

Growth Drivers and Financial Performance of Listed Consumer Goods Firms in Nigeria: Evidence from Turnover, Equity and Total Assets

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Abstract

This article examined the effects of turnover, equity, and total assets on the financial performance of listed consumer goods firms in Nigeria, measured by return on assets (ROA). The study employed a balanced panel of 60 firm-year observations covering five firms listed on the Nigerian Exchange Group (NGX), Nestlé Nigeria Plc, Nigerian Breweries Plc, Unilever Nigeria Plc, Dangote Sugar Refinery Plc and Cadbury Nigeria Plc for the period 2014–2025. Anchored primarily in Resource-Based Theory, the study conceptualises turnover, equity, and total assets as observable indicators of resource accumulation whose contribution to profitability depends on the efficiency with which the underlying resources are deployed. Descriptive statistics, Pearson correlation analysis, variance inflation factor diagnostics, four panel unit root tests, and comparative estimation using pooled ordinary least squares, fixed effects, and random effects models were conducted. The Hausman specification test ($\chi^2 = 9.8894$, $p = 0.0195$) favoured the fixed effects model. Subsequent diagnostic tests identified groupwise heteroscedasticity and cross-sectional dependence, necessitating the use of Driscoll–Kraay standard errors. The results indicate that turnover has a strong positive bivariate association with ROA ($r = 0.8555$) but has no statistically significant independent effect after controlling for equity and total assets ($\beta = 0.0000107$, $p = 0.9859$). Equity has a positive and statistically significant effect on ROA across all model specifications ($\beta = 0.0051$, $p = 0.0000$), whereas total assets exert a statistically significant negative effect ($\beta = -0.0008$, $p = 0.0090$). The selected fixed-effects model explains approximately 76 percent of within-firm variation in ROA. The findings indicate that growth in financial and physical resources does not necessarily translate into improved profitability. Equity accumulation is associated with stronger financial performance, while expansion of the asset base without corresponding improvements in asset utilisation may reduce returns. The study concludes that capital structure and resource deployment are more consequential for profitability than revenue or asset expansion considered in isolation.

Keywords: Growth drivers, turnover, equity, total assets, financial performance, panel evidence, Nigeria.

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Introduction

Firm growth is a central concern in corporate finance because expansion in operating activity and resource capacity is expected, in principle, to enhance the ability of firms to generate sustainable returns. In financial reporting, turnover, shareholders' equity and total assets represent prominent indicators of such expansion. Nevertheless, growth in these accounting measures does not necessarily imply a corresponding improvement in profitability. An increase in turnover may be accompanied by rising operating costs, while expansion in the asset base may generate limited returns where additional resources are inefficiently deployed. Similarly, an increase in equity may strengthen financial capacity without necessarily translating into superior performance unless the additional capital is allocated to productive activities. The relationship between firm growth and profitability is therefore an empirical question rather than an assumption (Edogbo et al., 2026)

The theoretical basis for this distinction is provided by the resource-based view of the firm. Wernerfelt conceptualised firms in terms of the resources they control and argued that differences in resource positions can influence competitive outcomes. Barney subsequently established that resources contribute to sustained competitive advantage when they possess characteristics that enable firms to create value and are effectively organised and exploited. Within this perspective, the financial and physical resources reflected in shareholders' equity and total assets may contribute to firm performance, but their accumulation alone does not guarantee superior returns. Turnover, in particular, represents an outcome of the firm's operating activities and market transactions and may therefore provide information about the extent to which its resource base is being converted into sales rather than constituting a productive resource in itself. This distinction is important when evaluating whether accounting indicators of expansion are independently associated with profitability (Adeyefa & Adeyefa, 2025)

Empirical research provides mixed evidence concerning the relationship between growth indicators and financial performance. Hasanudin (2021), examining firms in the fast-moving consumer goods manufacturing subsector, found that sales growth had a positive but statistically insignificant relationship with return on assets, whereas inventory turnover had a positive effect on profitability. The finding suggests that an increase in sales does not necessarily translate directly into improved returns and that the efficiency with which operating resources are utilised may be more consequential. Similarly, evidence from Indonesian mining firms indicates that total asset turnover is significantly associated with return on assets, reinforcing the importance of asset utilisation in explaining profitability (Zaman, 2021; Fijabi et al., 2023). These findings imply that the profitability consequences of corporate expansion depend not only on the magnitude of growth but also on the efficiency with which the resulting resources are deployed.

