



## ISIR Journal of Business and Management Studies (ISIRJBMS)

ISSN: 3048-7684 (Online)

Frequency: Bimonthly

Published By ISIR Publisher

Journal Homepage Link- <https://isirpublisher.com/isirjbms-home/>



### Determinants of firm performance in the Nigeria consumer goods sector: The role of audit quality and leverage.

By

Dr P.C Okoli;<sup>1</sup> Dr N.O. Ohajiano;<sup>2</sup> Professor N.S. Agubata;<sup>3</sup>

<sup>123</sup>Nnamdi Azikiwe University, Awka. Chukwuemeka Odumegwu Ojukwu University, Igbariam.



#### Article History

Received: 10/06/2026

Accepted: 17/06/2026

Published: 19/06/2026

#### Vol – 3 Issue – 3

PP: -121-130

DOI:10.5281/zenodo.  
20764619

#### Abstract

The study examined the effect of firm-level attributes on the performance of Nigerian consumer goods firms. The study's specific objective was to determine the effect of audit quality attribute and leverage attribute on the return on investment of listed Nigeria consumer goods firm. Ex-post facto research design was adopted. The population comprised all the 20 listed consumer goods firms in Nigeria. Purposive sampling was used in selecting a sample size of 15 from them. Secondary data were sourced from firms' annual reports over a thirteen-year period, 2012-2024. Descriptive analysis was conducted alongside correlational analysis, cross-sectional dependence test and panel heteroskedasticity test. The hypotheses were testing using panel estimated generalized least square at 5% significance level. It was found that: audit quality has a positive and significant effect on firm performance ( $\beta = 0.081920$ ,  $p = 0.0000$ ); leverage has a negative and significant effect on firm performance ( $\beta = -0.001604$ ,  $p = 0.0000$ ). In conclusion, the presence of high-quality auditors plays a meaningful role in strengthening financial outcomes, suggesting that stronger external monitoring enhances the credibility of reported figures and encourages managerial discipline, both of which support healthier operational decisions. The study recommended that the financial managers of consumer goods firms: reduce excessive dependence on debt financing by adopting more balanced capital structure strategies that limit interest burdens and preserve the firm's ability to generate sustainable returns.

**KEYWORDS:** Firm-level attribute, Audit quality, Leverage, Return on investment.

#### INTRODUCTION

Financial performance remains a vital concern for stakeholders such as managers, government, investors and policy makers. Increasingly competitive and uncertain economic environment being faced in Nigeria, many firms have continued to struggle in order to achieve sustainable financial growth. While numerous macroeconomic policies and institutional reform have aimed to stimulate business performance, many businesses organization still experience declining profitability, unstable cashflow and weak corporate accountability. A major challenge facing Nigerian firms today is weak audit practices and poor leverage decisions among Nigerian firms which often lead to inaccurate financial reporting and suboptimal investment decisions. These problems suggests that the quality of auditing -a mechanism designed to ensure credibility and reliability in financial reporting may significantly influence firm's financial performance.

Another growing concern relates to leverage decisions among Nigerian firms. Many organizations rely heavily on debt financing either to sustain operations or to pursue expansion. However, high leverage can increase financial vulnerability, mostly in a volatile economy characterized by increasing interest rates and fluctuating exchange values. Financial leverage facilitated by debt, incentivizes business owners to manage operations efficiently to meet financial obligation and enhance profitability, moreover, interest payment on debt is typically tax deductible making debt financing an attractive option from a cost perspective (Eke et al,2024). However, the decision to leverage debt entails inherent risk such as failure to meet repayment obligations and could lead to severe consequences, including potential loss of assets pledged as collateral (Liljebloom & Maury,2016) In this context, investment decisions are not only determined by profitability expectations alone but also by how effective firms manage their audit quality and leverage to ensure sound financial performance. Firms with high audit quality and optimal leverage ratios are better equipped to minimize risks,



strengthen financial performance and improve operational efficiency. Conversely, weak audit oversight and excessive debt exposure can distort financial decision making and reduce long-term sustainability.

Therefore, this study seeks to examine how audit quality and leverage influence financial performance in Nigeria consumer goods firms with a focus on how improved financial oversight and prudent capital management can enhance corporate performance and boost investor's confidence. Understanding these dynamics is essential in formulating policies that can promote accountability, transparency and financial stability within Nigeria's corporate sector.

### Objectives of the study

The broad objectives of this study is to examine the effect of firm-level attributes on corporate financial performance of firms in Nigeria. The specific objectives of this study are:

1. To examine the effect of audit quality attribute on firm performance in Nigeria consumer goods firms.
2. 1. To examine the effect of leverage quality attribute on firm performance in Nigeria consumer goods firms.

## REVIEW OF RELATED LITERATURE.

### Conceptual framework.

#### Firm-Level Attributes

Firm Level Attributes refer to the distinctive qualities that characterize a business as a single unit (Ayuba, et al., 2018). These qualities are shaped by the organization's history, its choices, its position in the economy, and the way it organizes its resources (Haran et al., 2021). They capture what separates one company from another even when they operate in the same industry. They sit close to the identity of the organization and remain relatively stable over time, although they can evolve as circumstances shift. In other words, firm level attributes can be seen as the stable qualities that influence how a company behaves in competitive settings (Nworie et al., 2022). They influence how a business reacts to opportunities, how it responds to pressure, and how it positions itself among rivals. These qualities help observers grasp why one company grows quickly while another remains small, even when they face similar external conditions. They shape the character of the company's actions and the patterns of its decisions.

