend per share and market price per share from an informational efficiency perspective. Data for 57 companies were collected for the period between 2008 and 2019, and the fixed effects model was used to analyze the pooled data. The study concluded that dividend is an important factor in predicting the movement in stock prices. Hence, it was recommended that dividend payments should be paid and information announced in a timely manner to enhance the sustainability of shareholders' wealth.

[Ohiaeri et al. \(2019\)](#) examined the impact of dividend policy on the share prices of quoted companies on the NGX between 2009 and 2017. One of the proxies used in the analysis was dividend per share, and data were collected across 10 Nigerian companies within the period. Using secondary data, Hausman's test was used through the multiple panel least squares estimation, and it was concluded that dividend per share exerted a positive impact on the market price per share within the period reviewed.

In a related study, [Uniamikogbo et al. \(2019\)](#) empirically analyzed the influence of accounting information on stock price volatility in Nigeria using 22 companies listed on the NGX. Data were analyzed through the ordinary least squares (OLS) regression method, and the study concluded that dividend per share had a negative and significant effect on stock price volatility in Nigeria. This study negates the conclusions of [Bhattarai \(2016\)](#); [Egbeonu, Paul-Ekwere, and Ubani \(2016\)](#); [Balagobei and Selvaratnam \(2016\)](#) and [Asadi \(2013\)](#). It is also not in consonance with the conclusion of [Osundina, Jayeoba, and Olayinka \(2016\)](#) and [Olaoye et al. \(2016\)](#). The role of accounting information on stock price volatility was examined by [Osundina et al. \(2016\)](#), with the impact of dividend per share on stock price volatility as one of the hypotheses. Data selected were from 2005 to 2014 from selected listed manufacturing companies in Nigeria. The fixed effects model was used to analyze the data, and they concluded that dividend per share has a positive effect on stock price volatility.

[Aribaba, Ahmodu, Ogbeide, and Olaleye \(2017\)](#) examined the effect of dividend per share on stock price changes between 2008 to 2014 using data collected from 15 companies quoted on the NGX. Using a regression analysis on the adopted estimated generalized least squares method, the study concluded that dividend per share has a negative effect on the stock price changes, and the effect is statistically insignificant over the period. Hence, dividend is important, and investors prefer dividend payments in cash rather than capital gains in the future. The study emphasized the bird-in-hand theory as well as the signaling theory. However, there is a time gap in this study, and only the stock price changes effect was considered.

[Egbeonu et al. \(2016\)](#) carried out a cointegration analysis of dividend policy and share price volatility of companies listed on the Nigerian capital market as of December 31, 2015. Fifty companies were used with a focus on 2015. The results of the Granger causality test revealed that investors are only interested in stocks with stable and consistent dividend policies and are less interested in companies with low dividend payouts. The result of the analysis showed that dividend per share has a positive relationship with stock price volatility and, as such, dividend payment is important in determining the volatility of the stock price. The study concluded that investors could make more profit during a period of volatility due to the announcement effect of dividends. While the study emphasized the ability to make more profit during volatility, the effect of the dividend policy on other measures of shareholders' wealth was not considered. Also, the moderating effects of the number of shares outstanding, ownership structure, and firm size were not considered in the study.

#### **4. Methodology**

The *ex post facto* research design was adopted, and descriptive and inferential statistics were used to analyze the data collected over the sample period. The population of the study comprises 162 companies listed on the NGX as of December 31, 2020. The random sampling technique was adopted to select the 49 companies from those listed on the growth, main, and premium boards of the NGX. Data were collected for the dependent and independent variables from January 2010 to December 2020. To measure of stock price volatility, the generalized autoregressive conditional heteroskedasticity (GARCH) approach was used.

The second stage presents and discusses the regression analysis results based on the pooled panel data regression. The estimates of the model parameters were measured by the intercepts and the coefficients, which were evaluated through the strength of the independent variables (DPS, DPR, DY, LEV) on the dependent variable (SPV) as well as the use of the adjusted  $R^2$ . After the analysis, the level of significance of the individual variables' effects were determined using both the t-statistics and the F-statistics at a 5% level of significance.

Diagnostic tests were carried out to determine the most suitable estimation technique for each model. Under inferential statistics, the variance inflation factor (VIF) for each of the explanatory variables was estimated to test for multicollinearity, and this factor implied that the explanatory variables included in all the specified and estimated models were not correlated with one another. For the regression analysis, the following diagnostic tests were carried out: the Hausman test for endogeneity, the Breusch-Pagan to test for random effects and heteroskedasticity, the testparm fixed effects test, the Wooldridge test for autocorrelation, and Pesaran's test of cross-sectional independence.