The financial structure through which firms accumulate and deploy resources also has implications for profitability. Evidence from pharmaceutical firms indicates that leverage-related measures significantly influence return on assets, suggesting that the composition of the firm's financing base can affect the returns generated from its resources (Susilawati et al., 2022). Similarly, Vatavu (2015) found that capital structure and other firm-specific characteristics were important determinants of return on assets among firms listed on the Bucharest Stock

Exchange, with profitability associated with more limited reliance on borrowings. Such findings support the view that resource accumulation should be assessed alongside the financial structure and efficiency with which those resources are employed. Consequently, shareholders' equity may be particularly relevant because it represents the residual financial interest available to support investment and operating activities, while total assets capture the broader resource base from which returns are expected to be generated.

These relationships are especially pertinent to the Nigerian consumer goods sector. Firms operating in this sector are exposed to substantial fluctuations in exchange rates, inflation, energy costs, input prices, and consumer purchasing power. Such conditions can produce substantial changes in the nominal values of turnover, equity, and assets without necessarily generating equivalent improvements in productive efficiency or profitability. The interpretation of reported growth therefore requires greater attention to the relationship between resource expansion and the returns generated from those resources. This consideration is particularly important in an economy where changes in the general price level and exchange-rate movements can materially influence the values reported in financial statements.

The consumer goods sector also provides an appropriate empirical setting because it contains established firms with substantial operating histories and publicly available financial statements. The sector is characterised by relatively high levels of investment in inventories, property, plant and equipment, distribution networks, working capital, and other operating resources. Consequently, changes in the size and composition of the asset base may have important implications for profitability. Where additional assets generate sufficient sales and earnings, expansion may enhance returns; where asset accumulation exceeds the capacity for productive utilisation, however, profitability may weaken. The relationship between asset utilisation and ROA documented in previous empirical studies reinforces the need to examine this issue within the Nigerian context rather than extrapolating findings from other economic and institutional environments (Vatavu, 2015; Zaman, 2021).

Return on assets (ROA) is adopted in this study as the measure of financial performance because it relates earnings to the total resources employed by the firm. This measure is particularly suitable for the present investigation because one of the principal explanatory variables is total assets. ROA consequently provides a direct basis for assessing whether changes in the scale of resources controlled by a firm are accompanied by corresponding changes in earnings. It also permits the analysis to distinguish between growth in accounting values and growth that is associated with improved resource productivity.

Despite the evidence available from different sectors and economies, the relationship between turnover, equity, total assets, and profitability remains insufficiently established for listed consumer goods firms in Nigeria. Existing studies have frequently examined individual growth or efficiency indicators, employed different measures of profitability, or focused on firms operating in other institutional environments. More importantly, the strong interrelationship that may exist among turnover, equity, and total assets creates an empirical need to examine their independent associations with profitability within a common specification. A strong bivariate relationship between a growth indicator and ROA may not persist after controlling for other dimensions of firm scale and resource accumulation.

Against this background, the present study examines the relationship between turnover, shareholders' equity, total assets and return on assets among selected consumer goods firms listed on the Nigerian Exchange Group over the period 2014–2025. By considering the three indicators jointly within a panel-data framework, the study seeks to determine whether reported expansion in operating activity, financial resources, and asset holdings is independently associated with improved profitability. The study thereby contributes to the literature by providing firm-level evidence on the extent to which different dimensions of corporate growth translate into financial performance within the Nigerian consumer goods sector.

Statement of the Problem

Financial reporting by listed consumer goods firms places considerable emphasis on changes in turnover, equity, and total assets. However, the profitability implications of these changes are not necessarily uniform. Firms may experience substantial growth in turnover while profitability remains stagnant or declines. Similarly, expansion in equity or total assets may not produce proportional increases in earnings when additional resources are inefficiently deployed.

The predominance of headline growth indicators creates an analytical problem for investors, managers, and other stakeholders because growth in financial statement variables may be interpreted as evidence of improved performance without sufficient consideration of the efficiency with which additional resources are utilised. Moreover, empirical evidence concerning the individual effects of turnover, equity, and total assets on profitability among listed Nigerian consumer goods firms remains limited, particularly within a jointly estimated panel framework.

