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Non-Current Assets Intensity And Sustainable Growth Of Listed Consumer Goods Companies In Nigeria

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ABSTRACT
Despite the importance of non-current asset intensity in promoting sustainable growth, firms still face several challenges that limit their ability to achieve optimal capital investment and sustainable growth. The main objective of this study was to examine the effect of non-current assets intensity on sustainable growth of listed consumer goods companies in Nigeria. Non-current assets intensity was examined using operational assets intensity, intangible assets intensity and financial assets intensity, while sustainable growth was measured using earnings growth. The research design adopted for this study was ex-post facto, secondary data were used, the population of the study comprised 20 listed consumer goods firms in Nigeria and the sample size of 16 was purposively selected. The technique of data analysis employed was panel regression analysis and the statistical package employed was STATA 17. The findings revealed that operational assets intensity had a significant positive effect on earnings growth ($\beta = 0.895$; $p = 0.009$). Intangible assets intensity also exerted a significant positive effect on earnings growth ($\beta = 0.778$; $p = 0.037$). Similarly, financial assets intensity significantly enhanced earnings growth ($\beta = 1.033$; $p = 0.004$) of listed consumer goods companies in Nigeria. It was concluded that non-current assets intensity significantly influences earnings growth of listed consumer goods companies in Nigeria. The study recommended among others that management of listed consumer goods companies should increase strategic investments in productive operational assets, innovation-driven intangible assets and long-term financial assets and adopt advanced manufacturing technologies to improve productivity.
Keywords: Non-current assets intensity, operational assets, financial assets, sustainable growth, earnings growth.

1.0 INTRODUCTION

The achievement of sustainable growth remains one of the fundamental objectives of firms, particularly in capital-intensive sectors such as the consumer goods industry. Sustainable growth reflects a firm's capacity to expand its operations, improve earnings, and enhance shareholder value over time without jeopardizing its financial stability or relying excessively on external financing. Sustainable growth

ensures the long-term survival, competitiveness, and value creation potential of firms in dynamic economic environments. One of the critical determinants of sustainable growth is non-current assets intensity, which reflects the extent to which firms invest in long-term productive assets to support operational efficiency and expansion (Okwo et al., 2022; Martinus et al., 2023). Non-current assets play a crucial role in enhancing firms' operational efficiency, production capacity, and competitive advantage. Firms that invest heavily in productive capital assets are better positioned to improve production efficiency, reduce operational costs, and increase output, thereby enhancing earnings and growth potential. Investment in property, plant and equipment enables firms to expand production capacity, adopt advanced production technologies, and improve operational efficiency. Gamlath and Rathiranee (2025) observed that investments in fixed assets significantly improve firm profitability, indicating that capital investment enhances firms' productive capacity and financial performance.

Beyond physical assets, investment in intangible assets such as patents, trademarks, software, and brand equity also play a vital role in promoting sustainable growth. Intangible assets enhance innovation capacity, improve product quality, and strengthen firms' competitive positioning in the market. According to Etim et al. (2024), firms that invest in intangible assets are better able to develop innovative products, improve operational efficiency, and respond effectively to changing market conditions. In addition, investment in long-term financial assets represents another important component of capital intensity. Long-term financial investments enable firms to diversify their income sources, reduce operational risk, and enhance financial stability, thereby supporting sustainable growth. Financial asset intensity provides firms with opportunities to generate additional income, improve liquidity, and strengthen their financial position (Al Ani & Chavali, 2023; Idris et al., 2025). Sustainable growth in this study was measured using earnings growth, which reflects the firm's ability to increase its earnings over time. Earnings growth is a critical indicator of firm sustainability because it reflects improvements in operational efficiency, profitability, and value creation.

Despite the importance of non-current assets intensity in promoting firm growth, many listed consumer goods companies in Nigeria have experienced unstable and inconsistent earnings growth in recent years. The Nigerian consumer goods sector is characterized by fluctuating earnings, declining profit margins, and increasing operational costs, which raise concerns about the sustainability of firm growth. Consequently, their ability to maintain internally generated growth, reinvest earnings, expand operations and sustain shareholders' equity is threatened. This situation is largely attributed to inadequate investment in productive capital assets, inefficient utilization of existing capital, and financial constraints that limit firms' ability to undertake long-term investments. According to Etim et al. (2024), capital expenditure significantly enhances firm performance, yet many Nigerian firms face financial limitations that restrict their ability to invest in productive assets.