The adjusted  $R^2$  measures the proportion of the changes in dividend policy and share price volatility of companies listed on the NGX. The null hypothesis is rejected when the probability value of a model is less than

0.05, or insignificant at 5%, and the alternate hypothesis is accepted; otherwise, if the probability value is more than 0.05, the null hypothesis is not rejected and the alternate hypothesis is rejected.

#### 4.1. Mathematical Model

$$spv_{it} = \alpha + \beta_1 dps_{it} + \beta_2 dpr_{it} + \beta_3 dy_{it} + \beta_4 lev_{it} + \varepsilon_{it} \quad (1)$$

Where:

Spv = Share price volatility.

$x_1$  = Dividend per share (dps).

$x_2$  = Dividend payout ratio (dpr).

$x_3$  = Dividend yield (dy).

$x_4$  = Financial leverage (lev).

**Table 1.** Descriptive statistics of dividend policy and shareholders' wealth volatility.

Variable	Mean	Maximum	Minimum	Std. dev.	Obs.
SPV	2.623	7.161	0.000	0.645	2156
DY	6.157	460.292	-96.962	22.891	2156
DPR	29.865	561.136	-172.359	44.860	2156
DPS	2.081	70.844	-5.005	6.412	2156
LEV	0.520	6.952	-0.317	0.757	2156

**Table 1** shows the mean, maximum, minimum and standard deviation values for the variables. Share price volatility (SPV) is the dependent variable, and the independent variables are dividend per share (DPS), dividend payout ratio (DPR), dividend yield (DY), and financial leverage (LEV).

#### 4.2. Interpretation

The SPV has a mean value of 2.623 and a standard deviation of 0.645. The mean value of 262.3%, suggests that, on average, the share price volatility of the selected firms on the NGX is very high. The standard deviation of 64.5% means that there is a dispersion of the share price volatility from the mean of around 65%.

DY: Dividend yield has a mean value of 6.157 and a standard deviation of 22.891. The mean value of 615.7%, suggests that, on average, the dividend yield of the selected firms on the NGX is very high. The standard deviation of 2289.1% connotes that there is a dispersion of the dividend yield from the mean of around 2289%. Thus, the standard deviation value is far from the mean, suggesting that the dividend yield is susceptible to change over time.

DPR: Dividend payout ratio has a mean value of 29.865 and a standard deviation of 44.860. The mean value of 2986.5% suggests that, on average, the dividend payout ratio of the selected firms on the NGX is very high. The standard deviation of 4486% connotes that there is a dispersion of the dividend payout ratio from the mean of around 4486%. Thus, the standard deviation value is far from the mean, suggesting that the dividend payout ratio is susceptible to change over time.

DPS: Dividend per share has a mean value of 2.081 and a standard deviation of 6.412. The mean value of 208.1% suggests that, on average, the dividend per share of the selected firms on the NGX is very high. The standard deviation of 641.2% connotes that there is a dispersion of the dividend per share from the mean of around 641%. Thus, the standard deviation value is far from the mean, suggesting that the dividend per share is susceptible to change over time.

LEV: Leverage has a mean value of 0.520 and a standard deviation of 0.757. The mean value of 52.0% suggests that, on average, the financial leverage of the selected firms on the NGX is very high. The standard deviation of 75.7% connotes that there is a dispersion of financial leverage from the mean of around 76%. Thus, the standard deviation value is far from the mean, suggesting that financial leverage is susceptible to change over time.

#### 4.3. Inferential Statistics

**Table 2** shows the correlation coefficients for share price volatility (SPV), dividend per share (DPS), dividend payout ratio (DPR), dividend yield (DY), and financial leverage (LEV). The dependent variable is SPV, and the explanatory variables are DPS, DPR, DY and LEV.

Starting with the test for multicollinearity, the variance inflation factor (VIF) for each of the explanatory variables is less than 10. The VIFs are 1.01, 1.07, 1.23 and 3.77 for dividend yield, dividend payout ratio, dividend per share and financial leverage, respectively. This implies that the explanatory variables included in all the specified and estimated models are not correlated with one another.

Table 2. Correlation matrix of dividend policy and share price volatility.