Firm level attributes direct the company's activities by shaping what is possible and what is unlikely. They guide how a firm invests, how it handles productive tasks, and how it interacts with customers and partners. Because they arise from choices that accumulate over time, they carry a sense of continuity that links past behavior with present practice. Firm Level Attributes also function as signals to the outside world. Investors, customers, and regulators often rely on these qualities to gauge the stability, reliability, and long-term prospects of a company (Ayuba, et al., 2018). They influence perceptions about the firm's strength and adaptability. In this way they help shape the firm's broader reputation and can sway the level of trust placed in it.

**Audit quality:** This is the ability of an auditor to detect material misstatements or errors in the financial statement and report them accurately and objectively. Audit quality refers to matters that contribute to likelihood that the auditor will achieve the fundamental objective of obtaining reasonable assurance that the financial report is free of material misstatement and ensure that material deficiencies detected are addressed or communicated through the audit report (Emeka-Nwokeji et al, 2022).

De-Fong and Zhang (2014) conceptualized audit quality as the assurance that financial statements accurately reflect the firm's core economics and distinguishing characteristics and it's actual state of affairs. DeAngelo (1981) conceptualized audit quality as the market assessment of the likelihood that the auditor detect significant distortions of the financial statements or employers accounting system, report significant distortion of the financial statements or employers accounting system. Arens et al (2011), conceptualized audit quality as how well an audit detects and reports material misstatement in financial statement, the detection aspects are a reflection of auditor's competence, whereas the reporting is a reflection of auditor's integrity or ethics especially independence. Saputra (2015) defined audit quality as an audit conducted in accordance with auditing standards generally acceptable that can detect and report material misstatement the financial statement including disclosure relating either caused by an error, fraud or fault, is able to provide assurance of internal controls and capable to provide going concern warnings.

**Leverage:** This is the use of debt financing to increase the potential return on investment (ROI) of a project or business. Brealey, Myers and Allen (2020), conceptualized leverage as borrowing of funds to finance business operations, acquisitions or investment with the aim of generating returns that exceed the cost of borrowing. Leverage can be defined as the extent to which company uses fixed income security such as preferred equity and debt to finance it's business activities. (Yegon,2015). Kasmir (2019) conceptualized leverage as the ratio used by investors to measure the composition of the company's total debt to total equity.

#### Firm performance

Peterson, Gijssbers and Wilks (2003) conceptualized firm performance as the capability to achieve accomplishment consistent with set of objectives of the company as well as considering their relevance to it's users. Firm performance is a particular result obtained in management, economics and marketing that gives characteristics of competitiveness, efficiency and effectiveness to the organization and it's structural and procedural components. (Verboncu & Zalman,2005).Lebans and Euske (2006) conceptualised performance as a set of financial and non- financial indicators that offers information on the level of accomplishments of objectives and results.

For the purpose of this study, firm performance will be proxied with return on investment (ROI).

**Return on investment**

provides insight into the profitability and overall value of an organization’s investment

This is a financial indicator in the financial world that enable organization navigate the challenges of investment and financial decision making. It is an essential key performance indicator. Return on investment shows how much return is earned compared to the amount initially invested. It is a strategic guide that directs business towards effective financial choices and enables them to assess the performance and efficiency of various projects (Majka,2024)

Return on investment (ROI) often called Return on asset (ROA) is the company ability to measures with totality to generated profitability with total assets that are ready in the company. ROA equal with ROI theoretically. The formula for return on investment (ROI) is

$$ROI = \frac{\text{Earning after tax (EAT)}}{\text{Total Assets.}}$$

**Theoretical framework**

This work was anchored on signaling theory and pecking order theory.

Signaling theory explains how firms communicate credible information to external stakeholders through observable action. Audit quality serves as a key signal of the firm’s transparency, integrity and financial reporting reliability. High audit quality reduces doubt about managerial opportunism and assures investors that firm reported performance and financial position are trustworthy. This positive signal strengthens investor’s confidence, encourages better resource allocation and shapes the quality of investment decision which in turn improves firm performance. Since pecking order theory explains how firms follow a financing hierarchy, showing reliance on debt when internal resources are insufficient, pecking order theory suggests that firms with lower information asymmetry or strong financial credibility can access debt more easily and at lower cost. Leverage is an outcome of firm’s rational financing preference, it influences the ability to undertake investment decisions and this shapes firm performance.

**Empirical Review**

Yeon (2016) analysed the moderating effect of corporate governance structure among CSR and the corporate performance from 2008-2013. The independent variable and the dependent variable were corporate governance structure and corporate social responsibility respectively while the moderating variable was corporate social responsibility. Secondary data were collected from corporations for a period of 6 years. OLS regression method was used to analyse the data. From the analysis, it was found that there was a positive and significant association between corporate social responsibility and corporate performance. There was a moderating effect between corporate social responsibility and performance.

Badara (2016) examines the moderating effect of firm size on the relationship between board structure and financial performance of Deposit Money Banks in Nigeria. This study also analysed the role of bank size (log of the asset) as a moderator of the relationship between board size and board independence with Deposit Money Banks ((DMB) financial performance in Nigeria. Data of the study were obtained from the financial statement of the Nigerian Deposit Money Banks for the period 2005-2015. The data were analysed by regression models using Stata SE 12 software. The results show that the relationship between determinants of board structure (board size, and board independence) and financial performance moderated by firm size.

Namazi and Namazi (2017) studies the empirical impacts of moderating (MO) and mediating (ME) variables in business research. Auditing reports. size, complexity of operation, and risk of the firm were selected as the independent variable, moderating variable, and mediating variable, respectively. The selection was carried out for over 15 years of research (1455 year-firm data) for the firms listed on the Tehran Stock Exchange (TSE). The following techniques were employed to test the hypothesis: Pearson correlation, Levin, Lin, and Chu test, Hausman unit root, and multiple regression. The results showed that there is a significant relationship between the size of the firm and the type of the auditing report. Moreover, a significant relationship between the size of the company and the type of auditing report is shown in the inventory value of the moderating variables. Furthermore, the same has been displayed in return on the assets and institutional ownership of the mediating variables. However, inventory and institutional ownership showed a significant statistical association when moderating and mediating variables are considered simultaneously.