Empirical studies that examined the relationship between non-current assets intensity and firm performance revealed some conceptual, methodological and contextual gaps. First, prior empirical studies have predominantly focused on traditional measures of financial performance such as return on assets, profit margin, return on capital employed, and firm value, rather than sustainable growth indicators such as earnings growth rate (Saif-Alyousfi et al., 2025; Gamlath & Rathiranee, 2025; Dan et al.,2023; Nangih & Onuora, 2020). Also, most prior studies have measured non-current asset intensity using aggregate or single proxies, such as capital expenditure ratios, fixed asset ratios, or capital intensity ratios, without disaggregating capital intensity into its major components. For instance, Gamlath and Rathiranee (2025) used total assets to sales ratio, Wanlapa et al. (2024) used capital expenditure to revenue ratio, and Dan et al. (2023) used capital investment rates. While Okeke and Yetunde (2025) and Nangih and Onuora (2020) incorporated proxies such as property, plant and equipment and intangible assets, limited attention has been given to examining the combined and individual effects of investment in property, plant and equipment, intangible assets and long-term financial assets as distinct components of capital intensity. Third, there is a contextual gap in the literature, as many of the existing studies were conducted outside Nigeria, particularly in Oman (Saif-Alyousfi et al., 2025), Sri Lanka (Gamlath & Rathiranee, 2025), Indonesia (Dyah & Taufiq, 2025; Martinus et al., 2023; Siti et al., 2022), Thailand (Wanlapa et al., 2024),

and Vietnam (Dan et al., 2023). The institutional, regulatory, and economic environments in these countries differ significantly from Nigeria, limiting the applicability of their findings to Nigerian firms. Even within Nigeria, existing studies such as Nangih and Onuora (2020), Okechukwu and Ugwu (2022), Eleba and Tubotamuno (2024) focused on oil and gas firms, pharmaceutical companies and food and beverage firms, respectively, without specifically examining the the consumer goods sector. Listed consumer goods firms operate under unique competitive, operational, and investment conditions that may influence how capital intensity affects their sustainable growth. Finally, empirical findings on the relationship between non-current assets intensity and firm performance remain mixed and inconclusive. While studies such as Saif-Alyousfi et al. (2025), Dan et al. (2023), and Nangih and Onuora (2020) reported positive relationships, others such as Dyah and Taufiq (2025) and Wanlapa et al. (2024) found insignificant or negative relationships, highlighting the need for further investigation into the individual effects of different capital intensity components on sustainable growth. Therefore, this study addressed these identified gaps by examining the effect of non-current assets intensity on sustainable growth proxied by earnings growth rate, disaggregating capital intensity into investment in property, plant and equipment, investment in intangible assets, and investment in long-term financial assets.

2.0 Literature Review and Theoretical Framework

2.1.1 Non-current assets intensity

Non-current assets intensity refers to the degree to which a firm commits financial resources to acquiring long-term productive assets such as machinery, equipment, buildings, and technology infrastructure. These assets are property, plant and equipment covered by IAS 16, intangible assets covered by IAS 38, financial assets covered by IFRS 9, investment property covered by IAS 40 and Leased assets covered by IFRS 16. Firms with high capital intensity typically depend heavily on physical assets to produce goods and services, whereas firms with low capital intensity rely more on labour input (Okeke & Yetunde**,** 2025). According to Saif-Alyousfi et al. (2025), capital intensity reflects the extent of funds invested in non-current assets to support operational activities and achieve profit maximization. Capital intensity describes the proportion of investment in tangible and intangible non-current assets relative to total assets, which directly influences operational structure, productivity, and financial performance. (Nangih & Onuora, 2020) Thus, capital intensity serves as an indicator of the firm's production structure, resource allocation efficiency, and long-term strategic commitment to capital investment.