The absence of sufficiently disaggregated evidence makes it difficult to determine whether these indicators constitute independent drivers of profitability or merely reflect correlated dimensions of firm size and resource accumulation. This issue is further complicated by the possibility of multicollinearity among turnover, equity, and total assets. Empirical investigation that accounts for these relationships and applies appropriate panel-data diagnostics is therefore necessary to establish the independent contribution of each growth indicator to financial performance.

Objectives of the Study

The study seeks to:

- i. determine the effect of turnover on the return on assets of listed consumer goods firms in Nigeria;
- ii. determine the effect of equity on the return on assets of listed consumer goods firms in Nigeria; and
- iii. determine the effect of total assets on the return on assets of listed consumer goods firms in Nigeria.

Research Questions

The study addresses the following research questions:

- i. What is the effect of turnover on the return on assets of listed consumer goods firms in Nigeria?
- ii. What is the effect of equity on the return on assets of listed consumer goods firms in Nigeria?

- iii. What is the effect of total assets on the return on assets of listed consumer goods firms in Nigeria?

Hypotheses

The following null hypotheses are formulated:

H0₁: Turnover has no significant effect on the return on assets of listed consumer goods firms in Nigeria.

H0₂: Equity has no significant effect on the return on assets of listed consumer goods firms in Nigeria.

H0₃: Total assets have no significant effect on the return on assets of listed consumer goods firms in Nigeria.

Significance of the Study

The study provides empirical evidence relevant to investors, corporate managers and researchers. For investors and financial analysts, the findings provide a basis for distinguishing between growth indicators that are associated with profitability and those that do not demonstrate an independent relationship with financial performance. For corporate managers, the results provide evidence concerning the relative importance of equity accumulation and asset deployment in improving returns. For researchers, the study extends the empirical literature on growth and profitability among Nigerian consumer goods firms by jointly examining turnover, equity, and total assets within a panel-data framework incorporating formal diagnostic procedures.

The methodological contribution derives from the systematic application of panel unit root tests, multicollinearity diagnostics, alternative panel estimators, the Hausman specification test, and tests for heteroscedasticity, serial correlation and cross-sectional dependence. The resulting specification provides a basis for inference that accounts for important characteristics of the panel data.

Scope of the Study

The study covers five consumer goods firms listed on the Nigerian Exchange Group with complete audited financial statements for the period 2014–2025. The firms are Nestlé Nigeria Plc, Nigerian Breweries Plc, Unilever Nigeria Plc, Dangote Sugar Refinery Plc, and Cadbury Nigeria Plc. The explanatory variables are turnover, equity and total assets, while financial performance is measured by return on assets.

Review of Related Evidence

Conceptual Clarification

Turnover represents the revenue generated from a firm's principal operating activities during a financial year. It is one of the most visible indicators of corporate expansion because it reflects the volume and monetary value of goods and services sold. However, higher turnover does not necessarily result in higher profitability because the relationship between revenue and earnings depends on operating costs, pricing decisions, financing costs, taxation, and operating efficiency.

Equity represents the residual interest of shareholders in the assets of a firm after deducting liabilities. It comprises components such as share capital, share premium, and retained earnings. Equity provides a source of financing and may reduce dependence on external borrowing, thereby influencing the firm's financial flexibility and capacity to undertake productive investments.

Total assets comprise the resources controlled by a firm, including cash, inventories, receivables, property, plant and equipment, and other assets. Although asset growth may indicate expansion in productive capacity, the aggregate value of assets does not provide direct evidence of their efficiency or productivity. A larger asset base may therefore generate higher or lower profitability depending on how effectively the resources are utilised.

Return on assets is a profitability measure that relates net income to total assets. It assesses the efficiency with which a firm's asset base is used to generate earnings. Its use as the dependent variable is particularly appropriate for the present study because it permits an assessment of whether increases in assets are accompanied by corresponding increases in profitability.

