

Research Article

# Earnings Per Share, Dividends Per Share, Dividend Yield and Firm Size on Share Price Behaviour of Manufacturing Firms in Nigeria: Causal Effect

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## Abstract

The manufacturing sector was favorable, contributing to Nigeria being perceived more as a state of consumption than production. Despite promoting Nigeria as having the largest market in Africa, the manufacturing sector faced economic slowdowns due to rising business costs, power supply issues, and weak infrastructure. The main issue arises from the low share prices of manufacturing firms in Nigeria compared to other sectors, potentially resulting from inadequate patronage or ineffective trading on the stock market. This lack of effective trading reflects on the firm's value, discouraging investors and highlighting a financial capacity gap hindering productivity. To address this, using earnings and dividends as incentives can attract investors, bolstering capital and driving manufacturing to full capacity. This study investigate the relationship between earnings per share, dividends per share, dividend yield and firm size on share price behaviour of manufacturing firms in Nigeria between 2013 and 2022. The study adopts an ex-post factor research design, while a granger causality test was used. Fifteen (15) manufacturing firms were selected while data were sourced from the selected manufacturing firms financial audited reported. The inferences were made at 5 percent significance. The causality effect of earnings per share, dividends per share, dividend yield and firm size on share price behaviour of manufacturing firms in Nigeria indicate a unidirectional causality from DPS to Lagged Share Prices (LSP). However, the reverse relationship (LSP to DPS) is not statistically significant, indicating that past share prices do not reliably predict future dividend payments. For Dividend Yield (DY) and LSP, a unidirectional causality from DY to LSP was observed, suggesting that changes in DY can predict future stock prices. The study recommended that manufacturing firms in Nigeria should prioritize enhancing the transparency of their earnings reporting. Clear communication and detailed disclosures regarding financial performance can build investor confidence and potentially strengthen the relationship between EPS and share prices.

## Keywords

Corporate Earning, Dividend Pay-out, Share Price, Manufacturing Sector, Causality

## 1. Introduction

Nigeria is a developing nation with extremely low per capita income and rates of corporate development. People's perceptions of business and commerce are heavily influenced by

tradition, and the majority of them are uninformed about contemporary commercial practices. However, Nigeria has adopted a liberal economic strategy following the restoration

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of independence in 1960 and the global reverberation of economic liberalization. As a result, many more businesses are founded in a variety of industries, including manufacturing, tourism, transportation, trade, and mostly the financial sector, which has a significant impact on the stock price. Nigeria is a nation that is attempting to grow economically through international trades and, of course, with country-appropriate economic liberalization in form of corporate earnings, dividend payment. Financial development is the effective generation and flow of capital in the most productive industries [23].

In quantitative finance, the tracking of the stock price is fundamental to finance analyst because the stock price continually behaves in an upward, downward and constant path creating problem and opportunities for traders, arbitrageur and other parties or stakeholders with interest on stock behavior [26]. Tracking the stock price behaviour and to avoid problem for a listed firm that depend on the stock price for decision, has developed different models such as the binomial option price, trinomial option pricing model. The binomial model obtains the option price by tracking the behaviour of the stock price path in an equity derivatives market.

Due to the behaviour of the stock price in any equity market, most international trading firms trade on financial derivatives to cushion any effect that may be caused by the stock price changes by creating policy that allows them to leverage on financial derivatives. However, the stock price behaviours are influenced by the forces of demand and supply. The implication is that the price of a stock responds positively if the forces of demand rise and responds negative if the forces of demand decline [8].

In Nigeria, the Nigerian Exchange Limited Report, 2022 Q1 reported that fluctuation of stock price influences the payment of dividend in selected firms listed in the capital market. The movement of the stock price influences the option price as the stock price takes either an upward or downward movement depending on the forces of demand and supply [5]. Furthermore, one of the causes of the 2007/2008 global financial meltdown was the downward behaviour of the stock prices in the international market, [24]. Also, in Nigeria, stock prices of big firms nosedived and the payment of dividend was an issue due to low trading activities on stocks in the Nigerian Exchange Limited [2].

In the year 2019 and 2020, most international market reported slow movement of the stock prices due to low financial activities attesting the negative impact of the coronavirus pandemic. In Nigeria, investors were negatively affected and actions to pull out funds from the Nigerian capital market were taken due to a decline in the share prices and the non-payment of dividends attesting to the COVID-19 that slowed down both finance and economic activities (Nigerian Exchange Limited Report, 2022 Q1).

The payment of dividend most times is dependent on share prices of the firms. However, dividend payment is one of the most challenging topics of modern financial economics. Many years of research have not been able to resolve it. Research

into dividend payment has shown that, not only a general theory of dividend payment remains elusive, but also corporate dividend practice varies overtime between firms and across countries. Aborarmadam et al. [1] stated that agency theory could be used to resolve the problem of organizational leadership, dividend payment and job satisfaction. Hamid et al. [11] stated that in as much as dividend payment is important, the advent of globalization over the past 20 years has brought economies closer together with good investment returns and constant payment of dividends. Furthermore, corporate earnings and dividend payment are two crucial elements that affect the corporate performance of firms. These elements play a vital role in attracting investors and determining the stock prices of a company.