Utomo, Pamungkas and Machmuddah (2018) studies the effect of accounting conservatism on quality of earnings and moderating effects of managerial ownership, independent commissioners and audit committees on the relationship between accounting conservatism and quality of earnings. This research includes correlational research and is quantitative. The population that is the object of this study is all companies in LQ 45 that are on the Indonesia Stock Exchange (IDX) during 2014-2016. The sampling technique uses purposive sampling method with a total sample of 39. Hypothesis testing was carried out using the multiple linear regression analysis. The results show that accounting conservatism has a positive effect on quality of earnings. Managerial ownership as a moderating variable has a significant effect on accounting conservatism relationship to quality of earnings. Independent commissioners and audit committees as moderating variables do not have a significant influence on the relationship of accounting conservatism to quality of earnings.

Yusuf (2018) examines the moderating effect of audit committee on the relationship between audit quality attributes and earnings management of listed manufacturing firms in Nigeria for a period of ten years, (2007-2016). Audit quality attributes were measured by auditor size, auditor

\*Corresponding Author: **Dr P.C Okoli.**



independence, auditor tenure and auditor industry specialization, while earnings management was measured by discretionary accruals which was obtained using performance matched discretionary accruals model by Kothari, Leone and Wasley (2005). The population consists of the thirty-eight (38) listed manufacturing companies as at 31st December, 2016. Sample of twenty-eight firms were utilized based on availability of data. Secondary source of data collection was used and the data were extracted from the annual reports and accounts of the firms. Multiple regression method was used and Stata 13 was employed as a tool for data analysis. The result showed that auditor size, auditor independence, auditor tenure and auditor industry specialization have significant effects on earnings management of listed manufacturing companies in Nigeria.

Natsir and Yusbardini (2019) investigate the impact of capital structure and firm size on firm value using profitability as an intervening variable. This study was conducted among manufacturing firms in various industrial sectors in Indonesia Stock Exchange (IDX) from 2013-2017. The dependent variable is the firm value which was measured PBV. The independent variables were capital structure measured by DER and firm value measured by ln (total assets). Profitability as intervening variable was measured by ROA. This study used secondary data extracted from the financial statements of 17 public firms. Analysis was conducted using multiple regressions of panel data, path analysis and Sobel test.

The results indicate that firm size and capital structure had positive and significant effect on profitability, while firm size, capital structure and profitability have positive and significant impact on firm value. Profitability had significant effect in mediating the association between capital structure and firm value.

Khaoula and Moez (2019) ascertains the relationship between tax planning and firm value and explores the moderating effect of board characteristics on the relationship between tax planning and firm value in Europe. A sample was collected from 105 firms from Europe for a period of 8 years. We found a positive relationship between tax planning and firm value. In addition, it was discovered that board independence, board diversity, and CEO's dual functions have a significant and negative effect on the relationship between tax planning and firm value.

Saif, Meo and Usman (2020) investigates moderating effect of cash flows on the association between corporate investment decision and firm performance. Sample for the study comprises of 68 nonfinancial firms. Data for this study were gathered from companies audited annual reports and business recorder websites of Pakistan Stock Exchange (PSX) from 2013–2017. Simple multiple regression and moderated regression analysis were used for the analysis. The overall result of the study indicates that corporate investment decisions significantly influence the performance of the firm. Moreover, the results of the overall moderated regression show that cash flows negatively and significantly moderate the relationship between corporate investment decisions and

firm performance. The study results reveal that investment decisions have a greater significant effect on accounting base performance more than market base performance.

Abdullahi, Dachomo, Jibril and Duniya (2020) examines the moderating effect of audit quality on corporate attributes and financial performance of listed manufacturing companies in Nigeria for the period of 14 years, from 2004 to 2018. Secondary data were obtained from a population of six manufacturing companies through their annual reports and accounts. Corporate attributes as an independent variable were measured by tangibility, leverage and liquidity. Audit quality was used as moderating variable. The dependent variable of the study was firm performance which was measured using return on assets. The study adopted a random effect multiple regression methods in analysing the data. The result showed that leverage has a significant positive effect on financial performance, liquidity and tangibility has insignificant negative effect on the financial performance of the firms, while leverage and audit quality as moderating variable of the study has a significant negative impact on the financial performance of the firms.

Lawal and Hassan (2021) ascertains moderating effect of financial constraint on relationship between accounting conservatism and investment efficiency of consumer goods firms listed on the Nigerian Stock Exchange market. The study used correlational and ex-post facto research design in a sample of 27 consumer goods firms. Secondary data for a period of 10 years (2010-2019) was used, and Advanced panel multiple regressions was employed in data analysis. The results obtained from this research indicate that there is a significant relationship between accounting conservatism and investment efficiency. The study also found that there is a significant moderation effect between accounting conservatism and financial constraint on defining investment efficiency of consumer goods firms in Nigeria. The study concludes by showing that financial constraint has antagonistic role to accounting conservatism on explaining investment efficiency thus, conservatism may not improve investment efficiency in firms facing financial constraints. The study suggests that consideration of firm's financial conditions should form an essential part of any analysis towards understanding the impact of accounting conservatism more especially on investment behaviour, because of the influence financial constraint has on accounting conservatism is antagonistic in nature.

