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Moderating Effect of Firm Size on the Financial Performance Indicators and Share Price of Quoted Commercial Banking Institutions in Nigeria

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Abstract

Accounting information utilized by management to convey firms' financial performance hold significant importance for various stakeholders, particularly potential and current investors, influencing their investment decisions. These financial performance metrics can directly impact the share prices of existing stocks. In this context, this research investigates the moderating influence of firm size on the relationship between financial performance indicators and share prices within quoted commercial banking institutions in Nigeria. The study aims to explore how earnings per share, and debt-to-equity ratio affect share prices, considering the influence of firm size on these relationships. The sample size consists of thirteen firms. Employing a two-model analytical approach, the study adopts pooled Ordinary Least Square multiple regression analysis, guided by the Breusch-Pagan LM Test for estimation. Findings from model I indicate that earnings per share exhibits a significant positive relationship with share prices, whereas the debt-to-equity ratio demonstrates a significant negative relationship with share prices. Model II results reveal that firm size has a significant positive moderating effect on the relationship between earnings per share and share prices. However, firm size shows an insignificant negative effect on the relationship between debt-to-equity ratio and share prices. The study recommends enhancing profitability to bolster earnings per share as it positively impacts share prices, and that Nigerian commercial banking institutions should resort to debt financing only as a last option, given its negative impact on share prices.

Keywords: *Debt-to-Equity Ratio, Earnings per Share, Financial Performance Indicators, and Share Price.*

Introduction

Financial performance indicators serve as crucial decision-making tools for individuals or organizations investing in the equity market. Financial performance indicators facilitate a thorough financial assessment of investment options before making decisions. Investment involves allocating funds to one or more activities with the anticipation of future profits. Sundoro *et al*. (2023) highlighted two fundamental elements associated with invested funds: yield and risk. These elements exhibit a proportional reciprocal relationship; higher risk typically corresponds to greater yield, while lower risk corresponds to smaller yield. Investors prioritize the desired future rate of returns relative to associated risk, favouring businesses with high yields and low risk. Conversely, companies with high levels of risk and benefit rates are less attractive to investors and creditors (Feriawan *et al*., 2024 & Nzewi et al, 2023).

The financial performance of a company reflects its success in managing resources, with investors relying on its measures to assess performance (Widyastuti (2019). Companies demonstrating strong financial performance garner significant investor attention due to their perceived potential for favourable future returns. Investors evaluate financial performance through the analysis of financial reports, primarily focusing on financial performance indicators (ratios). Fundamental analysis, as

outlined by Jogiyanto (2014) and Uchenna et al (2021) entails examining various indicators, including financial metrics, to assess a company's stock valuation based on industrial conditions. A critical analysis of published financial performance information is essential, as it aids in predicting future stock value behaviour (Kelvin *et al*., 2022). Adediran and Alade (2013) affirmed that one important factor that indicate how a firm is performing is its dividend policy. This study considers the effect of two key financial performance indicators namely: earnings per share and debt-to-equity ratio on share price with firm size as a moderating variable.

The existing literature lacks studies that explore the impact of a third variable acting as a moderator on the relationship between financial performance indicators and share price. Incorporating such an analysis would have enriched these studies by elucidating both the direct and moderated connections between independent and dependent variables. Furthermore, many of the reviewed studies, including those by Feriawan and Afdal (2024) and Sundoro *et al*. (2023), employed inappropriate methods for analyzing panel data, opting for regression analysis using ordinary least squares without pooling the data into panel format, where pooled ordinary least squares would have sufficed. Moreover, among the plethora of reviewed studies, none covered the specific set of four independent variables examined in this study: earnings per share, return on assets, debt-to-equity ratio, and price-earnings ratio. This research therefore fills a significant gap in the literature. Additionally, the dearth of Nigerian studies in recent years, with only Odey *et al*. (2023) focusing on Nigerian firms while others such as Sundoro *et al*. (2023) and Nasrallah *et al.* (2023) concentrated on Indonesian companies, Mao (2023) on UK-based firms, and Maculuve and Obalade (2023) on South African businesses, highlights an environmental gap that this study addresses.