Nominal Growth and Financial Performance

The distinction between nominal growth and performance-relevant growth is particularly important in the Nigerian economic environment. Changes in the general price level and exchange rate can increase the naira values reported in financial statements without producing corresponding improvements in real productive capacity or profitability. Turnover, equity, and total assets may therefore record substantial nominal increases even when operating efficiency remains unchanged.

An assessment based solely on the growth of these accounting variables may consequently overstate improvements in corporate performance. Empirical analysis is required to determine whether increases in these indicators are systematically associated with higher returns on the resources employed by firms. The present study addresses this issue by examining the independent effects of turnover, equity and total assets on ROA within a jointly estimated panel model.

Theoretical Evidence Base

The principal theoretical foundation of the study is Resource-Based Theory (Wernerfelt, 1984; Barney, 1991). The theory explains differences in firm performance in terms of the resources and capabilities controlled by firms and the extent to which those resources provide sustainable competitive advantages. Within this framework, turnover, equity, and total assets can be interpreted as observable manifestations of resource accumulation rather than automatic determinants of superior performance.

Resource-Based Theory suggests that resources contribute to performance when they possess characteristics that enable firms to create value and when they are effectively deployed. Resource accumulation without efficient utilisation may therefore result in increased organisational scale without a corresponding improvement in profitability. The theory provides an appropriate basis for examining whether the financial resources and operating scale represented by turnover, equity, and total assets are associated with superior ROA.

The study is also informed by Sustainable Growth Theory (Higgins, 1977), which relates sustainable corporate expansion to internally generated funds, profitability, asset utilization and financing capacity. The theory suggests that growth beyond a firm's financial and operational capacity may create financial pressures and reduce efficiency. Consequently, expansion in assets or other financial indicators may become counterproductive when the rate of resource accumulation exceeds the firm's capacity to generate adequate returns.

Empirical Evidence

Evidence on Turnover and Profitability

Previous empirical evidence concerning turnover-related indicators and profitability is mixed. Li et al. (2022), using ten years of panel data from a broad sample of firms, found that labour turnover was negatively associated with subsequent ROA, particularly among small and young firms. Hasanudin (2021) reported that inventory turnover significantly influenced ROA among Indonesian fast-moving consumer goods firms. Nurlaela et al. (2019) found a significant positive effect of total asset turnover on ROA among firms in the Indonesian consumption industry.

Contrasting evidence was reported by Wulandari and Lubis (2022), who found no significant effect of receivables and inventory turnover on ROA in an Indonesian pharmaceutical firm during a period of economic volatility. Warrad and Al Omari (2015) similarly reported no significant relationship between turnover ratios and profitability among Jordanian service firms. The divergent findings suggest that the relationship between turnover and profitability may depend on the sector, the specific turnover measure employed, firm characteristics, and prevailing macroeconomic conditions.

Evidence on Equity and Profitability

The relationship between equity and profitability has generally received more consistent empirical support. Susilawati et al. (2022) found that a higher debt-to-equity ratio significantly reduced ROA among Indonesian pharmaceutical firms, implying that greater reliance on debt relative to equity may constrain profitability.

Abraham and Auerbach (2017), examining NASDAQ-listed firms, found that earnings yield significantly explained ROA and other measures of corporate performance beyond simple book-value comparisons. Kumalasari and Pratikto (2018) reported that governance quality strengthened ROE and ROA, providing evidence that effective management of the equity base may be associated with improved asset efficiency. Mubeen et al. (2014), using firms listed on the Karachi Stock Exchange across six industries, found relatively limited variation in the equity multiplier across industries compared with asset turnover. These findings suggest that equity-related characteristics may exhibit greater stability across firms than activity-based indicators.

Evidence on Total Assets and Profitability

Empirical evidence concerning total assets and profitability provides support for the proposition that asset expansion does not automatically produce higher returns. Vatavu (2015), examining 199 firms listed on the Bucharest Stock Exchange, found that asset turnover and firm size were significant determinants of ROA, while

leverage was negatively associated with profitability. The findings suggest that the financing and utilisation of assets may be as important as the size of the asset base itself.

Zaman (2021), studying Indonesian mining firms, reported a significant positive effect of total asset turnover on ROA and a negative effect of the debt-to-total-assets ratio. Suardana et al. (2018) similarly found that total asset turnover and leverage jointly influenced ROA and subsequent profit growth. Collectively, these findings indicate that the profitability implications of asset growth depend substantially on the efficiency of asset utilisation and the manner in which asset expansion is financed.