Sinaga and Maksum (2022) studies the impact of liquidity, profitability, leverage and free cash flow on firm value with dividend policy as a moderating variable. The population of the study were 66 firms listed in basic industry and chemical sector listed on the Indonesian Stock exchange (IDX) from 2017-2021. A purposive sampling technique was used to obtain 61 samples out of 305 observations for five years. OLS regression analyses were carried out with the help of E-view. The result shows that liquidity, profitability, leverage and free cash flow have positive and significant effect on firm value while dividend policy does not have moderating impact on

profitability, liquidity, leverage and free cash flow on firm value.

Akpadaka, Farouk, Dang and Fodio (2024) investigates the moderating role of profitability in the relationship between leverage and dividend policy in listed manufacturing firms in Nigeria and South Africa. Using a sample of 915 firm-year observations from 2013 to 2022, the analysis employs panel Tobit regression to manage the censored nature of dividend data, with logistic regression applied as a robustness check. The findings reveal a negative association between leverage and dividend payout ratio for Nigerian firms, while this association is less pronounced and statistically insignificant in South Africa, reflecting a more flexible financial environment. Profitability strengthens the leverage–dividend policy relationship in Nigeria, enabling firms to maintain dividends despite high leverage; however, this moderating effect is weaker in South Africa.

Zangina (2024) ascertains the moderating impact of board composition on the relationship between company attributes and the performance of Deposit Money Banks in Nigeria. A hierarchical regression model consisting of hypothesized board composition, company attributes and performance were formulated and subjected to various diagnostic and robustness tests to ascertain the Best Linear Unbiased Estimators (BLUE) in the model. The analysed model output determines whether board composition moderates the relationship between company attributes with performance in Nigerian Banks and by what statistical margin of significance. The study concludes that, board composition has a significant moderating effect on the relationship between Firm Characteristics (leverage) and corporate performance (return on equity) of listed deposit money banks in Nigeria. Further, results indicate a positive and significant impact of board size and firm size on corporate performance

Janno and Akhmadi (2024) explores the moderating effect of investment decision on profitability in basic material companies in Indonesia for a period of two years (2018-2019). Samples were collected from 10 basic material companies that met the sample criteria. The result indicated that profitability had a positive and investment decisions had a positive and significant impact on company's value.

## Methodology

The study adopted an ex-post facto research design to examine the relationship between investment decisions and corporate financial performance of firms in Nigeria. This design was considered appropriate because the investigation relies on analysing historical data on already existing conditions. Since the variables under study have occurred naturally and cannot be manipulated by the researcher, the ex-post facto research design enables the explanation of outcomes based on prior events, the determination of casual relationship and the testing of hypothesis using statistical techniques.

Sample of 15 firms were drawn using purposive sampling method. This technique allowed the selection of firms that met

specific criteria aligned with the study's objectives. The criteria were (1) The firm must have published its 2024 annual report and secondly the firm must have been listed on the NGX during the 2012 financial year. These conditions ensured that the availability of consistent and adequate financial data over the period under study.

Secondary data was analysed using descriptive statistics, correlation analysis and regression analysis. Additional diagnostic tests were carried out to validate the assumptions underlying regression analysis. Multiple regression implemented through structural equation modelling was employed to access the effect of independent variable on the dependent variable while accounting for the mediating variable. Descriptive and correlation analyses were conducted using statistical software due to its accuracy and efficiency. At the 95% confidence level, the null hypothesis was rejected when the p-value was less than 5% and accepted when it exceeds 5%

## Model specification.

**This work adapted the model of Ogujiofor, Ifurueze & Ofor (2023). The first equation captured the direct relationship between interest rate (INTR), foreign exchange rate (EXR), commodity price (COMPR), equity price (EQP) and inflation rate (INFR) with return on asset (ROA) as dependent variable.**

ROI = F (AUDQ, LEV). The model shall be stated without mediation as thus:

$$ROI = \alpha + \beta_1 AUDQ_{it} + \beta_2 LEV_{it} + \beta_{3it} \dots (1)$$

Where ROI = Return on investment (Dependent variable)

AUDQ = Audit quality (independent variable)

Lev = Leverage (independent variable)

i = firm,

t = period,

F = Functionality

$B_1 - \beta_2$  = Coefficients of regression

## Decision rule

The study hypotheses were tested at 5% error margin. This implies that that when the p-statistics is less than or equal to critical value of 0.05%, we accept the alternate and uphold that significant relationship existed. Conversely when the p-statistics value is higher than the critical value of 0.05%, we accept the null hypotheses and reject the alternate hypotheses.

## Descriptive Analysis

**Table 4.1 Descriptive Statistics**

	ROI	AUDQ	LEVG
Mean	0.023290	0.789744	2.530097
Median	0.035626	1.000000	1.451059
Maximum	5.816481	1.000000	103.6188
Minimum	-3.012121	0.000000	-10.73813
Std. Dev.	0.527952	0.408540	8.713451
Skewness	5.263141	-1.422087	8.933177
Kurtosis	83.14996	3.022331	98.28790

Jarque-Bera	53095.40	65.72982	76366.80
Probability	0.000000	0.000000	0.000000
Sum	4.541517	154.0000	493.3689
Sum Sq. Dev.	54.07435	32.37949	14729.30
Observations	195	195	195

Source: Eviews 10 Output (2025)

Table 4.1 shows that the average ROI across the sampled Nigerian consumer goods firms is 0.023, indicating that, on average, firms earn a modest return relative to their total assets over the 2012–2024 period. The wide gap between the maximum value of 5.82 and the minimum value of –3.01 reflects substantial variation in firms’ profitability, suggesting periods of both exceptional gains and significant losses. The standard deviation of 0.53 further confirms this dispersion, showing that ROI fluctuates widely across firms and years. The distribution is highly positively skewed (5.26), indicating that most firms report relatively low ROIs, while a few record extremely high values. The kurtosis value of 83.15 reveals a distribution with very heavy tails, meaning extreme profitability outcomes occur far more often than in a normal distribution. Although the Jarque–Bera probability of 0.0000 confirms non-normality, the large sample size of 195 observations satisfies the Central Limit Theorem, allowing subsequent regression estimates to remain valid despite the non-normal distribution of ROI.

