

FIRM CHARACTERISTICS AND FINANCIAL PERFORMANCE OF LISTED CONSUMER GOODS COMPANIES IN NIGERIA

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Abstract: *This study examined the influence of firms' characteristics on financial performance of listed consumer goods companies in Nigeria from 2011 to 2020. The data for this study were obtained from secondary sources. The secondary data consists of data on the dependent and independent variables of the study among which are the data on the firm's profitability including (Return on Asset) ROA, Net Profit Margin (NPM) and Earning Per Share (EPS), and firm's financial performance proxied by financial leverage, firm size and firm age. These data were wholly sourced from annual reports and financial statement of the individual companies for the periods covered. The hypotheses of this study were tested using static panel regression technique which measured the extent to which financial leverage, firm size and firm age influence the profitability of the sampled firms. The study found firm size to be positively associated with the profitability of listed consumer goods firms in Nigeria. In addition, it also found that age of the firm is negatively associated with the profitability of listed consumer goods firms in Nigeria. Since the study found that larger firms recorded higher profitability, it was recommended that management and other stakeholders of consumer goods firms in Nigeria should invest in their expansion so as to gain advantage of economies of scale which will improve their profitability. It was also recommended that since older firms had lower profitability compared with the younger firms, consumer goods firms should increase their investment in innovative projects that will make them compete favourably with innovative younger firms.*

Key word: *Firm age, firm characteristics, financial leverage, firm size, and Profitability*

1.0 Introduction

The financial performance of any firm not only plays the role to increase the market value of that specific firm but also leads towards the growth of the whole industry which ultimately leads to the overall performance of the economy. The subject of financial performance has received significant attention from scholars in various areas of business and strategic management. It has also been the primary concern of business practitioners in all types of organizations since financial performance has implications for organization's health and ultimately its survival. High performance reflects management effectiveness and efficiency in making use of company's resources and this in turn contributes to the country's economy at large (Ahmed, 2018).

Firm characteristics are those attributes such as firm size, leverage, liquidity, sales growth, capital, firm age, dividend, market share, off balance sheet activities, operating expenses, among others, that affect the operations of a firm (Ezechukwu & Amahalu, 2016). It is concerned with the ability of firms to source for funds to be used as capital to finance their operations and settle their short term financial obligations as at when due using their current assets in order to gain the confidence of creditors and other lenders of funds as well as minimization of operating expenses for performance improvement. Most business entities use debt to finance their operations with the hope of improving their performance. By doing so, a company increases its leverages because it can invest in business operations without increasing its equity.

Profitability can be described as a measurement of how well a firm uses its assets from its primary mode of business to generate income. The term is also used as general measure of a firm's overall financial health over a given period of time. Certain firm characteristics have been associated with

firm profitability such as firm age (Swiss, 2018), firm size (Malik, 2019), liquidity (Dogan, 2013), and leverage (Mule & Mukras, 2015).

The consumer goods sector is a category of stocks and companies that relate to items purchased by individuals rather than by manufacturers and industries. This sector includes companies involved with food production, packaged goods, clothing, beverages, automobiles and electronics (Investopedia, 2017).

Studies on the effect of different firm characteristics on profitability of firms have been done, both in developed and developing countries, but little or no empirical evidence has been provided from the consumer goods sector in Nigeria. Even the few ones did not measure profitability in terms of Return on sales. This, therefore, necessitated a study on the effect of firm characteristics on profitability of listed consumer goods companies in Nigeria.

The main objective is to examine the impact of firm's characteristics on profitability of consumer goods firms in Nigeria. In other to achieve this, hypotheses are tested in null forms as follows:

H₀₁: Firm's size does not have significant impact on the profitability of consumer goods firms in Nigeria.

H₀₂: Firm's age does not have significant impact on the profitability of consumer goods firms in Nigeria.

H₀₃: Leverage does not have significant impact on profitability of consumer goods firms in Nigeria.