The broad objective of this study is to establish the moderating effect of firm size on the financial performance indicators and share price of quoted commercial banking institutions in Nigeria from 2010-2022, whereas, the specific objectives are to:

i) investigate the relationship between earnings per share and share price of commercial banking institutions in Nigeria;
ii) estimate the relationship between debt-to-equity ratio and share price of commercial banking institutions in Nigeria;
iii) evaluate the moderating effect of firm size on the relationship between earnings per share and share price of commercial banking institutions in Nigeria; and
iv) analyze the moderating effect of firm size on the relationship between debt-to-equity ratio and share price of commercial banking institutions in Nigeria.

To achieve the objectives of this study, the following hypotheses were developed for testing.

Ho_1: There is no significant relationship between earnings per share and share price of commercial banking institutions in Nigeria.
Ho_2: There is no significant relationship between the debt-to-equity ratio and share price of commercial banking institutions in Nigeria.
Ho_3: Firm size does not have a significant moderating effect on the relationship between earnings per share and share price of commercial banking institutions in Nigeria.
Ho_4: Firm size exerts no significant moderating effect on the relationship between debt-to-equity ratio and share price of commercial banking institutions in Nigeria.

Review of Related Literature

Conceptual Review

The conceptual review of this study revolves around the relationship between various financial metrics. The dependent variable, share price, is reflected by market share price, while financial performance indicators - earnings per share (EPS) and debt-to-equity ratio (DER), serve as independent variables. Additionally, firm size is introduced as a moderator, shedding light on its impact on the relationship.

Financial Performance Indicators

Financial performance indicators encompass metrics reflecting a firm's financial standing, operational focus, results, equity changes, leverage status, and cash flows among listed firms (Onibiyo, 2022). Baydas *et al*. (2022) elucidated that the efficacy of a financial performance indicator lies in its comparative utility, facilitating inter-firm comparisons within an industry. Akinnade *et al*. (2020) defined financial performance as metrics employed by securities analysts to anticipate market trends, encompassing stock trading volume, interest rate directions, and corporate insiders' trading activities. Widyastuti (2019) described financial performance as the capacity of a company to generate profits relative to sales, total assets, and equity, with analyses conducted to assess adherence to financial regulations. Investors typically evaluate a company's performance before committing resources, often utilizing financial and accounting ratio analysis, a method widely employed to gauge financial health (Kadadiri, 2015). Nasrallah *et al*. (2023) affirmed that such analysis is instrumental in revealing a company's financial strengths and weaknesses. This study defines financial performance indicators as financial ratios which represent how a company was able to achieve its financial objectives.

Earnings per Share

Earnings per share (EPS) represents the profit allocated to each ordinary share of a company. Feriawan *et al*. (2024) characterized EPS as a metric for assessing company performance, whereby higher EPS signifies greater profitability per outstanding share, thus potentially increasing investor prosperity and subsequently driving up share prices. Humaerah (2022) emphasized the impact of EPS on demand for a company's shares, as higher EPS indicates greater confidence in the company's prospects among investors. Robbetze *et al*. (2017) underscored EPS as a crucial accounting measure for assessing risk, company performance, and success, with its fluctuations often influencing share price behaviour. Kumar (2017) noted that positive EPS reports enhance investor confidence and increase demand for shares, consequently driving up share prices, while negative EPS reports lead to decreased demand and lower share prices, emphasizing the impact of positive or negative earnings reports on investor sentiment and share prices. Indriawati & Nurfadillah (2020) further emphasized that high EPS encourages investment and drives up share prices. This study defines EPS as the returns per share for investors over one year of business operations.

Debt-to-Equity Ratio

The debt-to-equity ratio, also known as the leverage ratio, is a significant financial metric that assesses a company's performance. Nasrallah *et al.* (2023) argue that this ratio reflects a company's ability to meet its long-term obligations, indicating that if a company fails to fulfil its debt commitments, it likely owes more in debts than its assets are worth. Rusmita *et al.* (2021) emphasize that the debt-to-equity ratio is crucial for comparing a company's funding from creditors with its equity. A higher ratio may deter investor interest due to concerns about excessive debt and associated costs. Qamara *et al*. (2020) explain that the debt-to-equity ratio compares all debts, including current debt, with total equity, providing insight into the funds contributed by creditors and company owners. A low debt-to-equity ratio attracts investors, as it suggests the company is financially healthy. In the content of this study, the debt-to-equity ratio refers to the proportion of a business's assets that are composed of borrowed funds.