Table 4.1 indicates that the audit quality attribute has a mean value of 0.79, showing that approximately 79% of the firm-year observations were audited by Big 4 audit firms during the study period. The maximum and minimum values of 1 and 0 reflect the binary nature of the variable, while the standard deviation of 0.41 suggests a reasonable spread between firms audited by Big 4 and those audited by non-Big 4 auditors. The negative skewness value of –1.42 implies that Big 4 audits are more common in the dataset, with fewer firms falling into the non-Big 4 category. The kurtosis value of 3.02 is close to the benchmark for a normal distribution, indicating only mild deviations in tail thickness. The Jarque–Bera probability of 0.0000 signals statistical non-normality; however, the binary structure of AUDQ makes this expected and does not compromise the validity of GLS estimation since the large sample size ensures asymptotic reliability under the Central Limit Theorem.

Table 4.1 reveals that leverage, measured by the debt-to-equity ratio, has a mean value of 2.53, showing that, on average, firms rely more heavily on debt than equity to finance their operations. The extreme maximum value of 103.62 and minimum of –10.74 indicate substantial heterogeneity in financial structures, with some firms exhibiting extremely high leverage and others presenting negative equity positions. The standard deviation of 8.71 confirms this very wide dispersion, reflecting large differences in capital structure strategies across firms and years. The highly positive skewness of 8.93 indicates that most firms maintain relatively moderate leverage, while a few have extremely high debt levels that pull the distribution to

the right. The kurtosis value of 98.29 shows an exceptionally peaked distribution with very heavy tails, meaning frequent extreme debt-to-equity outcomes. Although the Jarque–Bera probability of 0.0000 indicates non-normality, the presence of 195 observations ensures that regression procedures remain statistically sound under the Central Limit Theorem.

**Table 4.2 Correlational Analysis**

Correlational Analysis: Spearman rank-order

Date: 11/27/25 Time: 13:08

Sample: 2012 2024

Included observations: 195

Correlation			
Probability	ROI	AUDQ	LEVQ
ROI	1.000000		
	-----		
AUDQ	0.196069	1.000000	
	0.0060	-----	
LEVQ	-0.024453	0.042031	1.000000
	0.7344	0.5596	-----

Source: Eviews 10 Output (2025)

Table 4.2 shows the Spearman rank-order correlations between the variables, revealing that audit quality has a positive and statistically significant association with ROI ( $r = 0.1961$ ,  $p = 0.0060$ ), suggesting that firms audited by Big 4 auditors tend to report slightly higher investment returns, possibly because higher audit credibility enhances financial reporting quality and investor confidence. In contrast, leverage exhibits a weak and negative relationship with ROI ( $r = -0.0245$ ), and the associated probability value of 0.7344 indicates that this relationship is not statistically significant, implying that variations in debt-to-equity ratios among the sampled firms do not meaningfully explain differences in their investment returns during the study period.

**Table 4.3 Model Diagnostics**

Test	Statistic / Value	Probability
Residual Cross-Section Dependence Test (Pesaran CD)	5.738266	0.0000
Panel Cross-Section Heteroskedasticity LR Test (Likelihood Ratio)	586.6482	0.0000

Source: Eviews 10 Output (2025)

Table 4.3 presents the Pesaran Cross-Section Dependence (CD) statistic, which assesses whether residuals across the

panel units are correlated. The essence of this test is to determine whether shocks or unobserved influences affecting one firm also affect others, which is common in panels where firms operate in the same industry or economic environment. The CD statistic of 5.738266 with a probability value of 0.0000 indicates strong evidence of cross-sectional dependence at the 5% level. This result shows that the residuals are not independent across firms, confirming that firms in the sample are exposed to shared market, regulatory, or macroeconomic conditions. Because the p-value is below 0.05, the null hypothesis of no cross-sectional dependence is rejected, meaning that conventional panel estimators that assume independence may be inefficient, and robust methods such as EGLS that correct for dependence become necessary.

Table 4.3 also reports the likelihood ratio result for the panel cross-section heteroskedasticity test, which evaluates whether the variance of the residuals is constant across firms. The essence of this test is to identify the presence of unequal error variances (heteroskedasticity), which can lead to biased standard errors and incorrect statistical inferences if ignored. The test value of 586.6482 with a probability of 0.0000 shows overwhelming evidence of heteroskedasticity across the cross-sections at the 5% level. This means the null hypothesis of homoskedastic residuals is rejected, confirming that the firms in the panel have differing error variances, likely due to variations in size, capital structure, operational complexity, or reporting practices. Given this result, the study appropriately applies heteroskedasticity-consistent estimation techniques to ensure reliable inference.

**Test of Hypotheses**

- H<sub>01</sub>: Audit quality attribute has no significant effect on firm performance in Nigeria consumer goods firms.
- H<sub>02</sub>: Leverage quality attribute has no significant effect on firm performance in Nigeria consumer goods firms.