Non-current assets play a crucial role in determining production efficiency and firm productivity. Martinus et al. (2023) suggests that higher capital intensity enhances labour productivity because the availability of advanced machinery, technology, and infrastructure enables workers to produce more output efficiently. This concept aligns with the capital deepening principle, which explains that increased capital per worker improves production capacity and operational efficiency. Furthermore, capital-intensive firms can achieve economies of scale, which allow them to reduce average production costs as output increases. By spreading fixed capital costs over larger production volumes, firms can enhance efficiency, reduce unit costs, and improve overall financial performance (Wanlapa et al., 2024). This makes capital intensity an essential determinant of production efficiency and firm competitiveness. Non-current assets have significant implications for firm performance, profitability, and earnings growth. According to Oeta et al. (2019), firms that invest heavily in capital assets such as property, plant, and equipment, patent, trade mark, intellectual capital, research and development as well as financial assets enhance their production capacity and operational efficiency, which ultimately contributes to improved financial performance (Gamlath & Rathiranee, 2025). Capital-intensive firms can generate higher output, improve product quality, and achieve competitive advantages through technological superiority and efficient production systems.

2.1.2 Sustainable growth

Sustainable growth reflects the firm's capacity to generate sufficient internal resources to support its expansion while maintaining an optimal balance between profitability, investment, and financial structure. According to Akpan (2026), sustainable growth refers to the ability of a firm to maintain

consistent expansion in its earnings, operations, and overall performance over time without compromising its financial stability or relying excessively on external financing. Sustainable growth emphasizes long-term viability rather than short-term performance, making it a critical indicator of firm success and continuity. As noted by Gamlath and Rathiranee (2025), sustainable growth is rooted in the principle that firms must balance their operational efficiency, investment decisions, and financial policies to ensure continuous and stable growth. It reflects the firm's ability to expand its operations through internally generated earnings, efficient asset utilization, and strategic investment in productive resources. Firms that achieve sustainable growth are able to maintain stable earnings increases, improve shareholder value, and strengthen their competitive position without exposing themselves to excessive financial risk (Oeta et al., 2019). Sustainable growth in this study was measured using earnings growth.Earnings growth represents the firm's ability to generate increasing profits from its operations, which is essential for sustaining business expansion, enhancing shareholder value, and maintaining financial stability. It reflects the extent to which a firm's net income increases over time. Earnings growth is widely regarded as a key measure of firm performance because it reflects improvements in operational efficiency, investment effectiveness, and overall managerial performance (Wanlapa et al., 2024). Etim et al. (2024) opined that earnings growth, captures the firm's ability to improve its income-generating capacity over time through effective resource utilization, strategic investment decisions, and efficient operational management. Firms that experience consistent earnings growth demonstrate strong financial health and are better positioned to reinvest in productive assets, expand operations, and withstand economic uncertainties (Saif-Alyousfi et al., 2025).

2.1.3 Operational assets intensity and earnings growth

Operational capital intensity represents a firm's allocation of financial resources to property plant and equipment (PPE) such as land, buildings, machinery, and equipment. These assets form the backbone of operational capacity and are critical for production efficiency, revenue generation, and overall firm performance. The strategic management of PPE is often viewed as an essential component of capital intensity, reflecting the firm's ability to enhance output, improve productivity, and achieve sustainable earnings growth (Saif-Alyousfi et al., 2025). Okeke and Yetunde (2025) explained the relationship between operational capital intensity and and earnings growth through resource-based view (RBV)**,** which emphasizes that valuable and non-substitutable resources contribute to competitive advantage. PPE, provide firms with physical resources necessary to produce goods efficiently, reduce production bottlenecks, and respond to market demand. Well-maintained and technologically advanced PPE allows firms to optimize operations, reduce costs, and improve product quality, all of which enhance earnings growth over time.

Empirical studies have generally supported a positive link between operational capital intensity and firm performance. Okeke and Yetunde (2025) found that in Nigerian agricultural firms, the property, plant, and equipment ratio was positively and significantly associated with return on assets, highlighting that tangible investments enhance productivity and profitability. Chukwu and Egbuhuzor (2017) similarly demonstrated that plant and machinery investments in Nigerian manufacturing firms significantly increased return on assets, indicating that tangible capital is a key driver of operational and financial performance. Saif-Alyousfi et al. (2025) also observed that capital intensity, including investments in tangible assets, significantly enhances profitability across non-financial firms in Oman, particularly in capital-intensive industries. Gamlath and Rathiranee (2025) revealed a significant relationship between the capital intensity and tangibility and the financial performance. Dyah and Taufiq (2025) proved that capital intensity does not have a significant effect on firm value. Wanlapa et al. (2024) found revealed that firm capital expenditure had a significant negative impact on its future firm performance. Dan et al. (2023) evaluated empirically the impact of capital investment on firm financial performance and found that capital investments have a statistically significant positive impact on the long term performance of the quoted firms. Thus, it was hypothesized that;