Share Price

A share price is the selling price of a unit of a company's stock in the capital market. Sharif *et al*. (2015) argue that, as a guide to making sound investment decisions, investors typically seek common ground in monitoring share prices. Onibiyo *et al*. (2022) assert that the significance attributed to share prices can be understood from various perspectives within the capital market and the public, where an increase indicates market confidence, while a decrease may signify investor wariness and reduced stock patronage. These fluctuations are primarily driven by market forces of supply and demand. Wafubwa (2014) observes that financial performance indicators significantly influence share prices, often being used by equity analysts due to their predictive power on future share returns. Akuntansi (2020) contends that share prices reflect consumer demand and supply, with investor expectations playing a crucial role, suggesting that improving a company's financial performance can enhance investor expectations, making shares more desirable and driving prices higher. Ariesa and Sitepu (2020) maintain that stock prices gauge investor interest in a company, with rising prices signalling investor confidence in the company's operations, and fluctuating by demand and supply principles. Hutagaol *et al.* (2022) suggest that firms with persistently low or declining stock prices erode investor confidence, leading to reluctance to purchase their shares. This study defines share price as the cost of a unit of a firm's stock.

Firm Size (The Moderating Variable)

A company's magnitude is gauged by factors such as its total asset value, sales, profit, and tax expenses, among others. Larger companies tend to garner more profit owing to their ability to exploit their scale for enhanced profitability, as highlighted by Safitri and Affandi (2021). Abeyrathna and Priyadarshana (2019) emphasized the significance of firm size, stating that larger firms can manufacture goods at lower costs, thus yielding higher profits compared to smaller counterparts, consequently attracting more investors and leading to higher share prices. Voulgaris and Lemonakis (2014) underscored that larger firms, being more diversified, possess greater market power and employ advanced technology, which positively impacts profitability and return on earnings. Lai (2013) defines a moderating variable as an independent factor influencing the strength and/or direction of the relationship between other independent variables and a dependent variable. Pervaiz and Akran (2019) highlighted the utility of firm size as a moderator in the

relationship between financial performance indicators and share price. According to this study, firm size is defined as the total value of a firm expressed as the natural logarithm of its total assets.

Theoretical Foundation: Signaling Theory

This research is rooted in Spence's (1973) Signaling theory, which suggests that management typically possesses more accurate and timely information about a firm compared to outside investors. Spence (1973) developed the signaling theory, which posits that management typically possesses more accurate and timely information about a firm than external investors. Signals are cues transmitted from one party to another to influence outcomes or decisions. This theory arose from studying information economics in markets where buyers and sellers interacted with unequal information (Spence, 1973). It has been widely applied to examine information imbalances in various business settings. To bridge this gap, managers use earnings as a means to convey private information to shareholders Al-Malkawi, 2010). Signaling theory assumes information asymmetry and a shared interest in quality between parties involved in transactions or relationships. It provides a framework for overcoming information imbalances by sending credible signals. The concept of costly signals underscores the importance of signals that are hard to fake, ensuring their credibility. Critics argue that signaling theory's reliance on rational decision-making is overly optimistic, as real-world decisions are influenced by emotions, biases, and heuristics. Moreover, it may oversimplify decision-making by focusing solely on signaling, neglecting other influential factors like social norms and chance events.

Empirical Review

Feriawan and Afdal (2024) examined the individual effects of earnings per share (EPS), price-earnings ratio (PER), price-to-book value (PBV), and debt-to-equity ratio (DER) on stock returns. They used secondary data from the annual financial statements of 20 manufacturing companies listed on the Indonesian Stock Exchange (IDX) from 2019 to 2021, employing purposive sampling. The analysis used Ordinary Least Squares multiple linear regression within a quantitative approach. The findings indicated that EPS, PER, and DER had a positive and significant impact on stock returns, while PBV showed a positive but insignificant effect. The study suggested expanding the scope to include more companies and noted that the most recent data was from 2021.