**Table 4.4 Test of Hypotheses**

Dependent Variable: ROI  
 Method: Panel EGLS (Period SUR)  
 Date: 11/27/25 Time: 13:06  
 Sample: 2012 2024  
 Periods included: 13  
 Cross-sections included: 15  
 Total panel (balanced) observations: 195  
 Linear estimation after one-step weighting matrix  
 Period SUR (PCSE) standard errors & covariance (d.f. corrected)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
AUDQ	0.081920	0.008020	10.21439	0.0000
LEVG	-0.001604	0.000241	-6.654959	0.0000
C	-0.033314	0.008637	-3.857305	0.0002

Weighted Statistics

R-squared	0.387996	Mean dependent var	0.308601
Adjusted R-squared	0.381621	S.D. dependent var	1.300931
S.E. of regression	1.005442	Sum squared resid	194.0956
F-statistic	60.86168	Durbin-Watson stat	1.994674
Prob(F-statistic)	0.000000		

Source: Eviews 10 Output (2025)

Table 4.4 presents the model validity statistics, which show that the estimated panel EGLS model is appropriate and statistically robust for explaining variations in ROI among Nigerian consumer goods firms. The adjusted R-squared value of 0.381621 indicates that approximately 38.16% of the systematic changes in return on investment are explained by audit quality and leverage, demonstrating a moderate explanatory power suitable for firm-level secondary data research under the central limit theorem. The probability of the F-statistic is 0.000000, which confirms that the overall model is statistically significant at the 5% level, meaning the explanatory variables jointly exert a meaningful effect on ROI. The Durbin-Watson statistic of 1.994674 is close to the benchmark value of 2, suggesting that serial correlation is not a problem in the residuals and that the model’s estimates are reliable. Overall, the diagnostics confirm that the model is well-specified, free from major estimation errors, and suitable for hypothesis testing.

The constant term in Table 4.4 has a coefficient of -0.033314 with a probability value of 0.0002, indicating statistical significance at the 5% level. The coefficient implies that when audit quality and leverage are held at zero, the baseline ROI of the firms is expected to fall by about 0.0333 units. This negative constant suggests that without the influence of these firm-level attributes, consumer goods firms may struggle to generate positive returns, highlighting the importance of structural and governance-related inputs in strengthening financial performance. The significance of the constant further supports the model’s robustness.

Table 4.4 indicates that audit quality exerts a positive marginal effect on ROI, with a coefficient of 0.081920. This means that a shift from a non-Big 4 auditor to a Big 4 auditor is associated with an expected increase of about 0.0819 units in return on investment, holding other variables constant. This rise suggests that higher audit credibility enhances the reliability of financial statements, boosts investor confidence, and strengthens internal control processes, all of which support better financial outcomes. The probability value of 0.0000 shows that this effect is significant at the 5% level, leading to the rejection of the null hypothesis **H01**, which states that audit quality has no significant effect on firm performance. The evidence clearly demonstrates that audit



quality meaningfully shapes ROI in Nigerian consumer goods firms.

Table 4.4 shows that leverage has a negative marginal effect on ROI, with a coefficient of  $-0.001604$ . This means that for every one-unit rise in the debt-to-equity ratio, ROI decreases by approximately 0.0016 units, *ceteris paribus*. The direction of this effect suggests that higher reliance on debt may impose greater financial obligations, increase interest burdens, and reduce the earnings available to investors. The probability value of 0.0000 indicates that the effect is significant at the 5% level. Consequently, the null hypothesis **H02**, which states that leverage has no significant effect on firm performance, is rejected. The findings demonstrate that leverage meaningfully influences ROI and that rising debt levels diminish firm-level profitability in this sector.

## Discussion of Findings

### Audit quality and firm performance

The positive and significant effect of audit quality on firm performance suggests that firms benefit when their financial statements are subjected to more rigorous and credible external scrutiny. High-quality auditors strengthen reporting reliability, reduce information asymmetry, and limit managerial discretion, creating an environment in which investors and other stakeholders can make decisions based on dependable financial information. This enhanced credibility contributes to better market valuation and operational outcomes, as transparent reporting promotes efficient monitoring, reduces the likelihood of misstatements, and supports stronger governance practices. Evidence from prior studies aligns with this outcome. Yusuf (2018) demonstrated that auditor size, independence, tenure, and specialization significantly influence earnings management, reinforcing the idea that strong audit mechanisms enhance reporting quality and, by extension, performance. Namazi and Namazi (2017) similarly showed that firm characteristics and auditing arrangements are significantly associated with financial outcomes, highlighting the importance of audit-related variables in shaping firm results. Utomo, Pamungkas and Machmuddah (2018) found that accounting conservatism improves earnings quality, showing that mechanisms that strengthen reporting integrity contribute to improved firm-level outcomes, which resonates with the observed impact of audit quality on performance. Yeon (2016), though examining CSR, also reported that governance-related mechanisms have a positive and significant association with corporate performance, indirectly affirming the broader value of strong governance structures such as quality auditing. These consistent findings help explain why audit quality exerts a positive effect on performance in the present study.

### Leverage and firm performance

The negative and significant effect of leverage on firm performance indicates that higher debt burdens reduce firms' ability to generate returns, reflecting the financial pressure that accompanies increased interest obligations and heightened risk exposure. Excessive leverage restricts operational flexibility, redirects cash flows toward debt

servicing, and elevates the likelihood of financial distress, all of which constrain profitability. While some studies have reported mixed or even positive effects of leverage, several strands of empirical evidence help explain the present result. Abdullahi et al. (2020) observed cases in which leverage exerted a significant negative impact on performance when audit quality interacted with corporate attributes, showing that debt can erode returns under certain structural conditions. Akpadaka et al. (2024) reported a negative association between leverage and dividend payout among Nigerian firms, reflecting the strain that debt places on financial outcomes. Zangina (2024), though finding moderating effects of board composition, acknowledged leverage as a central firm characteristic influencing performance, indicating that leverage-related pressures can distort firm outcomes without strong governance support. In contrast, studies such as Sinaga and Maksum (2022) and Natsir and Yusbardini (2019) documented positive effects of leverage on firm value or profitability in some contexts, suggesting that debt can be beneficial when managed optimally. However, the divergence highlights that when leverage becomes excessive or is deployed under volatile market or sectoral conditions, its effect turns adverse, as reflected in the negative impact observed in the present research.