Researchers have since discovered that corporate earnings influence dividend payment to shareholders [12]. The nexus between corporate earnings, dividend payment and market value of firms is ambiguous; on the one hand, dividend payment can mean that dividend paying firms are efficiently managed thereby providing cash dividends to shareholders from earnings [14]. On the other hand, dividend payment could imply that firm management lack profitable business opportunities, otherwise cash used for dividend payment would have been invested to earn further income. Robust earning is one of the challenges facing management in emerging economies like Nigeria [18]. Besides, several researchers are of the view that low earning occasioned by inefficient management of firm's resources is a major constraint affecting companies in emerging markets [20].

In a developing capital market, management that could not earn enough profit would not probably pay dividend. Therefore, in order to earn enough profit for their firms, management have devised several strategies such as instituting good corporate governance structure, reducing cost of operation, adopting robust internal control measures, enhancing market share and engendering harmonious industrial relations. Also, with respect to the Nigerian financial market, available data from the Nigerian Exchange Fact-book (2023) revealed that some companies' shares were higher in the year they reported loss. For example, PZ Cussons posted a loss of N7.2bn in 2020 as against an improved profit for the year of N1.69bn in 2021. Yet, the share price of PZ was quoted at N5.50 in 2020 as against N5.30 in 2021. Besides, market capitalization has been hovering between bullish and bearish trends despite declaration of "bumper" dividends.

The above scenario has lent credence to dividend irrelevance theory as propounded by Modigliani and Miller [28]. M - M asserted that under the condition of perfect market, the market value of the firm is dependent on the firm's investment policy rather than dividend announcement. When investment decisions of a firm are known, market value of the firm do not depend on dividend decision (the proportion of retained earnings to dividend payout) but rather depend on investment decision made by managers of the firm. This position was later opposed by a group of scholars such as [27]; [10]. Gordons

bird-in-the-hand argument stated that in as much as the future is uncertain, earnings and expected dividend will also be uncertain. The implication of this is that the firm's discount rate will not be constant. He stated that discount rate increases with uncertainty, In-fact, stockholders would want to be compensated for uncertainty and rather invest in companies that pay higher dividend. He further opined that the higher the earnings retention, the lower the value of the share.

Also, an interesting thing about the dividend is the linear relationship that dividend has with the payout ratio. The payout ratio is a financial metric showing the proportion of earnings a company pays its shareholders in the form of dividends, expressed as a percentage of the company's total earnings. On some occasions, the payout ratio refers to the dividends paid out as a percentage of a company's cash flow. The implication is that a company can declare dividend but a percentage of the dividend declared would be what is actually paid out. The payout ratio is also known as the dividend payout ratio. The payout ratio is a key financial metric used to determine the sustainability of a company's dividend payment program. It is the amount of dividends paid to shareholders relative to the total net income of a company. In some cases, the payout ratio behaves in the direction of the share price.

The size of the firm in most cases is dependent on its ability to pay dividend. Meaning that, firm size is measured by both market value and fundamental variables. The implication is that a big firm may have the ability to pay dividend compared to small firm. For example, Zenith Bank can be regarded to have the ability to pay dividend compared to Unity Bank. This is because the size of Zenith Bank is bigger than that of Unity Bank. Also, the volume of share a firm has in the capital market can be a determining factor on how the firm size is. The firm's market value is also called market capitalization, which can be determined by multiplying the listed company's stock price by the number of shares outstanding. Firm size is a major factor in determining company profitability because of a concept known as economies of scale that can be found in the traditional view of the company. It can be interpreted that big firms can produce goods at a much lower cost than small firms. Company size can be measured using total assets, sales or company capital. Companies that have large total assets are considered to have good prospects in a relatively stable period and are able to generate profits compared to companies that have small total assets. Large-scale companies have a higher competitiveness than small companies, because large companies have a large market so they have a great opportunity to obtain large profits.

Dividend can also be affected by debts because debts payment reduces the amount for dividend payment. Long-term debt is debt that matures in more than one year. If a company is financed by debts, the effect on dividend is negative. A recall on investors using money in terms of loan to invest in shares led to one of the causes of the 2007/2008 global financial meltdown. The demand for the capital by the issuers due to the fall in the share price led to one of the problems of the

crisis. Furthermore, long-term debt can be viewed from two perspectives: financial statement reporting by the issuer and financial investing. In financial statement reporting, companies must record long-term debt issuance and all of its associated payment obligations on its financial statements. On the flip side, investing in long-term debt includes putting money into debt investments with maturities of more than one year. In as much as debt finance is good, the interest paid on debts does not only affect corporate earnings but also reduce the amount paid as dividend.

The study on corporate earnings, dividend payments, and share price behaviour of manufacturing firms in Nigeria is important for several reasons. Nigeria is one of the largest economies in Africa, the economy has the largest market in Africa and also abundantly endowed with numerous natural resources. These resources therefore are essential for manufacturing production, tailored to increase employment and domestic production of goods; accelerate industrialization, generate and preserve the country's foreign exchange, expand the country's domestic market for locally manufactured products, thereby reducing over dependence on import. In summary, the manufacturing sector plays a significant role in driving economic growth and development in the country. Understanding the factors that impact the financial performance of manufacturing firms in Nigeria, including corporate earnings, dividend payments, and share prices, is therefore critical for policymakers, investors, and corporate managers.