Odey *et al*. (2023) specifically examined how profitability, liquidity, and efficiency influence stock market performance, measured by the all-share index in Nigeria. They utilized annual time series data from the Central Bank of Nigeria and the Nigerian Exchange Group. The financial indicators were represented by profitability, liquidity, and efficiency, while stock market performance was measured by the all-share index. The analysis employed bound testing and Autoregressive Distributed Lag model estimation. The study revealed a long-term relationship among the variables, with a positive and significant correlation between market profitability, liquidity, efficiency, and stock market performance in Nigeria. Recommendations included implementing policies like good corporate governance to maximize investor profit, make the market more attractive, and facilitate firms' ability to raise capital and manage debt. However, the study did not specify the period covered.

Sundoro *et al*. (2023) investigated how earnings per share, price-earnings ratio, and dividend per share influence the share prices of manufacturing companies listed on the Indonesian Stock Exchange from 2018 to 2021. The study aimed to evaluate the effects of these financial indicators on share prices. A sample of 60 manufacturing companies was selected using purposive sampling, and data was collected through documentation. The analysis employed Ordinary Least Squares multiple linear regression. The results indicated that earnings per share and price-earnings ratio had a positive and significant effect on share prices, while dividends per share showed no effect. The study suggested future research extend beyond IDX-listed manufacturing companies for broader insights, noting that the most recent data was from 2021.

Mao (2023) analyzed the impact of financial performance indicators on stock prices. The study aimed to assess how earnings per share, return on equity, return on assets, sales growth, price-to-earnings ratio, current ratio, gross profit margin, quick ratio, and asset turnover affect share prices. Examining 30 listed companies from 2017 to 2021, data were gathered from balance sheets, financial statements, and online sources. Multivariate regression revealed significant effects of gross profit margin and price-to-earnings ratio on stock prices, while other variables showed no significant impact. The study did not offer recommendations but noted the potential for generalization due to the use of eight independent variables.

Nasrallah *et al*. (2023) evaluated the influence of financial performance metrics on stock returns among manufacturing companies listed on the Indonesian Stock Exchange from 2018 to 2022. The study aimed to determine the effects of the current ratio, return on assets, debt-to-equity ratio, and return on equity on share prices. The sample consisted of six manufacturing firms selected through purposive sampling. Data were collected from financial reports and analyzed using descriptive statistics, classical assumption testing, and multiple linear regression in SPSS version 24. The results indicated that the current ratio and return on assets significantly affected stock returns, while the debt-to-equity ratio and return on equity did not. The study recommended that companies improve their financial performance to attract investor interest. The inclusion of 2022 data enhanced the study's currency.

Maculuve and Obalade (2023) investigated the effects of refined economic value added, economic value-added momentum, and economic value added (economic-based indicators), in conjunction with traditional accounting-based indicators like return on equity and earnings per share, on shareholders' returns. They employed fixed-effect instrumental variable regression and panel quantile regression techniques to analyze data from 49 non-financial companies listed on the Johannesburg Stock Exchange from 2007 to 2021. Their findings indicated that economic value added negatively predicts shareholder returns, while refined economic value added positively influences them. Additionally, the positive coefficient for refined economic value added increased across conditional quantiles. The study concluded that refined economic value added is a more effective and realistic determinant of shareholder value on the Johannesburg Stock Exchange compared to other metrics. The study did not make specific recommendations.

Kelvin *et al*. (2022) explored the impact of financial performance on stock prices within the banking sector listed on the Indonesia Stock Exchange. Their objectives were to assess the effects of the capital adequacy ratio, non-performing loans, return on assets, and liabilities on stock prices. The study included all banks listed on the IDX from 2017 to 2021, using purposive sampling criteria

for banks with a core capital of 30 trillion Rupiah in 2021. CAMEL analysis was conducted using CAR, NPL, ROA, and LDR ratios, with multiple regression analysis techniques. The findings revealed that the CAR, NPL, ROA, and LDR ratios did not significantly affect stock prices. Including 2021 data greatly enhanced the relevance of the findings.

Hartuti *et al*. (2022) examined the influence of financial performance metrics on share prices. Their objectives were to determine how liquidity, profitability, and solvency ratios influence stock prices of building construction sub-sector companies listed on the Indonesia Stock Exchange (IDX) from 2014 to 2020. The study included 18 companies listed in the building construction sub-sector on the IDX, using purposive sampling criteria and multiple linear regression analysis. The results showed that solvency significantly positively affects stock price, liquidity has a negative insignificant effect, and profitability has an insignificant positive effect on stock price. The study recommended that investors consider a company's solvency ratio before making stock purchases, as a higher solvency ratio can potentially increase stock price. However, the use of 2020 data as the most recent in the 2022 study introduced currency problems.