The remaining sections of this study are: The second section which contains the review of related literature, third section, the methodology, fourth section contains data analysis while the last section is on conclusion and recommendations.

2.1 Conceptual Review

2.1.1 Firm Characteristics

Firm characteristics refer to the attributes which a particular firm possesses that defines its activities. Firm characteristics are those variables that relatively affect the firm's decision both internally and externally (Shaheen, & Malik 2012). Firm characteristics can also be defined as the behavioural patterns of a company's operations which enable them to achieve their objectives (Amahalu & Ezechukwu, 2017).

2.1.1.1 Firm Size

Firm size is defined as the quantity and collection of production capability and potential, a firm possesses or the quantity and diversity of services a firm can make available to its customers (Shaheen & Malik, 2012). In addition, Babalola (2013) emphasized that the larger a firm is, the more the influence it has on its shareholders and so large firms tend to enjoy economies of scale and outperform small firms. In this study, firm size is measured as: The natural log of total assets.

2.1.1.2 Leverage

The term 'leverage' is used to describe the ability of a firm to use fixed cost assets or funds to increase the return to its shareholders. In other words, leverage is the employment of fixed assets or funds for which a firm has to meet fixed costs or fixed rate of interest obligation irrespective of

the level of activities attained, or the level of operating profit earned. Leverage occurs in varying degrees. The higher the degree of leverage, the higher is the risk involved in meeting fixed payment obligations i.e., operating fixed costs and cost of debt capital. But, at the same time, higher risk profile increases the possibility of higher rate of return to the shareholders, (Yuan & Kazuyuki, 2011).

2.1.1.3 Firm Age

The age of the firm is an important variable in determining its financial performance. When a firm gets older, it can also enjoy a superior level of performance compared to newly established companies. This means that the firm can produce products at lower costs and this will cause an increase in revenue and profits. However, if the older firms do not change their systems to cope with the new environmental conditions, innovation and advancement, their current financial performance would be worse (Pickering, 2011).

2.1.2 Profitability

Profit is an excess of revenue over associated expenses for an activity over a period of time. Terms with similar meanings include: earnings, income and margin. Lord Keynes (2015) concludes that, Profit is the engine that drives the business enterprise". Every business should earn sufficient profits to survive and grow a long period of time. It is the index to the economic progress, improved national income and rising standard of living.

2.1.2.1 Return on Equity (ROE)

The ROE is net profit after tax divided by shareholders' equity which is given by net worth.

$ROE = \text{profit after tax} / \text{shareholders' equity}$

2.2 Theoretical Review

2.2.1 Resource based Theory

This study is underpinned by "resource-based theory" which was propounded by Wernerfelt in the year 1984. Pearce and Robinson (2011) defined resource-based theory (RBT) as a method of analysing and identifying a firm's strategic advantages based on examining its distinct combination of assets, skills, capabilities, and intangibles as an organization. This theory is concerned with internal firm characteristics and their effect on firm performance. It views the firm as a bundle of resources which are combined to create organizational capabilities which it can use to earn above average profit (Grant, 1991).

2.2.2 Stewardship Theory

The stewardship theory emerged as a result of the seminar work by Donaldson and Davis (1991). The theory is based on the assumption that the interest of shareholders and the interest of management are aligned; therefore, management is motivated to take decisions that would maximize performance and the total value of the organisation. The theory believes that there is greater utility in cooperative than individualistic behaviour and hence whilst the actions of management would be maximizing shareholders' wealth, it would at the same time be meeting their personal needs.

2.3 Empirical Review

Dogan (2013) studied the effect of firm size on profitability of 200 companies listed on the Istanbul Stock Exchange using data from the year 2008 to 2011 by using multiple regressions model. He introduced other control variables such as liquidity which was measured by total current assets over total current liabilities, leverage measured as total debt over total assets as well as firm age measured by number of years in operations. He found that firm size and liquidity are positively related to profitability as measured by ROA, while leverage and firm age were negatively related to profitability measured by ROA.