## Conclusion and Recommendation

### Conclusion

The results from the study demonstrates that the presence of high-quality auditors plays a meaningful role in strengthening financial outcomes, suggesting that stronger external monitoring enhances the credibility of reported figures and encourages managerial discipline, both of which support healthier operational and investment decisions. Firms that engage reputable auditors may therefore experience greater trust from capital market participants, smoother access to financing, and improved investor perception, all of which contribute to stronger performance profiles over time. Conversely, the adverse effect associated with rising leverage highlights the performance pressures that accompany increased financial commitments within this sector. Consumer goods firms often operate within competitive markets characterized by fluctuating input costs and relatively narrow profit margins, and additional debt obligations may heighten financial strain, reduce flexibility, and limit capacity to pursue value-enhancing investment opportunities. The pattern suggests that when firms accumulate more debt relative to equity, the resulting interest obligations may erode operational gains and weaken earnings capacity. Together, these outcomes show that governance quality and capital structure decisions interact with sector-specific conditions to shape performance trajectories. They also indicate that firm-level outcomes are influenced not only by internal managerial practices but also by the broader institutional and financial environment within which firms operate.

### Recommendations

1. To the management of consumer goods firms: engage and retain reputable Big 4 audit firms to strengthen the reliability of financial reporting,

enhance investor confidence, and support improved financial outcomes that reflect more credible governance practices.

- To the financial managers of consumer goods firms: reduce excessive dependence on debt financing by adopting more balanced capital structure strategies that limit interest burdens and preserve the firm's ability to generate sustainable returns.

### Contribution to Knowledge

This study enriches existing scholarship by offering sector-specific evidence on how firm-level attributes shape financial outcomes within the Nigerian consumer goods industry, an area where empirical hints remain limited despite the sector's importance to national output. By employing a thirteen-year balanced panel and a panel EGLS estimation framework, the research provides robust empirical support for the role of audit quality in enhancing performance, thereby strengthening the argument that credible external monitoring mechanisms contribute meaningfully to financial stability and operational efficiency. The study also advances knowledge by clarifying the direction and magnitude of leverage's effect on return on investment, demonstrating that debt accumulation within this sector imposes measurable performance constraints, contrary to studies that portray leverage as uniformly beneficial. Through its methodological rigour (such as incorporating cross-sectional dependence tests and heteroskedasticity adjustments) the study contributes to methodological refinement in firm-level performance research in emerging economies.

### Limitations of the Study and Suggestion for Further Studies

This study was limited by the use of secondary data drawn only from published annual reports, which may not capture all factors that influence performance. The sample covered fifteen firms because some companies had incomplete records, which reduced the number of observations available. The study also focused on only two firm attributes, leaving out other important factors that may affect performance. In addition, the study was confined to consumer goods firms, so the findings cannot be applied to other sectors without caution. Finally, the use of historical data means the results depend on past conditions, which may change over time.

Future studies can include more firm attributes to provide a broader explanation of what drives performance. Researchers may also expand the sample to cover other sectors such as industrial goods or services to allow comparison across industries. Using primary data, such as surveys or interviews, can help capture information that financial reports do not provide. Longer study periods or studies that compare different countries can also help show whether the pattern found in this work holds in other settings.

### REFERENCES.

- Abdulahi, M., Dachomo G.P., Jibril, M.A., & Duniya, B. (2020) Moderating effect of audit quality on corporate attributes and financial performance of

- listed manufacturing firms In Nigeria. *Accounting and Taxation Review*, 4(1): 13-29.
- Adams, M. 10<sup>th</sup> edition (2024). *Investment analysis and portfolio management*. Routledge Market.
- Akpadaka, O.S., Farouk, M.A., Dang, D.Y., & Fodio, M.I. (2024). Does profitability moderate the relationship between the leverage and dividend policy of manufacturing firms in Nigeria and South Africa?
- Allen, J.D., (2005) Grades as valid measures of academic achievement of classroom learning. *The clearing house: A journal of educational strategies, issues and ideas*, 7(8), 218-223.
- Arens, A.A., Elder, R.J., Beasley, M.S. & Fielder, B.A. (2011). *Auditing, assurance service and ethics in Australia*. 8<sup>th</sup> edition. Pearson Australia.
- Ayuba, A. J., Balago, G. S., & Dagwom, D. Y. (2018). Effects of firm level attributes on stock returns in Nigeria. *International Journal of Finance and Accounting*, 7(4), 122-131.
- Badara (2016). The moderating effect of firm size on the relationship between board structure and financial performance of deposit money banks in Nigeria. *Journal of management*.
- Bakara, S. & Yi, A. (2016). The impact of psychological factors on investor's decision making in Malaysian Stock Market: A case of Klang valley and Pahang. *Procedia Economics and finance* 35, 319-328
- Brealey, R.A., Myers, S.C. & Allen, F. (2020). *Principles of corporate finance*. McGraw-Hill.
- Brealey, R.A., Myers, S.C. & Allen, F. (2017). *Principles of corporate finance*. McGraw-Hill. education.
- DeAngelo, L.E. (1981). Auditor size and audit quality. *Journal of Accounting and Economics*, 3(3) 183-199.
- Eke, R.I., Ofuebe, K.C., & Kanwanye, H.T. (2024). Effect of debt financing on earnings per share of listed manufacturing firms in Nigeria. *SADI International journal of Management and Accounting*, 11(3) 43-52.
- Emeka-Nwokeji, N.A., Okoye, E.I., Chiedu, C.O. & Agubata, S.N. (2022). *European journal of accounting, auditing and finance research* 10(1) 1-24.
- Erma, W.M. (2014). The influence of investment decisions and financing decisions on the value of mining companies listed on the Indonesian Stock Exchange. *Accounting journal of Sekayu polytechnic* 1(1) 52-58.
- Fayed, A. & Dubey, R. (2016). The impact of debt financing on firm performance: Evidence from Egypt. *International journal of Accounting and financial management research*. 6(3), 45-58.
- Gustiandika, T. & Hadiprajitno, P.B. (2014). The influence of investment decisions and financing