Onibiyo (2022) estimated the effects of selected financial performance indicators on share prices of thirteen listed deposit money banks in Nigeria from 2010 to 2020. The objectives were to understand how economic value added, net interest margin, free cash flow, earnings per share, and returns on equity influenced share prices. Using panel ordinary least squares due to the sensitivity of the data, the study revealed that economic value added and net interest margin negatively impacted share prices, while free cash flow had a positive effect. There were no significant effects observed for earnings per share and returns on equity. The study recommended that listed deposit money banks be discerning about products or projects with negative net present values to protect their economic value-added streams. However, the use of 2020 data limited the currency of the study.

Gaps in Literature

This study addresses several key gaps identified in the existing literature. Firstly, it tackles methodological deficiencies found in previous research, such as the omission of critical diagnostic tests like autocorrelation and the Breusch-Pagan Lagrangian Multiplier test prior to regression analysis. By incorporating these tests, the study aims to determine the presence of correlation among independent variables and decide whether ordinary least squares (OLS) regression or random effect (RE) models are more suitable for estimation. Secondly, the study introduces firm size as a moderating variable in examining the relationship between financial performance indicators and share prices of commercial banking institutions in Nigeria. This addition fills a significant gap in the literature, as earlier studies did not include moderating variables in their analyses. Additionally, the study addresses environmental gaps by focusing specifically on Nigerian firms, while previous research predominantly examined companies from other countries. This geographic focus rectifies the lack of recent Nigerian studies and ensures a more relevant context for the analysis. Furthermore, the study resolves data gaps by utilizing the latest available data from 2022 and extending the analysis over thirteen years, thereby providing a more comprehensive and up-to-date understanding of the relationship between the variables under investigation.

Methodology

The methodology used in this study is an ex-post facto design, leveraging historical data from commercial banking institutions in Nigeria between 2010 and 2022. This approach, known for its ease of verification, has been employed in numerous previous studies, such as those by Odey et al. (2023), Sundoro et al. (2023), and Onibiyo et al. (2022). The study focuses on fourteen commercial banks listed on the Nigerian Exchange Group as of December 31, 2022, namely: Access Bank Plc, EcoBank Transnational Incorporated Plc, Fidelity Bank Plc, First City Monument Bank Group Plc, First Bank Holdings Plc, Guaranty Trust Bank, Jaiz Bank Plc, Stanbic IBTC Holdings Plc, Sterling Bank Plc, Union Bank Plc, United Bank for Africa, Unity Bank Plc, Wema Bank Plc, and Zenith Bank Plc.

Of these fourteen institutions, thirteen were selected for the study. Jaiz Bank Plc, which was established in 2017, was excluded due to incomplete data for the years 2010 to 2016. The study used purposive sampling to eliminate units that did not meet the study's objectives. The secondary panel data were obtained from the financial statements and accounts of the selected banks, accessible via their websites. For data analysis, the study applied pooled Ordinary Least Squares (OLS) estimation, following the Breusch-Pagan Lagrangian Multiplier test for randomization.

Variable Measurement and Justification

Variable	Type	Measurement	Justification
Share Price (SP)	Dependent	Average market price of a share at year-end.	Feriawan and Afdal (2024, Silvia *et al*. (2022), Odey *et al*. (2023);
Earnings per Share (EPS)	Independent	Share of net profit allotted to a unit of stock.	Sundoro *et al*. (2023), Onibiyo (2022).
Debt-to-Equity Ratio (DER)	Independent	Proportion of Total Assets that is made up of borrowed funds	Feriawan and Afdal (2024), Nasrallah *et al*. (2023), Rusmita *et al.* (2021).
Firm Size (FSZ)	Moderating	Natural logarithm of total assets.	Utami and Absari (2022), Sururi *et al.* (2021).

Source: Researchers' Compilation, 2025.

Model Specification

This study employs a two-model approach for clarity in presentation. Model I investigates the direct relationship between the independent variables—earnings per share (EPS) and debt-to-equity ratio (DER)—and the dependent variable, share price (SP), while also considering the moderating effect of firm size in this direct relationship. On the other hand, Model II examines the indirect relationship between the independent and dependent variables, factoring in the moderating effect of firm size.