Idris and Bala (2015) carried out a study on the effect of firm specific characteristics on profitability of listed Foods and Beverage companies in Nigeria. They studied nine firms out of a population of twenty-one firms using OLS regression for a period of seven years from 2007-2013. Their finding revealed that firm specific characteristics have both positive and negative significant effects on profitability measured by stock market returns. They therefore, recommended that firms should pay more attention to those factors that are peculiar to their industry environment.

Mohammed and Usman (2016) examined the impact of corporate attributes on the profitability of listed pharmaceutical firms in Nigeria using a panel data of five sampled firms for a period of ten years (2004-2013). They extracted data from the annual accounts of the selected firms. Multiple regression technique was employed to examine the influence of corporate attributes on the profitability of listed pharmaceutical firms in Nigeria. The study reveals that firm size, leverage, and growth have positive and significant relationship with profitability implying that they have impact in increasing share price. However, the relationship between liquidity and profitability was found to be insignificant and negative, indicating that liquidity has no influence in enhancing share price of listed pharmaceutical firms in Nigeria. The study therefore, recommended that firm size, leverage, and firm growth should be enhanced in view of their influence in increasing profitability, while liquidity should not be given any attention in an effort to raise profit.

Uwuigbe, Uwuigbe, Adeyemo, and Ogunbajo (2016) examined the effect of corporate attributes on the profitability of companies by employing the annual reports of thirty selected companies listed on the Nigerian Stock Exchange (NSE) for a period of five years (2007-2011). They used Ordinary Least Square (OLS) regression to test for the effects of the selected corporate attributes on profitability. They tested for the relationship between leverage, firm size, firm age and return on assets using Pearson's product moment correlation coefficient. Out of the three corporate attributes employed in the study, only firm age showed a positive statistically significant relationship with profitability measured by return on assets. They therefore observed that older firms perform better than younger ones. They recommended that companies should pay adequate attention to financial leverage, because firms that are highly leveraged are at the risk of insolvency. Their finding supports the argument that, older firms are likely to perform better than younger firms because they are more experienced, have enjoyed the benefits of learning, are not prone to the liabilities of inventiveness, and can therefore enjoy superior profitability.

Olowokure et al. (2016) examined firm structural characteristics and financial reporting quality of listed deposit money banks in Nigeria. Using secondary data from the published reports of thirteen listed deposit money banks in Nigeria for over a period of ten years between 2015 and 2014, they sought to find the determinants of financial reporting quality and reported the findings of the impact of structural characteristics like age, size and level of leverage on financial reporting quality. Using prior studies as a guide, they also developed a model for loan loss provisions and generated the residuals, using these residuals known as abnormal loan loss provisions as the dependent variable for the multiple regression analysis, the study did not find any evidence of significant relationship between firm age, size, leverage and financial reporting quality.

3.1 Research Methodology and model specification

This study uses panel data, obtained from secondary sources from annual reports and accounts of some selected listed consumer goods companies in Nigerian selected for this study. The population of the study consist of all listed consumer goods firms on the Nigeria stock exchange. As at December 2020, there were twenty- one (21) of such companies.

The model encapsulates the contribution of financial leverage, firm size and firm age on profitability of the firm. The model for this study is specified below:

$$\text{PROF} = f(\text{FLA}, \text{FS}, \text{FA}) \quad (3.1)$$

Where:

PROF = profitability of the firm

FLA = Financial leverage

FA = the firm's age

FS = the firm size

The variable PROF captures the three dimensions of performance including the return on asset, net profit margin and earnings per share. Thus, PROF is expresses as:

$$\text{PROF} = (\text{ROA}, \text{NPM}, \text{EPS}) \quad (3.2)$$

Incorporating (3.2) into the relation in (3.1) produces the following three different relations:

$$\text{ROA} = f(\text{FLA}, \text{FS}, \text{FA}) \quad (3.3)$$

$$\text{NPM} = f(\text{FLA}, \text{FS}, \text{FA}) \quad (3.4)$$

$$\text{EPS} = f(\text{FLA}, \text{FS}, \text{FA}) \quad (3.5)$$

Where:

ROA represents return on assets

NPM represents net profit margin

EPS represents earnings per share

The relations in (3.3) to (3.5) above are expressed in econometric forms as follows:

$$\text{ROA}_{it} = \beta_0 + \beta_1 \text{FLA}_{it} + \beta_2 \text{FS}_{it} + \beta_3 \text{FA}_{it} + \varepsilon_{it} \quad (3.6)$$

$$\text{NPM}_{it} = \alpha_0 + \alpha_1 \text{FLA}_{it} + \alpha_2 \text{FS}_{it} + \alpha_3 \text{FA}_{it} + \varepsilon_{it} \quad (3.7)$$

$$\text{EPS}_{it} = \delta_0 + \delta_1 \text{FLA}_{it} + \delta_2 \text{FS}_{it} + \delta_3 \text{FA}_{it} + \varepsilon_{it} \quad (3.8)$$

Where:

β_0, α_0 and δ_0 represents the constant for each of the equations

$\beta_1, \alpha_1,$ and δ_1 to β_3, α_3 and δ_3 are the coefficient of the explanatory variables

μ_{it} is the error term

3.2 A priori Criteria

This is used to ascertain if the results obtained from the study is in line with the theory that guided the study. It is the expected relationship between the dependent variable and the independent variables. The dependent variable is profitability.

Table 3.1: Apriori Expectations

Explanatory Variables	Expected Sign
LEV	+
FSIZE	+
FAGE	+

+ implies positive relation is expected

4.1 Descriptive Analysis

This section presents the results obtained from descriptive analysis of the study variables. The table contains the mean, standard deviation as well as the maximum and minimum value of all the variables.

Table 4.1: Descriptive Statistics

Variable	Obs	Mean	Std.Dev.	Min	Max
ROA	180	6.74	10.116	-54.396	26.517
NPM	180	2.345	57.025	-729.505	52.628
EPS	180	3.563	8.335	-6.06	57.63
FLA	180	58.09	19.805	4.285	150.447
FS	180	7.58	.839	5.247	9.241
FA	180	30.333	14.53	1	55

Source: Author's Computation, 2023

The estimated correlation coefficients among the variables are contained in Table 4.2. From the correlation matrix in Table 4.2, the correlation coefficient of 0.508 between ROA and EPS

indicates that return on asset is positively associated with the earnings per share such that higher return on asset is associated with higher earnings per share. The estimated correlation coefficient of 0.642 shows that net profit margin is positively associated with the return on assets. In addition, the estimated correlation coefficient of 0.177 reveal that net profit margin is positively associated with the earnings per share (EPS). Hence, the three indicators of financial performances employed in this study are positively associated.

Similarly, the respective estimated coefficient of -0.184 and -0.083 indicate that firm age is inversely related with the return on asset and net profit margin while it is positively related with the earnings per share given the estimated correlation coefficient of 0.061. In addition, the results reveal that firm financial leverage is negatively associated with the return on asset and net profit margin with respective correlation coefficient of -0.262 and -0.166 while its relationship with the earnings per share is positive given the estimated correlation coefficient of 0.102. Also, the respective estimated coefficient of 0.277, 0.121 and 0.340 indicate that firm size is positively associated with return on asset, net profit margin and earnings per share.

Furthermore, the results of the correlation coefficient in Table 4.2 reveal the extent of relationship among the explanatory variables. From the results, the estimated correlation coefficient showed weak relationship among the explanatory variables as none of the coefficient has correlation coefficients that is up to 0.7. The implication of this result is that the problem of multicollinearity is not envisaged in this study though this is probed further using the variance inflation factor (VIF).