Evidence on the Joint Behaviour of Growth Drivers

A comparatively smaller body of research has examined turnover, equity, and asset-related indicators jointly rather than independently. This approach is particularly relevant because high correlations among financial statement variables may produce misleading inferences when individual variables are examined without controlling for related indicators.

Kamruzzaman (2019), analysing eighteen years of data from a Bangladeshi pharmaceutical firm across sixteen potential explanatory variables, found that several turnover- and liquidity-related indicators were positively associated with ROA in isolation but were excluded from the final model after multicollinearity was considered. The finding demonstrates the importance of evaluating the independent explanatory contribution of correlated variables.

Widiasmara et al. (2022), examining Indonesian consumer goods firms, found that current ratio and ROA did not significantly predict profit growth when debt-to-equity ratio and net profit margin were included in the same model. The findings indicate that financing structure and profitability measures may substantially alter the apparent influence of simpler activity and scale indicators. Joint estimation is therefore necessary where explanatory variables capture overlapping dimensions of firm growth.

Evidence from Methodologically Comparable Panel Studies

Panel-based studies provide methodological support for the estimation strategy adopted in the present study. Osamor et al. (2021), using Panel Dynamic Ordinary Least Squares for six Nigerian oil and gas firms over thirteen years, found that current asset utilisation and turnover significantly influenced ROA. The study demonstrates the value of panel methods for examining firm-level relationships over an extended period.

Ratnaningtyas and Nurbaeti (2023), using data from firms listed on the Indonesia Stock Exchange, found that current ratio and total asset turnover influenced ROA, which subsequently mediated part of their effect on stock prices. Although the analytical framework differed from that employed in the present study, the findings support the proposition that activity and liquidity indicators may affect broader measures of corporate value through their influence on profitability.

Evidence Gap

Existing studies have rarely examined turnover, equity and total assets simultaneously within a single panel model specifically focused on listed consumer goods firms in Nigeria. Furthermore, the existing evidence does not consistently incorporate a comprehensive sequence of diagnostic procedures involving panel unit root tests, multicollinearity assessment, alternative estimator selection, and tests for heteroscedasticity, serial correlation, and cross-sectional dependence.

The present study addresses this gap by jointly estimating the effects of turnover, equity and total assets on ROA using firm-level panel data and by applying diagnostic procedures to determine the appropriate estimation framework and standard-error correction. The approach enables the analysis to distinguish between the simple association of growth indicators with profitability and their independent effects after controlling for the other dimensions of firm growth.

Methodology

Research Design and Data

The study adopts an *ex-post facto* research design based on secondary data obtained from the audited financial statements of five purposively selected consumer goods firms listed on the Nigerian Exchange Group. The firms comprise Nestlé Nigeria Plc, Nigerian Breweries Plc, Unilever Nigeria Plc, Dangote Sugar Refinery Plc, and Cadbury Nigeria Plc. The observation period extends from 2014 to 2025, producing a balanced panel of 60 firm-year observations.

Model Specification

The relationship between the explanatory variables and financial performance is specified as follows:

$$ROA_{it} = \beta_0 + \beta_1 TO_{it} + \beta_2 EQ_{it} + \beta_3 TA_{it} + c_i + \varepsilon_{it}$$

where:

ROA = return on assets;

TO = turnover;

EQ = equity;

TA = total assets;

β_0 = intercept;

$\beta_1, \beta_2, \beta_3$ = coefficients of the explanatory variables;

c_i = firm-specific effect; and

ε_{it} = idiosyncratic error term.

The firm-specific effect is treated as fixed or random in the alternative panel specifications, with the Hausman specification test used to determine the preferred estimator.

Evidence-Generation Procedure

The empirical procedure was undertaken in five stages. First, descriptive statistics and Jarque–Bera normality tests were computed to establish the distributional characteristics of the variables. Second, Pearson correlation coefficients and variance inflation factors were obtained to assess the degree of association and potential multicollinearity among the explanatory variables.