Model I
The specified linear equation for model I as used by Jasman and Kasran (2017) is presented below:
SP = *f*(ESP + DER + FSZ).

The econometric representation of the above equation is:
$SP_{it} = \beta_0 + \beta_1 ESP_{it} + \beta_2 DER_{it} + \beta_3 FSZ_{it} + \mu_{it}$.

Model II: The specified linear equation for model II is as follows:
SP = *f*(ESP + DER + FSZ*EPS+ FSZ*DER).
In econometric terms, the above equation represented as shown below:
$SP_{it} = \beta_0 + \beta_1 ESP_{it} + \beta_2 DER_{it} + \beta_3 FSZ*EPS_{it} + \beta_4 FSZ*DER_{it} + \mu_{it}$.
Where:
SP = a predictor for share price (dependent variable);
β_0 = Intercept constant;
$\beta_1 - \beta_2$ = Coefficients of the independent variables;
$\beta_3 - \beta_4$ = Coefficients of the firm size-moderated variables;
EPS = a predictor for earnings per share;
DER = a predictor for debt-to-equity ratio;
f = functional relationship;
i = Firms; and
t = Periods.

Results and Discussion

The study utilized thirteen years of data encompassing share price (SP), earnings per share (EPS), Debt-to-equity ratio (DER), price-to-earnings ratio (PER), and the natural logarithm of firm size (LOGFSZ).

Descriptive Statistics

Table 2 below presents the descriptive statistics which describes the variables in terms of their means, extent of dispersion and their minimum and maximum values.

Table 2 Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
SP	169	11.019	11.673	0.5	54
EPS	169	36.79	108.262	-128	874
DER	169	3.148	7.165	0.003	38.689
LOGFSZ	169	10.495	0.892	7.18	11.81

Source: stata 15, 2025.

The findings in Table 2 indicate that the average share price (SP) over the thirteen-year study period is N11, with a mean value of 11.019. The standard deviation of the share price, at 11.673, exceeds the mean, suggesting a wide dispersion from the average and indicating a higher growth rate. Similarly, the mean values of EPS and DER are 36.79 and 3.148, respectively, both of which are lower than their standard deviations (108.262 and 7.165). This implies significant dispersion and faster growth rates for these variables. In contrast, FSZ shows lower standard deviations (0.892) compared to their means, suggesting limited dispersion and slower growth. Each variable's mean

falls within the range of its minimum and maximum values, indicating a balanced distribution of data, as expected.

Normality Test

Table 3 also presents the results of the normality test, which employed Shapiro-Wilk techniques to determine the distribution pattern of the study variables. According to the decision criterion, models with a p-value of 0.05 or less indicate asymmetric (abnormal) residual distributions, while models with a p-value greater than 0.05 suggest symmetric (normal) residual distributions.

Table 3 Data Normality Data

Variable	Obs	W	V	z	Prob>z
residuals	169	0.712	4.6624	0.027	0.2003

Source: stata 15, 2025.

The findings presented in Table 3 indicate that the model has a p-value of 0.2003, which exceeds the threshold of 0.05. Thus, based on the decision criterion, the residuals of the model exhibit a symmetric (normal) distribution. This implies that, assuming it passes the relevant diagnostic tests, the model can be accurately estimated using ordinary least squares regression without violating the assumption of linearity.

Multicollinearity Test

Table 4 shows the results of the multicollinearity assessment to identify multicollinearity among the independent variables. According to the decision criteria outlined by Hair et al. (2005), a correlation exceeding 0.85 between any two independent variables indicates multicollinearity. If no independent variable correlations exceed 0.85, there is no multicollinearity concern within the model.

Table 4: Multicollinearity Test

	SP	EPS	DER	LOGFSZ
SP	1.0000			
EPS	0.1471	1.0000		
DER	-0.2637	-0.1082	1.0000	
LOGFSZ	0.0735	0.0552	0.0946	1.0000

Source: stata 15, 2025.