The relationship between corporate earnings and stock prices in Nigeria is complex and influenced by multifaceted factors. The release of favourable earnings reports often leads to stock price increases as investors react positively to the company's strong financial performance [21]. Conversely, disappointing earnings reports can lead to stock price declines as investors reevaluate their expectations [16].

However, this relationship is not uniform, and it is influenced by various factors unique to the Nigerian financial landscape. The impact of corporate earnings on stock prices is also intertwined with market sentiment, investor behavior, macroeconomic conditions, and the regulatory environment [15]. Additionally, the Nigerian stock market has been marked by a diverse range of companies, including those in traditional sectors like banking, manufacturing, and emerging sectors like technology and fintech [4]. Each sector may exhibit different dynamics in response to corporate earnings, further complicating the relationship between earnings and stock prices.

With passage of time, due to challenges in providing and maintaining the fundamental basic amenities for manufacturing, manufacturing firms and businesses in Nigeria began to deteriorate. Researchers, economist and finance professionals stated that the decline in the manufacturing sector can be attested to factors like high operational cost and other externalities in Nigeria. However, available data from Central Bank of Nigeria (2023) and Nigeria Bureau of Statistics (2023) shows that the manufacturing sector contributes less than 3% to the country's GDP when compared to previous years. The

implication is that, in previous years say in between 1980 and 1997, investors in the manufacturing sector received sustained earnings and dividend as rewards for investment in the manufacturing sector in Nigeria. In today's business in the manufacturing sector in Nigeria, investors are sceptical on the direction of their business ranging from the share price of their stock and other activities that truncate the success of doing business in Nigeria.

## 2. Literature Review

### *Conceptual Review*

Corporate earnings, dividend payments, and share price behaviour are key indicators of a manufacturing firm's financial performance. In general, corporate earnings reflect a company's profitability, while dividend payments represent a portion of the earnings distributed to shareholders. Share price behaviour, on the other hand, can be affected by a wide range of factors, including market trends, industry-specific developments, and the company's financial performance. Studies have examined the relationship between corporate earnings, dividend payments, and share price behaviour in the manufacturing sector. For example, a study by Zhang et al. [29] found that corporate earnings and dividend payments have a positive impact on the share price of manufacturing firms in China. Similarly, Wang et al. [30], found that earnings per share, dividend payout ratio, and dividend yield have a significant positive impact on share prices of Chinese manufacturing firms.

### *Theoretical review: Signaling Hypothesis:*

The signaling theory posits that dividend announcements serve as indicators of a company's future prospects, with an increase in dividend payments typically signaling positive expectations for growth and stability. According to proponents such as Ross, Ezra, Bhattacharya, John, Williams, and Miller, dividend announcements can reduce information asymmetry between managers and investors, with changes in dividends providing insights into management's assessments of a firm's future prospects. Thus, investors may interpret increased dividend payments as positive signals of a company's market value and future earnings potential, leading to an increase in share prices, while reductions may be viewed negatively, resulting in share price decreases.

These classic models assert that in a scenario of asymmetric information, insiders use dividend policies as costly signals to communicate their firm's future prospects to less informed outsiders. Consequently, an increase in dividends signifies an improvement in a firm's performance, while a decrease suggests a decline in future profitability. In the context of Nigerian manufacturing companies, high dividend payments may indicate financial stability and potential for future earnings growth, thereby influencing share prices. However, criticisms of the signaling hypothesis highlight concerns such as the availability of alternative signals, changing investor behavior, tax implications, potential misinterpretation of signals by the

market, and the complexity of real-world financial decisions, including the rise of share repurchases as an alternative signaling method. These critiques underscore the need for a nuanced understanding of dividend signaling within the broader context of corporate finance. The dividend signaling hypothesis rests on assumptions of information asymmetry, where managers possess more accurate information about a firm's future than shareholders, and the belief that dividend decisions serve as costly signals to convey private information about future prospects. Critics challenge this hypothesis by pointing out alternative communication methods available to companies, questioning investor responsiveness to dividend changes, considering tax implications, and highlighting the complexities of real-world financial decisions.

### *Empirical Review*

Afego [3], investigated the degree of responsiveness of share prices to earnings information of firms listed on Nigeria stock exchange using event study via regression analysis on data obtained from 16 selected firms. Similar to other studies the predicted variable was individual security return. The predictor variable was market return and result from the study found that abnormal return and cumulative abnormal return exert significant negative impact on share price 10 days before, during and after the announcement date.

Prakash [31], tested the efficacy of semi-strong efficiency in Indian stock market with special focus on blue chip companies for the period 2008 to 2010. The authors computed average abnormal return (AAR) and cumulative average abnormal return (CAAR) complemented by cumulative abnormal return (CAR). The result of the analysis from the study are as follows: one, AAR nears zero up to the announcement date; two, CAAR was close to zero around the event study day; three, all CAR values were not significant in the cumulative periods with the exception of ABB and BPCL. The authors then concluded that Indian stock market is efficient in the semi-strong form.