Third, four panel unit root tests—Levin, Lin and Chu (LLC), Im, Pesaran and Shin (IPS), Fisher-ADF, and Fisher-PP—were applied at levels and first differences to assess the stationarity properties of the variables. Fourth, pooled ordinary least squares, fixed effects, and random effects models were estimated and compared, with the Hausman specification test used to determine whether the fixed-effects or random-effects estimator was more appropriate.

Finally, the residuals of the selected model were subjected to the Modified Wald test for groupwise heteroscedasticity, the Wooldridge test for serial correlation, and the Pesaran cross-sectional dependence test. Driscoll–Kraay standard errors were subsequently employed to obtain inference robust to heteroscedasticity and cross-sectional dependence.

Presentation and Analysis of Evidence

Descriptive Evidence

Table 1: Descriptive Statistics of the Study Variables

Statistic	TO	EQ	TA	ROA
Mean	119.2383	47.7867	196.5483	0.0902
Median	110.7500	44.6500	186.1500	0.0900
Maximum	238.4000	92.1000	355.6000	0.1600
Minimum	58.7000	24.8000	105.3000	0.0300
Std. Dev.	39.7592	15.1662	58.1403	0.0295
Skewness	0.7927	0.7346	0.6066	0.0154
Kurtosis	3.3367	3.2024	2.8561	2.5430
Jarque-Bera (Prob.)	6.5676 (0.0375)	5.4987 (0.0640)	3.7310 (0.1548)	0.5244 (0.7694)
Observations	60	60	60	60

Source: E-view 14.0 Statistical Output, 2026

Table 1 indicates mean turnover of ₦119.24 billion, mean equity of ₦47.79 billion, and mean total assets of ₦196.55 billion. The mean ROA is 9.02 percent. The difference between the mean and median values for turnover, equity, and total assets indicates variation in firm scale within the sample. The relatively close mean and median values for ROA indicate a more symmetric distribution of profitability.

Turnover, equity, and total assets exhibit positive skewness, with coefficients of 0.7927, 0.7346, and 0.6066, respectively. Their kurtosis values are close to the benchmark of three, indicating moderate departures from the normal distribution. The Jarque–Bera statistic is significant for turnover but not for equity, total assets, or ROA at the conventional five-percent level. The results indicate some departure from normality in turnover but do not suggest substantial distributional irregularities across the variables.

Evidence on Collinearity among the Growth Drivers

Table 2: Pearson Correlation Matrix

	ROA	TO	EQ	TA
ROA	1.0000	0.8555	0.8650	0.7895
TO	0.8555	1.0000	0.9971	0.9788
EQ	0.8650	0.9971	1.0000	0.9771
TA	0.7895	0.9788	0.9771	1.0000

Table 3: Variance Inflation Factors

Variable	VIF
TO	188.69
EQ	174.60
TA	23.98
Mean VIF	129.09

Source: E-view 14.0 Statistical Output, 2026

Table 2 shows strong positive correlations between ROA and each of the explanatory variables. Turnover has a correlation coefficient of 0.8555 with ROA, equity has a coefficient of 0.8650, and total assets has a coefficient of 0.7895. However, the explanatory variables are also highly correlated with one another. The correlation between turnover and equity is 0.9971, while the correlations between turnover and total assets and between equity and total assets are 0.9788 and 0.9771, respectively.

The VIF results in Table 3 confirm the presence of severe multicollinearity. The VIF values for turnover, equity, and total assets are 188.69, 174.60, and 23.98, respectively, all of which exceed the conventional threshold of 10. The high degree of overlap among the explanatory variables implies that bivariate associations cannot be interpreted as evidence of independent effects. In particular, the strong association between turnover and equity suggests that

the estimated turnover coefficient may change substantially when the variables are entered jointly into the regression model.

Evidence on Stationarity

Four panel unit root tests were applied to the study variables: LLC, IPS, Fisher-ADF, and Fisher-PP. The Fisher-PP test rejects the null hypothesis of a unit root for all four variables at levels at the one-percent significance level. The LLC, IPS, and Fisher-ADF tests produce more mixed results at levels. This variation is consistent with the relatively short time dimension of the panel, which comprises 12 annual observations per firm.

At first differences, the evidence of stationarity becomes stronger across the four tests. The results indicate that the variables are stationary at level or become stationary after first differencing, suggesting that the series are, at most, integrated of order one. Since the theoretical model is specified in levels and the variables do not exhibit evidence of higher-order integration, the regression analysis is conducted using the level specification.