Table 4.2 Matrix of correlations

Variables	(1)	(2)	(3)	(4)	(5)	(6)
(1) ROA	1.000					
(2) NPM	0.642	1.000				
(3) EPS	0.508	0.177	1.000			
(4) FLA	-0.262	-0.166	0.102	1.000		
(5) FS	0.277	0.121	0.340	-0.077	1.000	
(6) FA	-0.184	-0.083	0.061	0.112	0.119	1.000

Source: Author's Computation, 2023

4.2 Diagnostic Test Analysis

4.2.1.2 Test for Multicollinearity

To check for possible existence of multicollinearity among the explanatory variables, the study equally conducted a Variance Inflation Factors (VIF). The decision rule as relate to the VIF is that multicollinearity exists if VIF is greater than 10. From the results presented in Table 4.3, the highest estimated VIF of 1.03 is recorded by the firm age followed closely by firm size with VIF of 1.023 and financial leverage with VIF of 1.021. The estimated average VIF is found to be 1.025. Since, none of the variables has VIF that is up to the threshold of 10, existence of multicollinearity could not be established in the baseline model for the study.

Table 4.3: Variance Inflation Factors Test for Multicollinearity

	VIF	1/VIF
FA	1.03	.971
FS	1.023	.978
FLA	1.021	.979
Mean VIF	1.025	.

Source: Author's Computation, 2023

4.3. Panel Regression Results

4.3.1 Presentation and Interpretation of Panel Regression Results

The results obtained using pooled ordinary Least Square panel regression with robust standard error are presented in this section.

Table 4.4: Estimated Least Square Panel Regression Results (Dep=ROA)

VARIABLES	(1) Coef	(2) pval	(3) tstat
ROA			
FLA	-0.112***	0.00189	-3.154
FS	3.417***	6.65e-05	4.086
FA	-0.135***	0.00610	-2.776
Constant	-8.592	0.208	-1.263
Observations	180		
R-squared	0.513		

Standard errors in parentheses *** p<0.01

Source: Author's Computation 2023

The results of the panel ordinary least square regression obtained when ROA is used as proxy for financial performance are presented in Table 4.4. From the results, the estimated coefficient of -0.112 with a p value of 0.00189 indicates that financial leverage has negative impact on the return on asset of listed consumer goods firms which is significant at (0.00189<0.05). In line with the results, the higher the financial leverage, the lower the financial performance of Nigerian listed consumer goods firms in terms of return on asset. Also, the estimated coefficient of 3.417 with a p value of 0.000 in Table 4.4 reveal that firm size has positive impact on the return on asset of listed consumer goods firms and the impact is significant at (0.000<0.05). In line with the results, the higher the firm size, the higher the financial performance of Nigerian listed consumer goods

firms in terms of return on asset. The results further reveal that, the estimated coefficient of -0.135 with associated p value of 0.0061 in the Table 4.5 indicate that firm age has negative impact which is significant at ($0.0061 < 0.05$) on the return on asset of listed consumer goods firms in Nigeria. In line with the results, the older the consumer goods firm is, the lower is its financial performance in terms of return on asset.

Table 4.5: Estimated Least Square Panel Regression Results (Dep=NPM)

VARIABLES	(1)	(2)	(3)
	Coef	pval	tstat
NPM			
FLA	-0.426***	0.00282	-3.030
FS	8.060***	1.36e-09	6.401
FA	-0.316***	1.58e-05	-4.440
Constant	-24.41***	0.00441	-2.884
Observations	180		
R-squared	0.416		