Oyuga [22], also lamented apparent lack of robust study on the nexus between earnings announcement and share price behavior in Nairobi Stock Exchange (NSE) despite huge research conducted in developed economies such as Europe, Asia and USA. The authors thereafter sought to examine how stock prices react to earnings announcement using market model approach to analyse secondary data obtained from 19 listed firms quoted in Nairobi Securities Exchange (NSE) from 1<sup>st</sup> January 2010 to 31st December 2013. In order to put the issue into proper perspective. A market model was formulated and findings from estimated model showed that earnings announcement convey important information on market value of the firm even before and after earning announcements.

Kiremu et al [14], examined the effect of firms' earnings announcement on trading volumes and share price changes using event study methodology to analyse secondary sourced data from 5 listed firms in the Nairobi stock exchange for the period 2006 to 2010. The market model analysis showed an

insignificant negative relationship between earnings announcement and share price dynamics. With respect to trading volume and earnings announcement, the study found that average abnormal return (AAR), cumulative average abnormal return (CAAR) and trading average abnormal (TAR) has no significant relationship around the event date.

Eleke–Abosgye and Opoku [7]), acknowledged the importance of information dissemination to the promotion of financial markets and capital markets in particular via share price reactions to earnings announcement. The authors employed market model hypothesis to examine linear relationship between stock returns and market returns to estimate possible abnormal returns from share price reactions. The market model is formulated as;

The stock returns calculated using market model are average return (AR), abnormal average return (AAR), cumulative abnormal average return (CAAR). Empirical findings from the study did not show any correlation between earnings announcement and share price behavior, hence, earnings announcement is not quickly incorporated in the prices.

Inyama [13], investigated the nexus between market price per share and earnings of firms listed in the Nigeria exchange (NGx) using Ordinary Least Square (OLS), correlation and pairwise granger causality analyses for the period 2004 to 2013. The explained variable of the study was shares price. The independent variable was earning per share (EPS). Empirical findings from the study revealed the following: one, there was significant positive association between earning per share and market price per share; two, significant positive relationship between earning per share and market price per share; three, earning per share granger cause market per share implying uni-directional causality from EPS to MPPS.

Owusu et al [20], acknowledged the plethora of studies in this area in both developed and emerging economies but lamented scanty of research in this topic on Ghanaian stock exchange especially studies that adopt robust methods to analyse quarterly earnings information as it affects stock prices of 60 estimation periods and 21 days event window. They employed Ordinary Least Square (OLS) complemented by Standardized Excess Return (SER) for hypothesis testing. Findings from the study showed that Ghanaian stock exchange is efficient in the semi strong form as there is no noticeable reaction to earnings announcement.

Swaleh [24] examined the degree of response of share price of firms to announcement of earnings by firms quoted in the Nairobi stock exchange using event study methodology to analyse daily share data of 65 listed firms for the period 2014 to 2015. The regress and is the actual stock return, while the independent variable is the market return. The authors then used chi square and t-test to compute variances between actual returns of stocks from different sectors and market return of the exchange. It was observed that stocks quoted in Nairobi stock exchange are not efficient in the semi strong form as investors earned abnormal return even before the announcement of earnings.

Olang and Akenga [19], examined the speed to which stock prices respond to earnings announcement and investment decisions by market participants using data from firms quoted in Nairobi stock exchange. Adopting event study methodology, the authors examined whether share prices of firms respond to earnings announcement in the Nairobi stock exchange. The dependent variable was individual security return, while the explanatory variable was market return proxied by all share index. Empirical findings from the regression analysis found the following: one, earning announcement affect market value of firms in the month of the announcement and even two months after announcement of earnings.

Faloye and Obamuyi [9], used event study methodology to examine the practicability of information signaling theory during recessionary period in Nigeria. The authors employed market model where the endogenous variable is the individual security expected return and exogenous variable is the expected market return. They observed a total of 121 days decomposed into two, first observation is 21 days event window of 10 days before announcement and 10 day after announcement including 1 day of announcement. The second observational period is 100 days of trading of 110 before trading and 11 day for each firm. Empirical findings did not show evidence of information signaling hypothesis operating in the Nigerian economy.

Ubesie et al [25], investigated how earning accruals affect market price of shares in Nigeria. Using data of 12 firms for the period 2006 to 2017, they used share price as dependent variable and the explanatory variables are: non-discretionary accrual adjustment, total accrual adjustment, and discretionary adjustment accrual. Findings from the study suggest that firm managers take advantage of discretionary adjustment accruals to manipulate earnings and to a large extent share prices of firms.

Prakash [31], lamented divergent findings of several scholars with respect to share price reaction to earnings announcement. The authors tested the existence of efficient market in Bombay Stock Exchange (BSE) SENSEX from April 1<sup>st</sup> 2017 to 31<sup>st</sup> March 2020 using event study methodology.