Ho_1: Operational assets intensity has no significant effect on earnings growth of listed consumer goods companies in Nigeria

2.1.4 Intangible assets intensity and earnings growth

Intangible assets intensity represents the allocation of resources to non-physical assets that contribute to a firm's value creation, including intellectual property, patents, trademarks, copyrights, research and development (R&D), brand equity, software, and organizational know-how. Unlike tangible assets, intangible assets are often difficult to quantify and replicate, yet they are critical drivers of innovation, competitive advantage, and long-term profitability (Chukwu et al., 2017). Investment in intangible assets is a critical determinant of earnings growth, particularly in sectors that rely on innovation, knowledge, and brand equity As noted by Arumona and Akintoye (2023), firms achieve sustainable competitive advantage through the acquisition and deployment of valuable, rare, and inimitable resources which resonate the resource based theory. Intangible assets, by their very nature, meet these criteria because they are unique to the firm, often protected legally or embedded within organizational processes, and cannot be easily replicated by competitors (Bavdaž et al., 2022). Investment in intangible assets enables firms to innovate, develop proprietary technologies, strengthen customer loyalty, and enhance brand recognition, all of which contribute to earnings growth over time.

Empirical evidence supports a positive and significant relationship between investment in intangible assets and earnings growth. Ionita and Dinu (2023) found that firms with higher levels of intangible investments demonstrated stronger market performance, highlighting the link between intellectual capital and profitability. Gamlath and Rathiranee (2025) and Saif-Alyousfi et al. (2025) further corroborate this relationship, showing that firms that strategically invest in intangible resources experience improved financial performance, enhanced innovation capabilities, and greater long-term growth potential. Kalashyan (2025) investigated the effect of intangible assets on the financial performance of companies in Georgia and found that companies with a higher proportion of intangible assets outperform their peers. Aderibigbe et al. (2024) examined the impact of intangible assets (IA) on banks' financial performance (FP), specifically in Nigeria using the five biggest banks in the country and concluded that intangible assets have positive significant relationships with all the financial performance metrics (ROA, DPS, and EPS) used. Ionita and Dinu (2023) investigated the connection between company investments in intellectual capital (IC) and how they translate into financial value. The results showed that intangibles classified as innovative competences (R&D and Patents) do not have a positive impact on SGR and FV in listed companies from Romania. Arumona and Akintoye (2023) investigated the impact of intangible asset investment on the business viability of Nigerian deposit money institutions and concluded that investment in intangible assets has a significant impact on the business sustainability of Nigerian deposit money banks. Conversely, Nangih and Onuora (2020) examined the influence of capital intensity on profitability of listed oil and gas firms in Nigeria and found that all the variables had significant positive effects on the profit margin except intangible non-current assets, which was not significant. On this note, the study hypothesized that;

Ho_2: Intangible assets intensity has no significant effect on earnings growth of listed consumer goods companies in Nigeria.

2.1.5 Financial assets intensity and earnings growth

Financial assets intensity refers to a firm's allocation of resources to financial instruments or securities intended to be held for extended periods, typically exceeding one year. These assets include equity investments in other companies, government or corporate bonds, long-term deposits, and other strategic financial instruments. According to Gamlath and Rathiranee (2025), investment in long-term financial assets is a significant driver of earnings growth, providing firms with additional revenue streams, financial flexibility, and the ability to sustain growth during periods of operational or market volatility. Unlike short-term investments that primarily serve liquidity purposes, long-term financial assets are aimed at generating sustainable returns, supporting firm growth, and providing financial stability (Eleba & Tubotamuno, 2024). By allocating funds to long-term financial assets, firms can earn interest income, dividends, or capital gains, which supplement operational earnings and contribute to overall profitability. Moreover, these financial resources can serve as a buffer against economic volatility, enabling firms to maintain stable growth even in adverse market conditions.

