

# Effect of Capital Structure Heterogeneity on Investing Cash Flow Sensitivity of Listed Consumer Goods Firms in Nigeria

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**Abstract:** The study examines the effect of capital structure heterogeneity on the investing cash flow sensitivity (ICFS) of Listed consumer goods firms in Nigeria from 2015 to 2024 both years inclusive. The independent variable as capital structure heterogeneity proxies by debt-to-equity ratio (DER), short-term debt to total asset ratio (STDR), and long-term debt to total asset ratio (LTDR) with firm size as control variable while the dependent variable as investing cash flow sensitivity (ICFS). The secondary data and purposive sampling techniques were used for the study. The study was anchored on the Pecking Order Theory while E-views version 10 statistical software package was adopted. Panel regression analysis using EGLS was employed, with diagnostic tests ensuring robustness against multicollinearity, heteroskedasticity, and non-normality. The results show that Debt-equity ratio has a significant negative effect on investing cash flow sensitivity, indicating that higher leverage reduces reliance on internal cash flows for investment. The short-term debt to total asset ratio also exhibits a significant negative effect, suggesting liquidity pressures from short-term obligations constrain investment sensitivity. Finally, the long-term debt to total asset ratio shows a marginally negative effect but is not statistically significant. Firm size has no significant effect on investing cash flow sensitivity. The model explains 86.6% of the variation in ICFS ( $R^2 = 0.866$ ), confirming a strong fit. Findings highlight the critical role of debt structure, particularly leverage and short-term obligations, in moderating investment responsiveness in Nigerian consumer goods firms. The study recommended that debt ratios, short-term borrowing, and strategic use of long-term debt should be carefully managed and monitored by the management in order to help support investment planning of the organization.

**Keywords:** Short-Term Debt, Long-Term Debt, Debt Ratio, Assets, Investment and Cash Flow.

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## I. INTRODUCTION

The link between investment and internal cash flow has long remained a central focus in corporate finance research, especially in economies where capital markets are imperfect and access to external funding is limited. The sensitivity of investment to internal cash flow has often been used to measure the degree of financing constraints faced by firms, showing how much investment depends on available internal funds when external finance is not easily accessible (Rashid & Hersi, 2022). However, recent studies indicate that this sensitivity is not uniform across firms. It is shaped by firm-specific characteristics such as capital structure, ownership

pattern, and debt maturity (Caglayan, 2024; Ek, 2018). This variation, often referred to as capital structure heterogeneity, plays a vital role in explaining how internal funds influence investment behavior.

Capital structure, which refers to the combination of debt and equity financing used by a firm, determines the extent to which a firm is financially constrained. High leverage may either reduce or increase investing cash flow sensitivity depending on the firm's risk level, debt maturity, and access to capital markets (Yilmaz, 2022). The maturity structure of debt adds another layer of complexity. Firms with high short-term debt are more exposed to refinancing and

liquidity risks, making them depend more heavily on internal cash flow to finance investments (Wang, 2022). On the other hand, long-term debt can provide financing stability but may include restrictive covenants that limit investment flexibility (Naser, 2024). Therefore, examining both the debt-to-equity ratio and the distribution between short-term and long-term debt provides a deeper understanding of capital structure heterogeneity and its influence on the sensitivity of investment to internal cash flow.

In Nigeria, the consumer goods sector faces multiple financial challenges, including exchange rate instability, inflation, and shallow capital markets, all of which constrain access to affordable credit (Akinlo & Asaolu, 2021). Firms in this sector often depend on internal funds due to high borrowing costs and limited availability of long-term financing, making internal cash flow a crucial determinant of investment (Okoye et al., 2019; Ezeoha & Okoye, 2020). Despite the importance of financing decisions, limited empirical evidence exists on how capital structure (particularly debt-to-equity ratios and debt maturity composition) affects investing cash flow sensitivity in Nigerian consumer goods firms. Hence, this study investigates how capital structure heterogeneity influences the investing cash flow sensitivity of consumer goods firms in Nigeria.

Corporate finance theory suggests that investment decisions should depend on the profitability of future projects rather than the amount of internal cash available. However, evidence from both developed and developing economies shows that firms' investments are often highly sensitive to cash flow, especially in settings where external financing is costly or difficult to obtain. This persistent cash flow sensitivity reflects the presence of financial frictions that distort investment efficiency and hinder optimal capital allocation.

Although several studies have explored the general relationship between cash flow and investment, limited attention has been given to how capital structure heterogeneity (in terms of leverage levels and debt maturity) affects this sensitivity. Firms differ in their capital structures, and such differences may explain why some rely more heavily on internal cash flow for investment than others. Ignoring these differences leads to an incomplete understanding of how financing decisions shape investment behavior, particularly in developing economies like Nigeria.