Table 4 above illustrates that the debt-to-equity ratio (DER) is the independent variable exhibiting a negative correlation with the share price (dependent variable) at -0.2637. This suggests that an increase in the proportion of debt relative to equity serves as a negative signal, dissuading investors and consequently reducing the share price. However, DER exhibits a negative correlation with both EPS at -0.1092, indicating that an increase in debt undermines earnings. Furthermore, the moderating variable FSZ exhibits a positive correlation with EPS and DER at 0.0352 and 0.0946respectively. These findings indicate that there is no correlation exceeding the threshold of

0.85 between any pair of independent variables, suggesting that multicollinearity is not a concern in this model.

B**reusch-Pagan Lagrangian Multiplier (LM) for Random Effects**

Table 5 displays the outcomes of the Lagrangian Multiplier (LM) test, aiming to ascertain whether pooled Ordinary Least Square (OLS) or random effect (RE) would be the more suitable choice for model estimation. According to the decision rule, random effect is chosen if the test reveals a p-value exceeding 0.05, whereas pooled OLS is selected if the p-value is equal to or less than 0.05.

Table 5: LM Test

chibar2(01)	11.82
Prob > chibar2	0.0003

Source: STATA 15, 2024.

The p-value of 0.0003 obtained from Table 8 above significantly falls below the critical threshold of 0.05. Consequently, according to the decision criterion, the estimation of random effects (RE) is dismissed, and ordinary least squares (OLS) are preferred for model estimation. Therefore, pooled OLS will be employed for estimating the models.

Regression Analysis (Model I)

Table 6 presents the results of the Model I regression analysis utilizing pooled Ordinary Least Squares methodology to establish the direct association between the independent and dependent variables.

Table 6: Regression Analysis (Model I)

SP	Coef.	Std. Err.	t	P>|t|
EPS	0.237	0.100	2.36	0.032**
DER	-0.405	0.125	-3.25	0.001***
LOGFSZ	0.654	1.016	0.64	0.520
_cons	0.004	0.005	0.73	0.467
R-Squared				0.691
Adj. R-squared				0.622
F-statistics				13.19
Prob>F				0.009

Source: stata 15, 2025.

Table 6 above indicates an adjusted coefficient of determination of 0.622, suggesting that the two independent variables - earnings per share (EPS) and debt-to-equity ratio (DER), along with the moderating variable, firm size (FSZ), collectively explain approximately 62% of the variations in share prices among the commercial banking institutions listed on the Nigerian Exchange Group from 2010 to 2022. The regression analysis also reveals a positive F-statistic of 13.19 and a prob> F of 0.009 (significant at the 1% level), indicating the model's fitness and the non-coincidental nature of the results.

Regression Analysis (Model II)

Table 7 illustrates the regression analysis results of Model II, conducted using pooled ordinary least square (OLS) estimation methods.

Table 7: Model II Regression Analysis

SP	Coef.	Std. Err.	t	P>|t|
EPS	0.041	0.013	3.19	0.002***
DER	-0.601	0.441	-1.36	0.175
FSZ_EPS	3.381	1.273	2.67	0.008
FSZ_DER	-2.002	5.192	-0.39	0.700
_cons	0.039	0.097	0.41	0.642
R-Squared				0.599
Adj R-squared				0.561
F-statistics				23.71
Prob>F				0.0005

Source: stata 15, 2025

Table 7 illustrates that the independent variables, including Earnings per share (EPS) and debt-to-equity ratio (DER) along with their moderated forms by firm size, collectively yielded an adjusted R-squared value of 0.561. This indicates that they accounted for approximately 56% of the fluctuations in share prices among the analyzed commercial banking institutions from 2010 to 2022. The F-statistics of 23.71, with a prob>F of 0.0005 (significant at the 1% level), affirm the fitness of the model and the reliability of the results obtained.

Test of Hypotheses

The decision rule for hypothesis testing entails rejecting the null hypothesis if the p-value is less than or equal to 0.05, or accepting it if the p-value exceeds 0.05.

Hypothesis One

Analysis of Table 6 demonstrates a significant (0.032) positive (2.36) effect of earnings per share (EPS) and the share price of Nigerian commercial banking institutions spanning from 2010 to 2022. These findings lead to the rejection of null hypothesis one (Ho_1), which posited no significant relationship between earnings per share and share price.