Empirical studies support the positive contribution of long-term financial asset investments to firm performance and earnings growth. Grosu et al. (2025) examined how the accounting policies established by IFRS 9 regarding the recognition and measurement of financial assets affect the sustainability and financial performance of Romanian credit institutions.The findings showed a positive and significant impact on performance when financial assets were evaluated at fair value through profit or loss, while a negative impact was observed when evaluation was made through other comprehensive income. Idris et al. (2025) investigated the effect of investment in financial instrument on financial performance and found a positive market reaction to firms that invest in derivative assets. Mohammed (2024) investigated the influence of financial assets on the financial performance of commercial banks in Iraq. The findings showed that the investment in financial assets improved the sustainable growth of the studied firms. Banerjee and Paul (2024) examined the effect of financial assets intensity on the financial performance of companies listed on the National Stock Exchange of India and found that financial assets intensity has significant effect on financial performance. On the contrary, Okechukwu and Ugwu (2022) evaluated the effect of financial assets on the financial performance of pharmaceutical firms in Nigeria from 2011-2020 and concluded that financial assets contribute very little to the financial performance of pharmaceutical firms in Nigeria. On this note, it was hypothesized that;

Ho_3: Financial assets intensity has no significant effect on earnings growth of listed consumer goods companies in Nigeria.

2.2 Theoretical framework

This study was anchored primarily on Endogenous Growth Theory. Endogenous Growth Theory was primarily propounded by Paul Romer in 1986 and further Robert Lucas Jr. in 1988. Endogenous Growth Theory is an economic theory that explains long-run growth as a result of internal factors within an economy or firm, particularly investment in capital, innovation, knowledge, and human resources (Dan et al., 2023). Unlike earlier growth models that treated technological progress as an external factor, Endogenous Growth Theory emphasizes that growth is generated from within the system through deliberate investment decisions, research, and capital accumulation. The theory argues that investment in physical capital, infrastructure, and knowledge enhances productivity and creates sustained growth over time. (Siti et al., 2022)

The central assumption of Endogenous Growth Theory is that investment in capital assets, innovation, and infrastructure enhances productivity and generates increasing returns over time. The theory explains that firms that invest in productive assets such as machinery, technology, and infrastructure improve their efficiency and output capacity, leading to sustained increases in earnings and growth. Furthermore, capital accumulation and innovation create positive spillover effects, meaning that investment in productive assets improves overall organizational performance and competitiveness. (Chukwu et al., 2017). The theory supports this study by providing a theoretical explanation on how non-current assets intensity, through investment in property, plant and equipment, intangible assets, and long-term financial assets enhance productivity, improve earnings capacity, and promote sustainable growth.

3.0 METHODOLOGY

This study adopted ex post facto research design because the study relied on historical and quantitative data that had already existed and the researcher could not control nor manipulate them. The population of this study consisted of 20 consumers goods companies listed on the Nigerian Exchange Group for the period 2016-2025 and 16 of them were purposively selected as the sample size of the study. Secondary data used were sourced from the Nigerian Exchange Group Fact Books and related companies' annual financial reports during the period under study. The technique of data analysis employed was panel regression analysis and the statistical package employed was STATA 17.

Model specification

In line with the previous researches, the researcher adapted and modified the Model of Okeke and Yetunde (2025) in determining the effect non-current assets intensity on sustainable growth of listed

consumer goods companies in Nigeria. The functional and econometric model of this study are presented below;

Sustainable growth =f (non-current assets intensity)

Earnings growth =f (Operational assets intensity, intangible assets intensity and financial assets intensity).

$$\mathbf{EARG_{it} = \beta_0 + \beta_1 OPAI_{it} + \beta_2 ITAI_{it} + \beta_3 FAIN_{it} + \beta_4 EPS_{it} + £_{it}}$$

$£_{it}$

Where:

EARG	=	Earnings growth
OPAI	=	Operational assets intensity
ITAI	=	Intangible assets intensity
FAIN	=	Financial assets intensity
β_0	=	Model intercept
β_1-β_4	=	Coefficient to be estimated in the study
$_{it}$	=	Cross section of listed consumer goods firms with time variant
$£_{it}$	=	Stochastic error term