Nigeria's consumer goods firms operate in a volatile environment characterized by macroeconomic instability, exchange rate fluctuations, high interest rates, and limited access to long-term credit. These conditions force many firms to depend on internal funds for investment. Prior findings remain inconclusive: some studies suggest that high leverage discourages investment through debt overhang effects, while others argue that debt can discipline managers and improve investment efficiency. Moreover, the role of short-term versus long-term debt in shaping investing cash flow sensitivity is yet to be adequately studied within the Nigerian context.

This gap has both theoretical and practical implications. Theoretically, it limits the understanding of how capital structure heterogeneity affects investing cash flow sensitivity in emerging markets. Practically, it leaves managers and policymakers without clear evidence on how to design financing strategies that balance liquidity and long-term growth. Without such understanding, Nigerian consumer goods firms risk making suboptimal capital structure decisions that constrain investment and competitiveness. Consequently, this study seeks to bridge this gap by examining the effect of capital structure heterogeneity on investing cash flow sensitivity of consumer goods firms in Nigeria.

## II. LITERATURE REVIEW

### A. Capital Structure Heterogeneity

Capital structure heterogeneity refers to the differences that exist among firms in the way they finance their operations, particularly in the mix of debt and equity, and the maturity profile of their debt (Adeoye & Olejede, 2022). This variation means that some firms depend more on borrowed funds, while others rely heavily on shareholders' equity to fund their activities (Yilmaz, 2022). Factors such as firm size, risk profile, profitability, growth potential, and management decisions play a major role in shaping these financing patterns (De Jong et al., 2019). For example, larger and more profitable firms may find it easier to access long-term debt or equity markets, while smaller firms may depend more on short-term borrowing. Furthermore, differences in institutional environments, taxation systems, interest rates, and financial market development contribute to the diversity in firms' capital structures across countries and industries (Kaloudis & Tsolis, 2018). Ignoring these differences can lead to wrong conclusions about how firms make financing decisions.

### ➤ Debt-to-Equity Ratio

The debt-to-equity (D/E) ratio is a key measure of a firm's financial leverage that compares total debt to shareholders' equity (Alzubi & Bani-Hani, 2021). It shows how much a firm depends on borrowed funds compared to owners' capital. A high D/E ratio indicates greater reliance on debt, which can increase potential returns for shareholders when profits rise but also raises the risk of financial distress when earnings fall (Akaji et al., 2021). Firms decide their D/E ratio based on internal factors such as profitability, asset structure, and management goals, as well as external factors like interest rates, tax policies, and market conditions (Rajan & Zingales, 2015). In addition, the ratio influences a company's financial flexibility and its ability to fund new investments, especially when facing cash flow constraints (Ozkan, 2018). Companies with higher leverage may experience more difficulty accessing external finance, forcing them to depend more on retained earnings or other internal sources of funds (Akaji et al., 2021). This dependence affects the firm's investment behaviour, as leverage tends to increase investment-cash flow sensitivity and reduce the firm's ability to invest freely in profitable projects (Buvanendra et al., 2017).

➤ *Short-Term Debt*

Short-term debt refers to the portion of a company’s total liabilities that must be repaid within one year (Afolabi et al., 2025). It includes items such as short-term loans, trade payables, bank overdrafts, and the current portion of long-term borrowings. Firms often use short-term debt to finance their working capital needs, such as inventory purchases, wages, and other daily operations (Ahmed & Bhuyan, 2020). While short-term financing can help firms manage liquidity efficiently, it also exposes them to greater liquidity pressures and refinancing risks since the debts must be settled quickly (Custódio et al., 2019). Companies that rely heavily on short-term debt are more sensitive to fluctuations in cash flow because they must ensure constant liquidity to meet repayment obligations. Excessive use of short-term debt can also limit a firm’s ability to make long-term investments in productive assets, thereby reducing future growth potential (Ding et al., 2020). In emerging economies like Nigeria, short-term borrowing is very common due to underdeveloped capital markets and limited access to long-term financing. However, this dependence often leads to higher investment volatility and financial instability, especially when macroeconomic conditions worsen (Demirgüç-Kunt & Maksimovic, 2020).

➤ *Long-Term Debt*

Long-term debt refers to financial obligations that extend beyond one year, such as corporate bonds, long-term bank loans, and debentures (Afolabi et al., 2025). Firms use long-term debt mainly to finance capital-intensive projects like expansion, acquisition of fixed assets, or modernization of equipment. This form of debt provides more stability because repayment is spread over several years, allowing firms to plan and manage cash flows more effectively (Akaji et al., 2021). In addition, long-term borrowing helps companies align their financing structure with the lifespan of their assets, improving investment efficiency and reducing the need for frequent refinancing (Naser, 2024). However, it

often comes with restrictive covenants that can limit managerial discretion and flexibility in decision-making. The choice of debt maturity is also influenced by institutional quality, investor protection, and financial market development, as stronger institutions encourage the use of longer-term financing (Gungoraydinoglu & Öztekin, 2016). Firms with higher proportions of long-term debt are generally less vulnerable to liquidity crises because they do not face frequent repayment pressures (Custódio et al., 2019).