Variable	SPV	DY	DPR	DPS	LEV	VIF
SPV	1.0000					N/A
DY	-0.0173	1.0000				1.01
DPR	-0.0277	-0.0006	1.0000			1.07
DPS	0.0320	-0.0201	0.1882	1.0000		1.23
LEV	0.0007	0.0319	-0.0994	0.0130	1.0000	3.77

From the results, dividend per share and financial leverage have a positive association with the share price volatility of the selected firms listed on the NGX, with correlation values of 0.0320 and 0.0007, respectively. This implies that increases in dividend per share and financial leverage will lead to increases in share price volatility of the selected firms. Conversely, dividend yield and dividend per share have a negative association with share price volatility, with correlation values of -0.0173 and -0.0277, respectively; thus, increases in dividend yield and dividend per share will lead to a fall in share price volatility of the selected firms. In addition, dividend yield, dividend payout ratio and dividend per share have an insignificant relationship with the share price volatility of the selected firms. This implies that dividend yield, dividend payout ratio, dividend per share and financial leverage are not significant factors that influence changes in the share price volatility of the selected firms listed on the NGX.

### 5. Regression Result

From the results in Table 3, there is evidence that the dividend payout ratio has a positive relationship with share price volatility, while dividend yield, dividend per share and financial leverage have a negative relationship with share price volatility.

Table 3. Dividend policy and share price volatility.

Dependent variable: SPV				
Variable	Coefficient	Driscoll–Kraay standard error	t-test	Prob.
Constant	11.9649***	1.0388	11.5182	0.0000
LEV	-0.2066	0.1402	-1.4742	0.1477
DY	-0.0003	0.0012	-0.2713	0.7875
DPR	0.0036***	0.0008	4.7237	0.0000
DPS	-0.0508*	0.0268	-1.8952	0.0648
Adjusted R <sup>2</sup>	0.116			
Wald test	32.89 (0.000)			
Hausman test	2.65 (0.709)			
Breusch–Pagan RE test	33512.02 (0.000)			
Heteroscedasticity test	1707.41 (0.000)			
Serial correlation test	1075.76 (0.000)			
Pesaran CSI	8.44 (0.000)			
Observations	2156			

Notes: The dependent variable is share price volatility (SPV), while the explanatory variables are dividend per share (DPS), dividend payout ratio (DPR), dividend yield (DY) and financial leverage (LEV).  
\* denotes significance at 10%; \*\*\* denotes significance at 1%.

Table 3 reports the static panel regression results of the effect of dividend policy on share price volatility of the selected firms.

$$\text{Model: } SPV_{it} = \beta_0 + \beta_1DY_{it} + \beta_2DPR_{it} + \beta_3DPS_{it} + \beta_4LEV_{it} + \mu_{it}$$

$$SPV_{it} = 11.9649 - 0.0003DY_{it} + 0.0036DPR_{it} - 0.0508DPS_{it} - 0.2066LEV_{it} + \mu_{it}$$

$$T\text{-test: } 11.5182 \quad -0.2713 \quad 4.7237 \quad -1.8952 \quad -1.4742$$

In addition, there is evidence that the dividend payout ratio has a significant effect on the share price volatility of the selected listed firms in Nigeria (DPR = 0.0036, t-test = 4.7237, p < 0.05). This implies that the dividend payout ratio is a significant factor that influences changes in share price volatility of the selected firms.

In sharp contrast, there is evidence that dividend yield, dividend per share and financial leverage have no significant effect on the share prices of the selected listed firms in Nigeria (DY = -0.0003, t-test = -2.713, p > 0.05; DPS = -0.0508, t-test = -1.8952, p > 0.05; and LEV = -0.2066, t-test = -1.4742, p > 0.05). This implies that dividend yield, dividend per share and financial leverage are not significant factors influencing changes in the share price volatility of the selected firms. Concerning the magnitude of the estimated parameters, a one-unit increase in the dividend payout ratio will lead to a 0.0036 increase in the share price volatility of the selected listed firms, while a one-unit increase in dividend yield, dividend per share and financial leverage will lead to respective decreases of 0.0003, 0.0508 and 0.2066 in the share price volatility of the selected firms.



The adjusted  $R^2$ , which measures the proportion of the changes in the share price volatility as a result of changes in dividend yield, dividend payout ratio, dividend per share and financial leverage, explains about 12% of the changes in the share price volatility of the selected firms, while the remaining 88% are explained by other factors not captured in the model.

## **6. Decision**

At a level of significance of 0.01, the Wald test statistic is 32.89, while the p-value is 0.000, which is lower than the adopted significance level of 0.01. The study, therefore, rejects the null hypothesis and confirms that dividend policy has a significant effect on the share price volatility of selected companies listed on the NGX.