4.0 Analysis and discussion

Table 4.1 Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Earg	160	2.841	739.285	-4051.31	7149.715
Opai	160	44.606	28.246	5.906	299.678
Itai	160	1.494	5.259	0	28.245
Fain	160	30.303	21.56	1.893	105.892
Eps	160	6.055	34.17	-207.65	203.157

Source: Author's computation (2026)

From the Table 4.1, it was observed that earnings growth (earg) had a maximum value of 7149.715, indicating that one or more of the listed consumer goods firms experienced very high growth in earnings during the period under study. However, the minimum value was -4051.31, implying that some firms recorded substantial decline in earnings growth. On average, earnings growth stood at 2.841, suggesting that the sampled firms recorded relatively low average earnings growth during the study period. For operational assets intensity (opai), the average value was 44.606, implying that operational assets constituted a considerable proportion of the total assets of the sampled firms. The standard deviation of 28.246 indicates a moderate level of variation, suggesting that operational asset intensity practices were not entirely similar among the listed consumer goods firms. For intangible assets intensity (itai), the minimum value observed was 0, indicating that one or more firms had no recorded intangible assets during the period under review. The maximum value was 28.245, showing that some firms invested substantially in intangible assets such as patents, trademarks and goodwill. Finally, financial assets intensity (fain) recorded the average value of 30.303, implying that financial assets represented a notable proportion of the asset mix of the sampled firms.

Table 4.2 Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
earg	160	0.351	79.867	9.964	0.000
opai	160	0.694	37.600	8.250	0.000
itai	160	0.342	80.979	9.995	0.000
fain	160	0.909	11.159	5.487	0.000
eps	160	0.499	61.593	9.373	0.000

Source: Author's computation (2026)

Table 4.2 shows the normality test for each variable in the study. From the result, it was observed that none of the variables followed a normal distribution. Since all the variables recorded probability values less than the 0.05 significance level, the null hypothesis of normality was rejected for all the variables in

the study. This suggests that the data did not follow a normal distribution, thereby justifying the use of non parametric techniques.

Table 4.3 Spearman's rank correlation coefficients

Variable	earg	opai	itai	fain	eps
earg	1.0000				
opai	0.2670*** (0.0098)	1.0000			
itai	-0.0992 (0.2120)	-0.0793 (0.3191)	1.0000		
fain	0.2855*** (0.0026)	0.6990*** (0.0000)	0.2493*** (0.0015)	1.0000	
eps	0.2743*** (0.0004)	-0.0306 (0.7005)	-0.1380* (0.0818)	0.0557 (0.4844)	1.0000

Source: Author's computation (2026)

The correlation analysis presented in Table 4.3 revealed the association between the study variables, noting that these relationships do not imply causation since correlation does not establish cause and effect. From the results, it was observed that earnings growth (earg) is positively and statistically significant with operational assets intensity (opai) (coeff. = 0.2670, p = 0.0098). This suggests that firms with higher investment in operational assets such as property, plant and equipment tend to experience higher earnings growth, possibly due to improved production efficiency and capacity expansion. Similarly, earnings growth shows a positive and statistically significant relationship with financial assets intensity (fain) (coeff. = 0.2855, p = 0.0026), indicating that firms with higher financial asset holdings tend to record better earnings growth, likely due to improved investment income and financial flexibility. In contrast, intangible assets intensity (itai) shows a negative but statistically insignificant relationship with earnings growth (coeff. = -0.0992, p = 0.2120), indicating that intangible assets do not have a meaningful direct effect on earnings growth within the sampled firms.

Table 4.4 Regression Results

	(1) Pooled OLS earg	(2) Random effects Earg	(3) Iterated robust LS earg
opai	0.519	0.536	0.895***
	(0.829)	(0.823)	(0.009)
itai	0.145*	0.137	0.778**
	(0.090)	(0.991)	(0.037)
fain	3.518*	3.412	1.033***
	(0.075)	(0.293)	(0.004)
eps	0.588*	0.585*	-0.825***
	(0.055)	(0.056)	(0.004)
Constant	-129.014	-126.464	-33.022
	(0.503)	(0.513)	(0.268)
r^2	0.110	0.110	0.480
N	160.000	160.000	160.000
F/W	2.260	1.432	9.054
p	0.055	0.064	0.003
vif	1.19		
hettest	18.711(0.000)		
lagrange		0.832(0.181)	

p-values in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Source: Author's computation (2026)

The result obtained from the multivariate regression analyses for the joint effect of non-current asset intensity on earnings growth of listed consumer goods firms in Nigeria is presented in Table 4.4 above. Due to the presence of heteroskedasticity as indicated by the heteroskedasticity test result of 18.711 with a probability value of 0.000, the iterated robust least squares regression estimator was considered the most appropriate for interpretation since it corrects for heteroskedasticity problems and produces more reliable standard errors.