- decision on firm value with corporate governance as a moderating variable. Diponegoro journal of accounting 3(2)1141-1152.
17. Hamzacebi,C.& Pekkaya, M(2011). Determining of stock investments with grey relational analysis.Expert systems with Applications,3(8) 9186-9195.
  18. Haran, M. E., Lo, D., McCord, M., Davis, P., & Lim, L. C. (2021). Impact of firm-level attributes on listed real estate company performance. *Journal of Property Investment & Finance*, 39(4), 323-348.
  19. Janno,L. & Akhmadu,A.(2024). The moderating effect of investment decisions. A case study on basic material companies in Indonesia. *International journal of science and human research* 7(1) 4569-4580.
  20. Kasmir (2019). *Financial statement analysis* (first edition). Jakarta Rajawali publication.
  21. Khaoula,F & Moez,D. (2019) The moderating effect of the board of directors on firm value and tax planning: Evidence from European listed firms. *Borsa Istanbul Review* 19 (4) 331-343.
  22. Lebands,M., and Euske, K. (2006). *A conceptual and operational delineation of performance. Business performance measurement. Cambridge university press.*
  23. Majka,M. (2024). Understanding return on innovation investment.
  24. Namazi, M.& Namazi, R.N. (2017) An empirical investigation of the effects of moderating and mediating variables in business research: Insights from an auditing report. *Contemporary economics* 11(4) 459-470.
  25. Natsir,K., & Yusbardini , Y.(2019). The effect of capital structure and firm size on firm value through profitability as intervening variable. *Advances in economics, business and management research* 15 (1) 218-223.
  26. Nugraha,M.K.(2017) The effect of financial performance, investment decision size and company size on company value. *Journal of accounting science and research* 6(1)312-328.
  27. Nworie, G. O., Okafor, T. G., & John-Akamelu, C. R. (2022). Firm-level traits and the adoption of computerised accounting information system among listed manufacturing firms in Nigeria. *Journal of Global Accounting*, 8(3), 128-148.
  28. Obi,A.N.,& Adeyemo,S.O.(2014) Evaluation of capital budgeting and investment decisions in Nigeria *Open access library journal* 1(40) 1-20.
  29. Ogujiofor,M.N., Ifuruese,M.S. & Ofor, N.T. (2023). The moderating effect of firm size on market risk and financial performance of quoted oil firms in African Stock.
  30. Peterson,W.,Gijbers,G., & Wilks,M.(2003). An organizational performance assessment System for agricultural research organizations: Concepts, methods and procedures. *American journal of industrial and business management* 6(4). Researchgate.  
<https://www.researchgate.net/publication/381401852>.
  31. Ross, S.A., Westerfield, R.W., & Jaffe, J.F. (2013) *Westerfield Corporate finance* Graw-Hill.
  - Saputra,W.(2015)The impact of auditor's independence on audit quality: A theoretical approach. *International journal of scientific and technology research* 4(2), 348-353.
  32. Sherine,C.Wiyanto,H.& Budiono,H.(2021)The effect of investment decision, funding decision and profitability on the firm value of consumer goods industry registered in Indonesia Stock Exchange during 2017-2020. *Advances in Economics, Business and Management research*.6(2)552-559.
  33. Sinaga,S.H.K.,& Maksum,A. (2022). The effect of profitability, leverage, liquidity, free cash flow on company value wit dividend policy as moderating in basic and chemical industrial companies listed on the Indonesia Stock Exchange. *International journal of economics (IJEC)* 1(2) 368-379.
  34. Usta,O.(2012) *Business finance and financial management. Ankara: Detay publishing.*
  35. Utomo, D., Pamungkas, I.D.&Machmuddah (2018) The moderating effect of good corporate governance on the relationship between accounting conservatism and earnings management. *International journal of Accountancy* 9(1).9-18.
  36. Van Horne,J.C. (2000). *Financial management and policy. Prentice Hall.*
  37. Verboncu,I., & Zalman,M.(2005). *Management and performance management. University publishing house.*
  38. Yegon,C.K. (2015). Effect of enterprise risk management determinants on financial performance of listed firms in Kenya. Thesis submitted in partial fulfilment for the degree of doctor of philosophy in Business Administration. Jomo Kenyatta University of Agriculture and Technology.
  39. Yeon,H.K. (2016). Moderating effect of corporate governance structure between corporate Social responsibility and performance. *Indian journal of science and technology* 9(46). 1-7
  40. Yusuf,A.(2018) Moderating effect of audit committee on the relationship between audit Quality attributes and earnings management of listed manufacturing firms in Nigeria.
  41. Zangina,J.A. (2024). Moderating impact of board composition on the relationship between Company attributes and performance of banks in Nigeria. (Unpublished working Paper). Federal polytechnic Monguno.