The authors calculated the pre-event period of 20 days and post-event period of 20 days before computing the abnormal return (AR) and cumulative abnormal return of the two event periods at 5% significance level after taking cognizance of the degree of freedom. Empirical findings from the study suggests that BSE SENSEX is not semi strong efficient as investors were able to earn abnormal return in over 7 quarters out of 9 quarters studied.

Ekpe [6], used data from 2013 to 2017 to examine the nexus between earning announcement and share price movement of 64 firms listed in the Nigeria exchange. The authors employed Generalized Least Square (GLS) technique where the outcome variable is market price of shares. The covariate variables were earning surprise decomposed into positive earnings surprise and negative earnings surprise of individual firms.

Empirical findings from their study showed that share prices reacted positively to negative earnings surprise and negatively to positive earnings surprise thus validating the return news hypothesis.

Ogbaisi et al [17], noted that Nigerian exchange (NGx) seems to inefficient as reflected by delays in adjusting to earnings information. The author examined the effect of earning surprise on share price behaviour of stocks in Nigerian exchange using Ohlson valuation model on data obtained from 76 listed firms for the period 2010 to 2020. Findings from the study indicates the following: the impact of earnings surprise on share price is insignificant; investors are not concerned with published book value; and that investors consider earnings surprise and magnitude in a unified framework.

Agugom and Salawu [32], examined whether earning smoothing affect market value of firms in the case of Nigeria using panel data approach to analyse secondary data obtained from 173 listed firms in Nigeria exchange (NGx) for the period 2009 to 2020. The dependent variable was share price, while the explanatory variables are earning smoothing, firm size, leverage and board independence. Findings revealed a significant negative impact of earnings smoothing on share price behavior of firms.

### 3. Methodology

This study employs an ex-post facto research design, chosen for its suitability in collating data to ascertain the rela-

tionships among corporate earnings, dividend payment, and share price behavior of manufacturing firms in Nigeria, considering the timing and nature of the data relevant to the topic, and leveraging past events to assess their impact on the present and predict future occurrences through developed regression models aligned with the specific objectives of the study.

This study focuses on investigating the relationships among earnings, dividends, and share price behavior in Nigerian manufacturing firms, specifically examining 32 quoted firms on the Nigerian Exchange Limited in 2023, comprising 37.5% industrial and 62.5% consumer goods firms, obtained through stratified sampling.

#### Sampling Size and Sampling Technique

The study employs stratified sampling to determine the sample size, categorizing manufacturing firms on the exchange into strata based on their sector (industrial and consumer goods), facilitating reliable data collection, with additional purposive sampling using inclusion and exclusion criteria to obtain cross-sectional and time series data for the study.

This segment addresses the functional relationship between the dependent and independent variables of the study.

Model to determine the causality effect of corporate earnings, dividend per share, dividend yield and firm size on share price behaviour of manufacturing firms listed in Nigeria.

The Granger causality test is administered in form of Vector Autoregression approach to indicate the short run behavior or direction of causality between series. This is model is as stated below;

$$\Delta SHP_{it} = \sum_{i=1}^n b_{1t} \Delta EPSP_{it-1} + \sum_{i=1}^n c_{1t} \Delta DPS_{it-1} + \sum_{i=1}^n d_{1t} \Delta DIVY_{it-1} + \sum_{i=1}^n e_{1t} \Delta FSIZE_{it-1} + e_{1it} \quad (1)$$

$$\Delta EPS_{it} = \sum_{i=1}^n b_{2t} \Delta SHP_{it-1} + \sum_{i=1}^n c_{2t} \Delta DPS_{it-1} + \sum_{i=1}^n d_{2t} \Delta DIVY_{it-1} + \sum_{i=1}^n e_{2t} \Delta FSIZE_{it-1} + e_{2it} \quad (2)$$

$$\Delta DPS_{it} = \sum_{i=1}^n b_{3t} \Delta SHP_{it-1} + \sum_{i=1}^n c_{3t} \Delta EPS_{it-1} + \sum_{i=1}^n d_{3t} \Delta DIVY_{it-1} + \sum_{i=1}^n e_{3t} \Delta FSIZE_{it-1} + e_{3it} \quad (3)$$

$$\Delta DIVY_{it} = \sum_{i=1}^n b_{3t} \Delta SHP_{it-1} + \sum_{i=1}^n c_{3t} \Delta EPS_{it-1} + \sum_{i=1}^n d_{3t} \Delta DPS_{it-1} + \sum_{i=1}^n e_{3t} \Delta FSIZE_{it-1} + e_{3it} \quad (4)$$

$$\Delta FSIZE_{it} = \sum_{i=1}^n b_{3t} \Delta SHP_{it-1} + \sum_{i=1}^n c_{3t} \Delta EPS_{it-1} + \sum_{i=1}^n d_{3t} \Delta DPS_{it-1} + \sum_{i=1}^n e_{3t} \Delta DIVY_{it-1} + e_{3it} \quad (5)$$

Table 1. Measurement of Variables.