Hypothesis Two

The analysis presented in Table 6 demonstrates a significant negative effect (p = 0.001, coefficient = -3.25) of the debt-to-equity ratio (DER) and the share price of the sampled Nigerian commercial banking institutions over the period 2010-2022. Consequently, hypothesis two (Ho_2), which asserts the absence of a significant relationship between debt-to-equity ratio and share price, is rejected.

Hypothesis Three

Table 7 presented findings suggesting that the size of firms in Nigeria's quoted commercial banking sector between 2010 and 2022 had a significant and positive moderating impact (2.67) on the correlation between earnings per share and share price. This outcome led to the rejection of hypothesis three (Ho_3), which proposed that firm size had no significant moderating influence on this correlation between earnings per share and share price.

Hypothesis Four

Table 7 presented findings also reveals that the size of firms in Nigeria's quoted commercial banking sector between 2010 and 2022 had an insignificant negative moderating impact (10.39) on the correlation between debt-to equity ratio and share price. This result led to the acceptance of hypothesis four (Ho_4), which proposed that firm size had no significant moderating influence on this correlation between debt-to equity ratio and share price.

Discussion of Findings

The findings presented in Table 6 indicate a significant effect of earnings per share (EPS) on share price of Nigerian commercial banking institutions. Specifically, the analysis reveals a significant positive effect with a p-value of 0.032, a t-statistic of 2.36, and a coefficient of 0.237. These results suggest that all else being equal, a one-unit increase in EPS corresponds to approximately a 24 kobo rise in share price for the companies examined. This conclusion aligns with previous studies by Feriawan and Afdal (2024), Sundoro *et al*. (2023), which similarly found a significant relationship between EPS and share price.

In Table 7 of this study, it was discovered that the debt-to-equity ratio (DER) exhibits a significant effect on share price of Nigerian commercial banking institutions, with a p-value of 0.001, a t-statistic of -3.25, and a coefficient of 0.405. These findings suggest that, while holding all other independent variables constant, a one-unit increase in the debt-to-equity ratio results in an approximate 41 kobo reduction in the share price of the analyzed firms. This discovery aligns with previous research by Feriawan and Afdal (2024) and Almansour *et al*. (2020), who also observed a significant relationship between the debt-to-equity ratio and share price.

Table 8 illustrates that the size of a firm significantly influences the relationship between earnings per share (EPS) and share price among commercial banking institutions in Nigeria from 2010 to 2022. This effect is substantial, with a coefficient of 3.381, a t-value of 2.67, and a p-value of 0.008, indicating significance at the 1% level. These findings suggest that firm size plays a pivotal role in altering the direction of the EPS-share price relationship. This outcome aligns with Model I, where EPS directly affects share price significantly.

Additionally, Table 8 findings reveal that firm size has an insignificant negative moderating effect on the relationship on debt-to-equity ratio (DER) and share price among Nigerian commercial banking institutions from 2010 to 2022. The coefficient of -2.002, a t-value of -0.39, and a p-value of 0.700 confirm the lack of significance across all levels. This suggests that firm size does not significantly affect the relationship between DER and share price, contradicting the significant

effect observed in Model I. Nevertheless, the negative direction remains consistent across both models.

Conclusion and Recommendations

Earnings per share serves as a robust indicator of financial performance, enticing investors to allocate their capital to firms due to their notable impact on share prices. Conversely, a heightened debt-to-equity ratio signals excessive indebtedness which dissuades investors from engaging with such companies having a substantial negative impact on share prices. Firm size plays a pivotal role as a moderator in the correlation between earnings per share and debt-to-equity ratio with share prices, exerting significant moderating effects on these associations.

Based on the findings of this study, the following recommendations are proposed:
i) It is advisable for commercial banking institutions to consistently provide attractive returns on investment in the form of earnings per share. This practice not only encourages existing investors to expand their investments but also attracts new ones, thereby positively impacting share prices.

ii) Nigerian commercial banking institutions should actively discourage excessive borrowing, as a higher debt-to-equity ratio compared to equity can deter investors, leading to a significant negative impact on share prices.

iii) When examining the influence of a third variable on the relationship between earnings per share and share price in Nigerian commercial banking institutions, firm size should be taken into account as a pertinent factor.

iv) Firm size should be considered when assessing the effect of a moderator on the relationship between debt-to-equity ratio and share price of commercial banking institutions in Nigeria, as it exhibits a significant but negative impact on this relationship.

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