Robust Standard errors in parentheses *** p<0.01

Source: Author's Computation 2023

The results of the panel ordinary least square regression obtained for the study when financial performance is proxy with net profit margin (NPM) are presented in Table 4.5. From the results, the estimated coefficient of -0.426 with a p value of 0.00282 in the table indicates that financial leverage has negative impact on the net profit margin of listed consumer goods firms which is significant at ($0.00282 < 0.05$). In line with the results, the higher the financial leverage, the lower the financial performance of Nigerian listed consumer goods firms in terms of net profit margin. Also, the estimated coefficient of 8.060 with a p value of 0.000 in Table 4.5 revealed that firm size has positive impact on the net profit margin of listed consumer goods firms in Nigerian and the impact is significant at ($0.000 < 0.05$). In line with the results, the higher the firm size, the higher the financial performance of Nigerian listed consumer goods firms in terms of net profit margin. The results further revealed that, the estimated coefficient of -0.316 with associated p value of 0.000 in the Table 4.5 indicated that firm age has negative impact which is significant at ($0.0000 < 0.05$) on the net profit margin of listed consumer goods firms in Nigeria. In line with the results, the older the consumer goods firm is, the lower its financial performance in terms of net profit margin (NPM).

Table 4.6: Estimated Least Square Panel Regression Results (DEP = EPS)

VARIABLES	(1) Coef	(2) pval	(3) tstat
EPS			
FLA	0.0541*	0.0717	1.812
FS	3.467***	2.01e-06	4.916
FA	0.00291	0.943	0.0712
Constant	-25.95***	1.12e-05	-4.522
Observations	180		
R-squared	0.432		

Standard errors in parentheses *** p<0.01

Source: Author's Computation 2023

The results of the panel ordinary least square regression obtained for the study when financial performance is proxy for with earnings per share (EPS) are presented in Table 4.6. From the results, the estimated coefficient of 0.0541 with a p value of 0.0717 in the table indicates that financial leverage has positive impact on the earnings per share of listed consumer goods firms in Nigeria. However, the impact is not significant at (0.0717>0.05) but only at 10 per cent (0.0717<0.1). In line with the results, the higher the financial leverage, the higher is the financial performance of Nigerian listed consumer goods firms in terms of earnings per share. Also, the estimated coefficient of 3.467 with a p value of 0.000 in Table 4.6 revealed that firm size has positive impact on the earnings per share of listed consumer goods firms in Nigerian and the impact is significant at (0.000<0.05). In line with the results, the higher the firm size, the higher the financial performance of Nigerian listed consumer goods firms in terms of earnings per share. The results further reveal that, the estimated coefficient of 0.00291 with associated p value of 0.943 in Table 4.6 indicated that firm age has positive impact which is however not significant at (0.943>0.05) on the earnings per share of listed consumer goods firms in Nigeria. In line with the results, the age of the consumer goods firm is not influencing the financial performance in terms of earnings per share (EPS).

4.3.2 Goodness of Fit of the Model

The study examined the goodness of fit of the model using R-squared which ranges between 0 and 1. For the results in Table 4.4, the estimated R-squared is 0.513. This implies that the model is relatively of good fit as the explanatory variables jointly explain 51.3 percent of the variations in the return on asset of listed consumer goods firms in Nigeria while the remaining 48.7 percent is explained by other factors not captured here.

4.4 Tests of Hypotheses

The study is based on three different hypotheses.

Hypothesis 1:

H₀: financial leverage has no significant impact on the financial performance of listed consumer goods firms in Nigeria.

Hypothesis 2:

H₀: firm size has no significant impact on the financial performance of Nigerian listed consumer goods firms Nigeria.

Hypothesis 3:

H₀: firm age has no significant impact on the financial performance of listed consumer goods firms in Nigeria.

4.4.1 Hypothesis One

The results obtained in respect of the first null hypothesis of this study are summarized in Table 4.7. The first null hypothesis states that financial leverage has no significant impact on the financial performance of listed consumer goods firms in Nigeria. From the Table, the null hypothesis is rejected when financial performance is proxy with ROA and NPM while it is not rejected when financial performance is proxy with EPS.