Regression Evidence

Table 4: Comparative Regression Evidence

Variable	Pooled OLS	Fixed Effects	Random Effects	FE (Driscoll–Kraay)
TO	–0.0002 (0.7258)	0.0000107 (0.9871)	–0.0002 (0.7258)	0.0000107 (0.9859)
EQ	0.0045*** (0.0033)	0.0051*** (0.0049)	0.0045*** (0.0033)	0.0051*** (0.0000)
TA	–0.0006*** (0.0001)	–0.0008*** (0.0000)	–0.0006*** (0.0001)	–0.0008*** (0.0090)
R ²	0.8171	0.7602 (within)	0.8171 (overall)	0.7602 (within)

*Note: p-values are reported in parentheses. *** indicates significance at the 1% level.*

Source: E-view 14.0 Statistical Output, 2026

The Hausman specification test produces a chi-square statistic of 9.8894 with a probability value of 0.0195. The null hypothesis that the individual effects are uncorrelated with the explanatory variables is therefore rejected at the five-percent level. The fixed-effects model is consequently preferred to the random-effects specification.

Further diagnostic tests indicate that the conventional fixed-effects standard errors are inappropriate for final inference. The Modified Wald test rejects the null hypothesis of homoscedasticity ($\chi^2(5) = 14.1344$, $p = 0.0148$), indicating groupwise heteroscedasticity. The Pesaran cross-sectional dependence test also rejects the null hypothesis of cross-sectional independence ($CD = 4.7267$, $p = 0.0000$). In contrast, the Wooldridge test does not provide evidence of serial correlation ($F(1,4) = 0.2810$, $p = 0.5985$).

Given the presence of heteroscedasticity and cross-sectional dependence, Driscoll–Kraay standard errors are employed for the final fixed-effects specification. The correction affects the estimated standard errors and

associated significance levels but does not alter the coefficient estimates. Under the corrected specification, the equity coefficient is 0.0051 and remains highly significant, while the total assets coefficient is -0.0008 and remains statistically significant. The turnover coefficient remains statistically insignificant.

The within R^2 of 0.7602 indicates that the fixed-effects specification explains approximately 76 percent of the within-firm variation in ROA. The result suggests that the three growth indicators, considered jointly with firm-specific effects, account for a substantial proportion of changes in profitability over the study period.

Test of Hypotheses

The first hypothesis states that turnover has no significant effect on ROA. Under the Driscoll–Kraay corrected fixed-effects model, turnover has a coefficient of 0.0000107, a t-statistic of 0.0178, and a probability value of 0.9859. The probability value exceeds the five-percent significance level. The null hypothesis that turnover has no significant effect on ROA is therefore not rejected.

The second hypothesis states that equity has no significant effect on ROA. The estimated equity coefficient is 0.0051, with a t-statistic of 12.8550 and a probability value of 0.0000. The coefficient is positive and statistically significant at the one-percent level. The null hypothesis is therefore rejected, indicating that equity has a significant positive effect on ROA.

The third hypothesis states that total assets have no significant effect on ROA. The estimated coefficient for total assets is -0.0008 , with a t-statistic of -2.7137 and a probability value of 0.0090. The coefficient is statistically significant at the one-percent level and carries a negative sign. The null hypothesis is therefore rejected, indicating that total assets have a significant negative effect on ROA.

Discussion of Findings

The absence of a significant independent effect of turnover on ROA contrasts with its strong positive bivariate relationship with profitability. The correlation coefficient of 0.8555 initially suggests a substantial association between turnover and ROA. However, the VIF results indicate severe multicollinearity among turnover, equity, and total assets, particularly between turnover and equity, which have a correlation coefficient of 0.9971. The regression results therefore indicate that the strong bivariate association between turnover and ROA does not represent an independent turnover effect once the related growth indicators are controlled for.

This finding is consistent with the mixed evidence reported in the literature on turnover and profitability. The result does not imply that revenue generation is irrelevant to profitability. Rather, it indicates that turnover does not provide additional explanatory power for ROA when equity and total assets are included in the same specification. Revenue growth may therefore contribute to profitability indirectly through the accumulation and deployment of financial resources rather than as an independent determinant of ROA.