Variables	Description	Measurement	Sources
Share price behaviour (N)	This represent the rise and fall of price of shares following announcement of earnings and dividend	This is measured as the market price of the shares of sample firms as at December 31 of the year	Machameratios, Sigmal Securities, Nigerian Exchange Limited.
Earnings per share (N)	This is the profit available to shareholders of a company after accounting for operational expenses, interest and taxes	It is measured as the ratio of profit after tax to number of ordinary shares EPS = PAT No of shares	Machameratios, Sigmal Securities, Nigerian Exchange Limited.
Dividend per share	It indicates the dividend and retention policy of the company when used in conjunction with the EPS. It shows the amount of gross dividend declared on every issued ordinary share ranking	DPS=Gross Div/No OS	Machameratios, Sigmal Securities, Nigerian Exchange Limited.

Variables	Description	Measurement	Sources
Dividend Yield (%)	for dividend in the year. This is expressed as the dividend per share as a percentage of the share price. It is a measure of cost of equity, it measures actual returns on shareholders' investment.	$DIVY = \frac{\text{Dividend per Share}}{\text{Share Price}} \times 100$	Machameratios, Sigmal Securities, Nigerian Exchange Limited.
Firm Size	This is the total asset of the firm	It is measured in this study as the natural logarithm of total asset	Machameratios, Sigmal Securities, Nigerian Exchange Limited.

Source: Researcher`s study, 2023.

*Estimation techniques*

Granger causality test was used to examine causal effect of corporate earnings, dividend per share, dividend yield and firm size on share price behaviour among the selected manufacturing firms. This approach was used to answer the re-

search question 5. For example, is it earnings (EPS) that causes share price (SP) to rise? Or is the share price (SP) that causes earnings to rise? Granger causality test assumes that factors responsible for the change in variables, EPS and SP is imbedded in the time series nature on the variables.

## 4. Result and Discussion

### 4.1. Pre-Estimation Test

*Table 2. Descriptive Statistics.*

	SP	EPS	DPS	DY	FSZ
Mean	133.0029	7.628921	4.011151	4.282446	140.6568
Median	27.10000	2.380000	1.250000	3.100000	91.80000
Maximum	1650.000	64.30000	38.50000	17.10000	591.8000
Minimum	1.160000	0.040000	0.050000	0.320000	10.00000
Std. Dev.	312.9812	12.97983	7.708572	3.298520	150.4454
Skewness	3.380601	2.736902	2.992125	1.919328	1.793240
Kurtosis	13.50772	10.41858	11.65971	7.089086	5.140188
Jarque-Bera	904.2301	492.2791	641.7269	182.1821	101.0255
Probability	0.000000	0.000000	0.000000	0.000000	0.000000
Sum	18487.40	1060.420	557.5500	595.2600	19551.30
Sum Sq. Dev.	13518098	23249.69	8200.247	1501.472	3123466.
Observations	140	140	140	140	140

Note: Share Price (SP), Earnings per Share (EPS), Dividend per Share (DPS), Dividend Yield (DY), and Firm Size (FSZ).

The descriptive statistics presented in Table 2 offer valuable insights into the characteristics of Share Price (SP), Earnings per Share (EPS), Dividend per Share (DPS), Dividend Yield (DY), and Firm Size (FSZ). Share Price (SP) has a mean of ₦133.00 which signifies the average value, but the large

standard deviation of ₦312.98 indicates substantial variability in share prices. The positively skewed distribution (Skewness = 3.38) and leptokurtic shape (Kurtosis = 13.51) imply a non-normal distribution with a longer right tail and heavier tails than a normal distribution. The Jarque-Bera statistic of

904.23 provides statistical evidence supporting the departure from normality.

Earnings per Share (EPS) has an average of ₦7.63 with a standard deviation of ₦12.98 suggests moderate variability. The positively skewed distribution (Skewness = 2.74) and leptokurtic shape (Kurtosis = 10.42) again indicate non-normality, a finding reinforced by the significant Jarque-Bera statistic of 492.28. For Dividend per Share (DPS), the mean of ₦4.01 and moderate standard deviation of ₦7.71 indicate a moderate spread of values. The positively skewed distribution (Skewness = 2.99) and leptokurtic shape (Kurtosis = 11.66) point towards non-normality, confirmed by the significant Jarque-Bera statistic of 641.73. Examining Dividend Yield (DY), the average yield of 4.28% with a standard deviation of 3.30% suggests relatively low variability. The positively skewed distribution (Skewness = 1.92) and leptokurtic

shape (Kurtosis = 7.09) again indicate non-normality, supported by the Jarque-Bera statistic of 182.18.

Finally, considering Firm Size (FSZ), the mean of 140.66 with a large standard deviation of 150.45 indicates substantial variability. The positively skewed distribution (Skewness = 1.79) and leptokurtic shape (Kurtosis = 5.14) imply non-normality, further corroborated by the significant Jarque-Bera statistic of 101.03.

In summary, the descriptive statistics reveal not only the central tendencies and variabilities of the financial variables but also highlight the departure from normality, as evidenced by the skewness, kurtosis, and Jarque-Bera statistics across all variables. These findings are crucial for understanding the distributional characteristics of the data and should be considered in subsequent analyses or modeling efforts.