The iterated robust least squares regression model in Table 4.4 produced an F statistic of 9.054 with a probability value of 0.003, indicating that the model is statistically significant and fit for inference. This implies that the explanatory variables jointly exert significant influence on earnings growth of the sampled firms. The model further reported an R squared value of 0.480, which implies that approximately 48.0 percent of the variations in earnings growth can be explained by operational assets intensity, intangible assets intensity, financial assets intensity, investment property intensity, lease intensity, and earnings per share. The remaining 52.0 percent of the variations are captured by other variables not included in the model but represented in the error term.

Checks for regression assumptions and other diagnostics

Homoscedasticity

The homoscedasticity assumption of the pooled Ordinary Least Squares (OLS) model was tested using the Breusch–Pagan test in Stata 17. This assumption requires that the error terms have constant variance across all observations; otherwise, heteroskedasticity may lead to biased standard errors and unreliable statistical inference. However, the result presented in Table 4.4 indicates that the homoscedasticity assumption was violated, as shown by the heteroskedasticity test result (Hettest = 18.711, p-value = 0.000). Since the p-value is less than 0.05, the null hypothesis of constant variance is rejected, confirming the presence of heteroskedasticity in the OLS model.

Consequently, the standard OLS estimates are not fully reliable for inference, and this justifies the use of the Iterated Robust Least Squares regression model, which corrects for heteroskedasticity and provides more efficient and consistent standard errors. Therefore, the interpretation of results in this study is based primarily on the Iterated Robust Least Squares estimates.

Multicollinearity

The regression model assumes the absence of multicollinearity between the independent variables. It is a situation where one or more independent variable can be expressed as a combination of other independent variables. This can be detected by observing the Variance Inflation Factor (VIF). The VIF should be less than 10 for this assumption to hold. From the mean VIF presented in table 4.4 above (1.19), it is safe to say that there was no multicollinearity evident in the dataset.

Lagrange Multiplier LM test

The result presented in Table 4.4 shows a chi square statistic of 0.832 with a corresponding p value of 0.181. Since the p value is greater than 0.05, the null hypothesis is accepted. This implies that there is no significant evidence of random effects across the entities, and therefore, the pooled OLS model is appropriate for the data. Consequently, the researcher relied on the pooled OLS framework for initial estimation before proceeding to the iterated robust least squares estimation for final inference due to the presence of heteroskedasticity.

4.2 DISCUSSION OF FINDINGS

Operational assets intensity and earnings growth

Results from the iterated robust least squares regression model in Table 4.4 showed that operational assets intensity (opai) with coefficient and p value of 0.895 and 0.009 respectively has a significant positive effect on earnings growth of listed consumer goods companies in Nigeria. This significant positive relationship indicates that operational assets intensity increases earnings growth, implying that firms with higher investment in operational assets tend to experience stronger growth in earnings. In other

words, an increase in the proportion of property, plant and equipment relative to total assets leads to improved earnings growth among the sampled firms. This finding aligns with the a priori expectation of the study, which posits that operational assets intensity should positively influence earnings growth due to improved production capacity and efficiency. As noted by Okeke and Yetunde (2025), operational capital intensity reflects the availability of physical resources that support efficient production processes and ultimately drive earnings growth.This finding is also consistent with empirical evidence. For instance, Okeke and Yetunde (2025) found that property, plant and equipment ratio has a positive and significant effect on return on assets in Nigerian agricultural firms, indicating that tangible asset investment enhances profitability. Chukwu and Egbuhuzor (2017) also reported that investments in plant and machinery significantly improve financial performance in Nigerian manufacturing firms. In addition, Saif Alyousfi et al. (2025) observed that capital intensity enhances profitability across non-financial firms, further supporting the positive role of operational assets in firm performance.