## **7. Discussion of Findings**

The findings of the study shows that there is evidence that the dividend payout ratio has positive relationship with share price volatility, while dividend yield, dividend per share and financial leverage have a negative relationship with the share price volatility of the selected listed firms in Nigeria and is thus in line with our *a priori* expectation.

This evidence has empirical linkage with previous studies. For instance, the result aligns with the findings reported by [Hossin and Ahmed \(2020\)](#), who examined the impact of dividend policy on stock price volatility within the Bangladesh capital market between 2009 and 2017. The analysis of the data showed that both cash dividends and stock dividends have a positive impact on stock price volatility. Also, the study agrees in part with the work of [Koleosho et al. \(2020\)](#), who examined whether there is a significant relationship between dividend per share and market price per share from an informational efficiency perspective. Data for 57 companies were collected for the period between 2008 to 2019 and the fixed effects model was used to analyze the pooled data. The study concluded that dividends are an important factor in predicting the movement in stock prices. The conclusion of this study also conforms to the studies of [Araoye et al. \(2019\)](#) and [Olaoye et al. \(2016\)](#). The contrast with the above findings is around the variables of measurement. While the overall conclusion is that dividends are relevant from the payout point of view, dividend per share, dividend yield, and financial leverage exerted a negative effect on stock price volatility within the period reviewed. The studies by [Araoye et al. \(2019\)](#) and [Olaoye et al. \(2016\)](#), however, showed a positive relationship between dividend per share and stock price volatility. The negative conclusion around the dividend per share and dividend yield confirms the findings of [Uniamikogbo et al. \(2019\)](#). [Aribaba et al. \(2017\)](#) also supports the negative dividend per share findings of this study, which concludes that dividend per share has a negative effect on the stock price changes and the effect was statistically insignificant over the period.

From a dividend payout perspective, the conclusion of this study confirms that of [Alajekwu and Ezeabasili \(2020\)](#), who analyzed the effect of dividend policy on stock market volatility in the Nigerian Stock Market between 2006 and 2016. They confirmed that for non-financial firms, the dividend payout ratio has a significant positive effect on stock market volatility. Furthermore, it conforms to the study of [Osakwe et al. \(2019\)](#) and [Uwuigbe, Jafaru, and Ajayi \(2012\)](#). This conclusion, however, negates the findings of [Hossin and Ahmed \(2020\)](#), who analyzed the impact of dividend payout ratio on stock price volatility within the Bangladesh market using the fixed effects and random effects models to analyze the data. The results did not support those of [Araoye et al. \(2019\)](#), who concluded that dividend payout negatively affects the volatility of stock prices.

## **8. Conclusion and Recommendation**

The study ascertained that there is a causal relationship between dividend policy and share price volatility of the companies listed on the NGX over the period of the study. This is evident from the significant relationship between dividend payout ratio and share price volatility of the selected listed companies on the NGX. Hence, the higher the payout ratio, the higher the expected volatility from the daily share prices. On the contrary, dividend per share, dividend yield and financial leverage have no significant relationship with the share price volatility of the selected listed firms in Nigeria. Hence, the actual dividend paid (DPS), dividend yield and financial leverage did not cause volatility in the share prices of companies listed on the NGX between 2010 and 2020.

Overall, the study found that the dividend payout ratio influences share price volatility of the selected listed companies on the NGX. Hence, as companies pay out more of their earnings as dividends, the shareholders' wealth will fluctuate positively, which will attract new investors. Conversely, leverage, dividend yield and dividend per share did not influence the joint measures of share price volatility. Hence, the major factor affecting the joint effect of the shareholders' wealth is the dividend payout ratio in comparison to the earnings declared over the period.

With dividend payout having a significant influence on share price volatility, potential and existing investors should opt for listed entities with a high dividend payout ratio compared to the earnings generated by the company. Investors can choose leverage financing to invest in entities with high dividend payouts. The leverage effect will not affect the volatility of the share price, as determined by this study (leverage is negatively correlated with share price volatility, but not significantly). The payment of dividends will increase the volatility of the share price and will generate higher cashflows to offset debt exposure.

The research experienced a limiting factor regarding the unavailability of data spanning the full ten years for some companies. This restricted the ability of the study to include the whole population in the review and, as such, restricted the sample to 49 companies listed on the NGX as of December 31, 2020. However, this study achieved its main objective.

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