Table 4.7: Summary of Findings on Hypothesis One

Hypothesis	Profitab Measure	Findings	Remarks
Financial Leverage has no significant impact on the profitability of listed consumer goods firms in Nigeria	ROA	b = -0.112 (0.00189 < 0.05)	Null Hypothesis Rejected at 5%
	NPM	b= -0.426 (0.0028<0.05)	Null Hypothesis Rejected at 5%
	EPS	b=0.0541 (0.0717>0.05)	Null Hypothesis not Rejected at 5%

Source: Author's Computation, 2023

4.4.2 Hypothesis Two

The results obtained in respect of the second null hypothesis of this study are summarized in Table 4.8. The second null hypothesis states that firm size has no significant impact on the financial performance of listed consumer goods firms in Nigeria. From the Table, the null hypothesis is rejected when financial performance is proxy with ROA, NPM and EPS.

Table 4.8: Summary of Findings on Hypothesis Two

Hypothesis	Profitab Measure	Findings	Remarks
Firm size has no significant effect on the profitability of listed consumer goods firms in Nigeria	ROA	b = 3.417 (0.000 < 0.05)	Null Hypothesis Rejected at 5%
	NPM	b= 8.060 (0.000<0.05)	Null Hypothesis Rejected at 5%
	EPS	b=3.467 (0.000<0.05)	Null Hypothesis Rejected at 5%

Source: Author's Computation, 2023

4.4.3 Hypothesis Three

The results obtained in respect of the third null hypothesis of this study are summarized in Table 4.9. The third null hypothesis states that firm age has no significant impact on the financial performance of listed consumer goods firms in Nigeria. From the Table, the null hypothesis is rejected when financial performance is proxy with ROA and NPM while it is not rejected when financial performance is proxy with EPS.

Table 4.9: Summary of Findings on Research Hypothesis Three

Hypothesis	Profitab Measure	Findings	Remarks
Financial Leverage has no significant impact on the profitability of listed consumer goods firms in Nigeria	ROA	b = -0.135 (0.0061 < 0.05)	Null Hypothesis Rejected at 5%
	NPM	b=-0.316 (0.000<0.05)	Null Hypothesis Rejected at 5%
	EPS	b=0.0029 (0.943>0.05)	Null Hypothesis not Rejected at 5%

Source: Author's Computation, 2023

The results in Table 4.4 contained the outcome of the Breusch-Pagan heteroscedasticity test, and Wooldridge test for serial correlation in panel data. The tests are conducted for model 1, 2 and 3 which respectively represent various proxies of financial performance employed in the study. The estimated Breusch-Pagan F value of 16.15 with p value of 0.0001 indicates that the null hypothesis of no homoscedasticity is rejected for model 1 where ROA is used to proxy the financial performance. Similar results are obtained for models 2 and 3 where the null hypothesis of no homoscedasticity is also rejected. Thus, the results showed that the data used in the study are characterized with the problem of heteroscedasticity. Similarly, the estimated F value of 69.599 at p-value of 0.0000 on the table indicated that the null hypothesis of no serial correlation is rejected. Hence, the data used in the study are also characterized with serial correlation problem. Similar results are found for model 2 and 3. Hence, the study found evidence of first order serial correlation in each of the four models. To correct these violations, the study obtains the regression results with robust standard error.