Intangible assets intensity and earnings growth

Results from the iterated robust least squares regression model showed that intangible assets intensity (itai) with coefficient and p value of 0.778 and 0.037 respectively has a significant positive effect on earnings growth of listed consumer goods companies in Nigeria. This significant positive relationship indicates that intangible assets intensity increases earnings growth, implying that firms with higher investment in intangible assets tend to experience improved earnings performance. In other words, greater allocation of resources to intangible assets such as patents, trademarks, goodwill, software, and research related activities contributes to higher earnings growth among the sampled firms.

This finding aligns with the apriori expectation of the study, which suggests that intangible assets intensity should positively influence earnings growth due to their role in innovation and long-term value creation. From the perspective of the resource-based theory, intangible assets represent valuable, rare, inimitable, and non-substitutable resources that provide firms with sustained competitive advantage. These assets are embedded in organizational knowledge, brand equity, and innovation capabilities, making them difficult for competitors to replicate. As a result, firms that invest in intangible resources are better positioned to innovate, strengthen customer loyalty, and enhance brand recognition, all of which contribute to improved earnings growth over time. As noted by Ji and Lu (2024), intangible assets are central to achieving sustainable competitive advantage through the effective deployment of unique firm specific resources.

This finding is consistent with empirical evidence in the literature. Ji and Lu (2024) found that intangible investment is positively associated with firm performance, indicating that intellectual capital enhances profitability and market performance. Similarly, Chukwu et al. (2017) reported that goodwill and software related costs have a positive effect on earnings and market value in Nigerian banks, suggesting that intangible assets contribute meaningfully to financial outcomes. Gamlath and Rathiranee (2025) and Saif Alyousfi et al. (2025) also confirmed that firms investing in intangible resources tend to achieve higher financial performance and long-term growth due to improved innovation capacity and efficiency.

Financial assets intensity and earnings growth

Results from the iterated robust OLS regression model in Table 4.4 showed that financial assets intensity (FAIN) with coefficient and p-value of 1.033 and 0.004 respectively has a significant positive effect on earnings growth of listed consumer goods companies in Nigeria. The significant positive effect indicates that an increase in financial assets intensity leads to an increase in earnings growth among the sampled firms. This implies that investments in financial instruments such as equity investments, bonds, and other long-term securities provide additional income streams that enhance overall profitability and support sustainable growth. This finding aligns with the apriori expectation of the study, which posits that financial assets intensity should positively influence earnings growth because long term financial investments generate supplementary returns and improve financial stability. Gamlath and Rathiranee (2025) argued that long term financial investments contribute significantly to firm growth by improving profitability and supporting financial resilience.This result is also consistent with empirical evidence in the literature. Eleba and Tubotamuno (2024) found that strategic capital expenditure decisions, including

investments in long term financial assets, significantly improve the market value of Nigerian food and beverage firms, indicating that financial investments contribute to value creation and growth. Similarly, Gamlath and Rathiranee (2025) reported that financial asset investments positively influence firm financial performance through improved income diversification and capital allocation efficiency. Saif Alyousfi et al. (2025) also observed that firms with strong financial investment portfolios experience higher profitability because such investments generate additional income and enhance financial flexibility.

5.0 CONCLUSION AND RECOMMENDATIONS

This study investigated the effect of non-current assets intensity on earnings growth of listed consumer goods companies in Nigeria. The findings of the study revealed that non-current assets intensity, when employed effectively and efficiently can improve the sustainable growth of the studied firms. From the perspective of endogenous growth theory as advanced by Romer (1986) and Lucas (1988), the findings suggest that long term economic growth of firms is driven by internal investments in productive assets and knowledge-based resources. The significant positive effects of operational assets intensity, intangible assets intensity, and financial assets intensity indicate that firms grow their earnings by continuously investing in capital formation, innovation, and income generating assets. On the whole, it was concluded that non-current assets intensity has significant effect on sustainable growth of listed consumer goods firms in Nigeria. It was therefore recommended that the management of listed consumer goods firms should increase investment in operational assets such as property, plant and equipment, through the development of long-term capital expenditure plans focused on modernizing production facilities and adopting advanced manufacturing technologies and automation systems to improve productivity. Also, they should strengthen investment in intangible assets by allocating dedicated budgets for research and development activities and investment in digital transformation initiatives, enterprise software, and data analytics systems.

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