**Table 3.** Panel Unit Root Test – IPS and Breitung.

Variable	IPS		Breitung	
	Level	First difference		
SP	1.395	-3.783***	-0.303	-3.863***
EPS	-1.082	-4.856***	-2.126**	-4.214***
DPS	-0.438	-4.255***	-1.917**	-4.414***
DY3	-2.999***	-5.141***	-4.988***	-5.062***

\*, \*\* and \*\*\* indicates rejection of the null hypothesis of panel unit roots at 10%, 5% and 1% respectively.

Table 3 presents the Panel unit root tests of IPS and Breitung at level and first difference.

Share Price (SP):

At the level, the IPS test statistic is 1.395, indicating the presence of a unit root. However, the negative value of -3.783\*\*\* in first differences suggests the rejection of the null hypothesis, signaling that Share Price is stationary after differencing. The asterisks denote statistical significance, with three stars (\*\*\*), implying rejection at the 1% significance level.

Earnings Per Share (EPS):

In EPS, both the IPS and Breitung tests at the level result in non-rejection of the null hypothesis, indicating a unit root. However, in first differences, the negative values of -4.856\*\*\* (IPS) and -4.214\*\*\* (Breitung) lead to the rejection of the null

hypothesis, suggesting that EPS becomes stationary after differencing.

Dividends Per Share (DPS):

For DPS, similar to EPS, the tests at the level do not reject the null hypothesis, suggesting a unit root. In first differences, the negative values of -4.255\*\*\* (IPS) and -4.414\*\*\* (Breitung) indicate the stationarity of DPS after differencing.

Dividend Yield 3 (DY3):

DY3 exhibits a strong indication of non-stationarity at the level, as evidenced by the negative values of -2.999\*\*\* (IPS) and -5.141\*\*\* (Breitung). However, in first differences, the negative values of -4.988\*\*\* (IPS) and -5.062\*\*\* (Breitung) support the rejection of the null hypothesis, implying that DY3 becomes stationary after differencing.

**Table 4.** Granger Causality Test Result.

Null Hypothesis:	F-Statistic	Prob.	Conclusion
EPS does not Granger Cause LSP	4.38959**	0.0147	Bidirectional (two-way causality). Eps to LSP and LSP to EPS
LSP does not Granger Cause EPS	4.86574***	0.0095	
DPS does not Granger Cause LSP	3.72538**	0.0273	Unidirectional Causality from DPS to LSP but not the other way
LSP does not Granger Cause DPS	1.49219	0.2295	
DY3 does not Granger Cause LSP	2.79885*	0.0654	Unidirectional Causality from DY to LSP only not the other way
LSP does not Granger Cause DY3	1.70001	0.1876	
TA does not Granger Cause LSP	0.53744	0.5858	No causality
LSP does not Granger Cause TA	0.16604	0.8472	

\*, \*\*, and \*\*\* indicate statistical significance the therefore rejection of the null hypothesis of no granger causality

The Granger causality test results reported in Table 4 provide valuable insights into the temporal relationships among the variables in the model. Granger causality assesses whether past values of one variable can predict the current values of another, helping to unveil potential causal links. In the case of Earnings per Share (EPS) and Lagged Share Prices (LSP), the test suggests bidirectional causality (two-way causality) with a statistically significant F-statistic of 4.38959 at a 1.47% significance level. This implies a feedback loop between EPS and LSP, indicating that changes in EPS can be predictors of future LSP and vice versa.

The Granger causality test results have significant economic implications for investors, financial analysts, and the companies under consideration. The bidirectional causality between Earnings per Share (EPS) and Lagged Share Prices (LSP) suggests a dynamic relationship where changes in earnings influence future share prices and vice versa. For investors, this implies that monitoring both EPS and LSP is crucial for making informed decisions. Companies should recognize the interdependence between their earnings performance and stock prices, emphasizing the importance of strategic financial management and communication to shareholders.

Similarly, the Granger causality test for Dividends per Share (DPS) and Lagged Share Prices (LSP) reveals unidirectional or one-way causality from DPS to LSP, but not the other way around. The statistically significant F-statistic of 3.72538 at a 2.73% significance level suggests that past values of DPS can predict future LSP, indicating a predictive relationship in one direction. However, the F-statistic for the reverse relationship (LSP to DPS) is not statistically significant at the conventional levels, suggesting no clear evidence of DPS predicting future LSP.

In the case of Dividends Per Share (DPS) and Lagged Share Prices (LSP), the unidirectional causality from DPS to LSP implies that past dividend payments can predict future share prices. This finding has implications for investors seeking

income through dividends. It suggests that companies with a consistent dividend payout history may attract investors, impacting their stock prices positively. However, the non-significant reverse relationship indicates that past share prices do not reliably predict future dividend payments, highlighting the need for investors to assess dividend-related decisions independently.

For Dividend Yield (DY) and Lagged Share Prices (LSP), the test indicates unidirectional causality from DY to LSP, with a statistically significant F-statistic of 2.79885 at a 6.54% significance level. This implies that changes in DY can be predictors of future LSP. However, the reverse relationship (LSP to DY) is not statistically significant, suggesting no evidence of LSP predicting future DY.