Table 4.4: Diagnostic Test for Serial Correlation and Heteroskedasticity Results

Diagnostic Test	Type of Test	F Value	P Value	Remarks
Model 1 (ROA)				
Heteroskedasticity	Breusch-Pagan	16.15	0.0001	Presence of Heteroskedasticity
Serial Correlation	Wooldridge	69.599	0.0000	Presence of serial correlation
Model 2 (NPM)				
Heteroskedasticity	Breusch-Pagan	236.35	0.000	Presence of Heteroskedasticity
Serial Correlation	Wooldridge	13.599	0.0004	Presence of serial correlation
Model 3 (EPS)				
Heteroskedasticity	Breusch-Pagan	195.21	0.000	Presence of Heteroskedasticity
Serial Correlation	Wooldridge	12.156	0.0008	Presence of serial correlation

Source: Author' Computation, 2022

4.5 Discussion of Findings

The results of the OLS panel regression model presented in section 4.4 revealed that financial leverage has negative and significant impact on the return on asset and net profit margin. The implication of the findings is that the higher is the financial leverage of the listed consumer goods firms in Nigeria, the lower is the financial performance in terms of the ROA and NPM. These results suggested that debts are detrimental to the performance of the listed consumer goods firms. These findings aligned with the submission of previous related empirical literature. These include the study by Mohammed and Usman (2016) who examined the impact of corporate attributes on the profitability of listed pharmaceutical firms in Nigeria using a panel data of five sampled firms for a period of ten years (2004-2013) and reported that financial leverage had positive and significant relationship with profitability. The result is also consistent with the findings of Maleya and Willy (2018) who examined the factors affecting the financial performance of listed companies at Nairobi Securities Exchange in Kenya and reported that financial leverage had a significant negative effect on financial performance. The results found here could not agree with the submission of some other previous literature such as Issa (2013) who reported positive but no significant influence of financial leverage on the financial performance of agricultural firms in Nairobi. Uwuigbe, Uwuigbe, Adeyemo, and Ogunbajo (2016) also found no significant influence of financial leverage on the profitability represented by ROA in a study to examine the effect of corporate attributes on the profitability of companies by employing the annual reports of thirty selected companies listed on the Nigerian Stock Exchange (NSE) for a period of 5 years (2007-2011).

Furthermore, the results of the panel regression model presented in section 4.4 revealed that firm size recorded positive and significant impact on the profitability of listed consumer goods firms in Nigeria and the results are the same across the three measures of profitability including ROA, NPM and EPS. The implication of the results is that profitability tends to be higher for firms that are bigger in size. This may be due to the fact that they take advantage of economic of scale in improving their position in the market and thus have higher profitability. The results obtained here is consistent with the findings of Mohammed and Usman (2016) who examined the impact of corporate attributes on the profitability of listed pharmaceutical firms in Nigeria using a panel data of five sampled firms for a period of ten years (2004-2013) and reported that firm size had positive and significant relationship with profitability. It also agreed with Maleya and Willy (2018) who examined the factors affecting the financial performance of listed companies at Nairobi Securities Exchange in Kenya and reported that firm size had a significant positive effect on the financial performance. The results found here however do not agree with some other previous findings such as Issa (2013) who reported positive but insignificant influence of firm size on the financial performance of agricultural firms in Nairobi. It is also inconsistent with the work of Uwuigbe, Uwuigbe, Adeyemo, and Ogunbajo (2016) who found no significant influence of firm size on profitability represented by ROA in a study that examined the effect of corporate attributes on the profitability of companies by employing the annual reports of thirty selected companies listed on the Nigerian Stock Exchange (NSE) for a period of five years (2007-2011).

5.1 Conclusions and Recommendations

The attainment of profitability is arguably central to the long run growth and survival of any corporate entity. This is even as the study found that age of the firm is negatively associated with the profitability of Nigerian listed consumer goods firms. In conclusion, the evidence from the empirical results affirms that the profitability of listed consumer goods companies in Nigeria is significantly driven by the attributes of the companies. It is recommended that the regulatory bodies such as Financial Reporting Council of Nigeria and other relevant bodies should regulate the debt taken by the consumer goods firms in Nigerian since the study found that financial leverage is detrimental to the profitability of the firms. Also, since the firms found that larger firms recorded higher profitability, it is recommended that management and other stakeholders of consumer goods firms in Nigerian should invest in their expansion so as to gain advantage of economies of scale and improve their profitability.

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