Equity exhibits the most robust relationship with profitability. Its coefficient is positive and statistically significant across pooled OLS, fixed effects, random effects, and the Driscoll–Kraay corrected fixed-effects specification. The

consistency of the coefficient across alternative estimators indicates that the positive association is not attributable solely to the choice of estimation method. The finding supports the Resource-Based Theory perspective that financial resources can contribute to superior performance when they provide firms with greater capacity to undertake productive investments and maintain operational flexibility.

The significant negative coefficient for total assets provides evidence that increases in the asset base are not necessarily accompanied by proportional increases in earnings. The result is consistent with the possibility of declining asset productivity when firms accumulate resources beyond the level that can be efficiently utilised. Idle capacity, excess inventories, underutilised property and equipment, and inefficient working-capital deployment may contribute to such an outcome. The finding is also consistent with Sustainable Growth Theory, which recognises that expansion may become counterproductive when the growth of resources exceeds the firm's capacity to generate adequate returns.

The joint behaviour of the explanatory variables is therefore important to the interpretation of the findings. Turnover, equity, and total assets are highly correlated, indicating that they capture overlapping dimensions of firm growth. Their coefficients in the multivariate model should consequently be interpreted as conditional effects rather than simple associations. The results demonstrate that growth in the scale of operations or assets does not, in itself, establish improved financial performance. The efficiency with which financial and physical resources are accumulated and deployed remains a critical consideration.

Conclusion and Recommendations

Conclusion

The study examined the effects of turnover, equity and total assets on the return on assets of selected listed consumer goods firms in Nigeria over the period 2014–2025. The findings demonstrate that the three indicators of corporate growth do not have equivalent implications for profitability.

Turnover exhibits a strong positive bivariate association with ROA but does not have a statistically significant independent effect when equity and total assets are controlled for. The result is attributable, at least in part, to the substantial overlap between turnover and the other growth indicators, particularly equity. Consequently, turnover growth alone does not provide sufficient evidence of improved profitability.

Equity demonstrates a positive and statistically significant effect on ROA across all estimated specifications. This result identifies equity as the most consistent growth-related determinant of profitability within the study. A stronger equity base may provide firms with greater financial flexibility and capacity to support productive investments without excessive dependence on external financing.

Total assets exhibit a significant negative relationship with ROA across the alternative model specifications. The finding indicates that expansion of the asset base may reduce profitability when asset accumulation is not accompanied by proportionate improvements in earnings. The result reinforces the importance of asset utilisation efficiency rather than asset accumulation as an objective in itself.

Therefore, the evidence indicates that growth should not be assessed solely in terms of increases in turnover, equity, or total assets. Financial performance depends substantially on the composition, financing, and utilisation of the resources accumulated by firms. For listed consumer goods firms in Nigeria, the empirical evidence places greater emphasis on strengthening the equity base and improving asset utilisation than on pursuing revenue or asset expansion without corresponding efficiency gains.

Recommendations

Based on the findings of the study, the following recommendations are made:

- i. Investors and financial analysts should place greater emphasis on equity growth when evaluating the financial performance of listed consumer goods firms in Nigeria. Since equity was found to have a positive and statistically significant effect on return on assets (ROA), investors should consider the strength and growth of firms' equity bases as an important indicator of their capacity to generate returns from available resources. However, turnover and total asset growth should be assessed alongside other relevant financial and operational indicators rather than being regarded as independent evidence of improved profitability.
- ii. Corporate managers of listed consumer goods firms should strengthen and effectively manage their equity base. This may be achieved through sustained earnings retention, prudent dividend policies, and appropriately structured capital raising where additional funds are required for productive investment. Management should ensure that increases in equity are supported by profitable investment opportunities and efficient utilisation of the funds provided.
- iii. Management should improve the efficiency of turnover and total asset utilisation to enhance profitability. Periodic reviews should be undertaken to identify idle, obsolete, or underutilised assets, while investments in property, plant and equipment, inventories, and other resources should be guided by clear assessments of their expected contribution to revenue generation and profitability. Similarly, management should adopt appropriate strategies for improving sales turnover and ensuring that increases in turnover and asset levels translate into improved returns on assets.

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