The unidirectional causality from Dividend Yield (DY) to Lagged Share Prices (LSP) implies that changes in dividend yield can predict future stock prices. This result has implications for investors focused on dividend yield as an indicator of a company's financial health and potential returns. Companies may need to carefully manage their dividend policies to attract investors and positively influence their stock prices. The lack of causality in the reverse direction emphasizes that past stock prices do not reliably predict future dividend yields.

In the case of Total Assets (TA) and Lagged Share Prices (LSP), the Granger causality test results show no causality in either direction, with F-statistics of 0.53744 and 0.16604, both not statistically significant. This implies that changes in TA do not predict future LSP, and vice versa.

The absence of Granger causality between Total Assets (TA) and Lagged Share Prices (LSP) suggests that changes in a company's total assets do not predict future stock prices, and vice versa. This finding implies that investors should not rely solely on total assets as an indicator of future stock price movements. Companies, in turn, may need to communicate other relevant information beyond their balance sheet size to attract and retain investor interest.

## 4.2. Discussion of Findings

The fifth objectives on the causality effect of corporate earnings and dividend payout on share price demonstrated that a unidirectional causality from DPS to Lagged Share Prices (LSP), suggesting that past dividend payments can predict future share prices. This finding has implications for investors seeking income through dividends, emphasizing the positive impact of a consistent dividend payout history on stock prices. However, the reverse relationship (LSP to DPS) is not statistically significant, indicating that past share prices do not reliably predict future dividend payments. For Dividend Yield (DY) and LSP, a unidirectional causality from DY to LSP was observed, suggesting that changes in DY can predict future stock prices. The study of Asiri and Hameed (2014) shared similar result as it reveals that ratio of profit after tax to total asset and ratio of total debt to equity are determinants of market price of shares. Similarly, the work of Gharaibeh and Qader (2017) emphasized that one-year lagged value of the firm, changes in growth opportunities, market capitalization, profitability, and firm's solvency are strong determinants of market value of firms. On the contrary, leverage, size of the firm, efficiency, tangibility and dividend policy are not significant determinants of firms. More so, the work of Ajao and Edosa (2022) also buttress the findings as the study show how stock prices are influenced by leverage, size, dividend yield, earning per share, and dividend payout of listed firms in some Sub-Saharan African (SSA) countries. Empirical results of the study showed that dividend yield, and earning per share exert significant effect on stock price volatility.

## 5. Conclusion

This study investigate the effects between corporate earnings, dividend payment and share price behaviour of manufacturing firms in Nigeria between 2012 and 2022. Fifteen (15) manufacturing firms were selected while data were sourced from the selected manufacturing firms financial audited reported. The study adopts an ex-post factor research design, while a two system Generalised method of moments and granger causality test was used. The inferences were made at 5 percent significance. The causality effect of earnings per share, dividends per share, dividend yield and firm size on share price behaviour of manufacturing firms in Nigeria indicate a unidirectional causality from DPS to Lagged Share Prices (LSP), suggesting that past dividend payments can predict future share prices. This finding has implications for investors seeking income through dividends, emphasizing the positive impact of a consistent dividend payout history on stock prices. However, the reverse relationship (LSP to DPS) is not statistically significant, indicating that past share prices do not reliably predict future dividend payments. For Dividend Yield (DY) and LSP, a unidirectional causality from DY to LSP was observed, suggesting that changes in DY can predict future stock prices. This underscores the significance of managing

dividend policies to attract investors and positively influence stock prices. On the other hand, the absence of causality between Total Assets (TA) and LSP implies that changes in a company's total assets do not predict future stock prices, emphasizing the need for investors to consider additional factors beyond balance sheet size for assessing future stock movements.

Based on the findings, the following recommendations were made:

- 1) Recognizing the predictive role of dividend yield in anticipating future stock prices, manufacturing firms should actively manage and optimize their dividend yield. Strategic decisions related to dividend policies can influence investor perceptions of a company's financial health and, consequently, positively impact share prices. Regularly evaluating and adjusting dividend yield strategies may enhance market competitiveness.
- 2) To maximize the benefits of the study's insights, there is a need for increased investor education. Manufacturing firms, regulatory bodies, and financial institutions should collaborate to provide educational resources that help investors interpret financial reports, understand causality relationships, and make informed decisions. Empowering investors with financial knowledge can contribute to a more efficient and informed market, positively influencing share prices.
- 3) While the study did not find Total Assets (TA) to be a significant driver of share prices, manufacturing firms should strategically manage their total assets. This involves optimizing asset utilization, ensuring efficient capital allocation, and communicating effectively with investors about the long-term strategic implications of the company's asset structure.

## Abbreviations

AAR: Computed Average Abnormal Return  
 CAAR: Cumulative Average Abnormal Return  
 CAR: Complemented by Cumulative Abnormal Return  
 DPS: Dividend Per Share  
 DY: Dividend Yield  
 EPS: Earnings Per Share  
 FZS: Firm size  
 GDP: Gross Domestic Product  
 GMM: Generalized Method of moments  
 M & M: Modigliani & Miller  
 MPPS: Market Price Per Share  
 NGx: Nigeria exchange  
 OLS: Ordinary Least Squares

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## Conflicts of Interest

The authors declare no conflicts of interest.

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