➤ *Investing Cash Flow Sensitivity*

Investing cash flow sensitivity refers to how changes in a firm’s internal cash flow influence its level of investment activities (Caglayan, 2024). It serves as an important measure of the financial flexibility and funding constraints faced by firms when making investment decisions. When external financing options such as loans or equity issuance are limited or costly, firms rely more on their internally generated cash flows to finance investment projects, which increases investing cash flow sensitivity (Caglayan, 2024). On the other hand, firms with easier access to credit or developed capital markets tend to show lower sensitivity because they can fund their investments from external sources without depending solely on internal funds (Guizani, 2020). In many developing economies, including those in Africa, this sensitivity is generally higher due to weak financial systems, low investor confidence, and underdeveloped capital markets that make external financing difficult to obtain (Machokoto et al., 2021). As a result, firms’ investment levels fluctuate closely with their available cash flows. Financially constrained firms often exhibit stronger investing cash flow sensitivity compared to unconstrained ones, indicating that their investment spending largely depends on retained earnings or internally available financial resources (Rashid & Hersi, 2022).

➤ *Conceptual Framework*

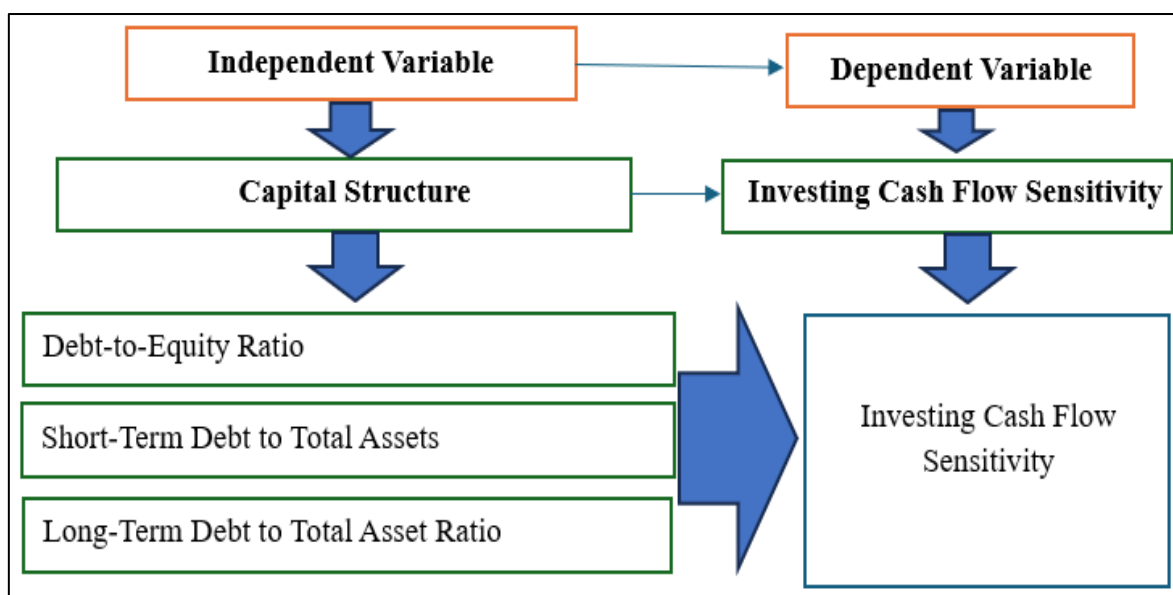


Fig 1 Conceptual Framework of the Study  
Source: Researcher’s Design, 2025

### B. Theoretical Framework

This study is anchored on the Pecking Order Theory, which explains how firms prioritize internal financing over debt and equity due to information asymmetry and the costs of external funds (Donaldson, 1961; Myers & Majluf, 1984). However, it is the primary framework, as it directly relates to how capital structure influences cash flow sensitivity of investment in Nigerian consumer goods firms.

The Pecking Order Theory, first introduced by Donaldson (1961) and later formalised by Myers and Majluf (1984), argues that firms follow a clear preference order when choosing how to finance their activities. According to this theory, firms start with internal funds (retained earnings) because managers have superior information about the firm's value and prospects compared to external investors. When these internal funds are exhausted, firms proceed to debt financing, and only as a last resort issue new equity (Myers & Majluf, 1984). The rationale is that issuing equity can trigger adverse selection when external investors fear that managers are issuing shares because the firm is overvalued; leading to higher costs of equity issuance. Therefore, the hierarchy of financing sources exists to minimise the cost of external financing and information asymmetry effects (Myers & Majluf, 1984). This theory helps explain why some firms exhibit high sensitivity of investment to internal cash flows: if external finance is costly or difficult to access, investment is constrained by internal funds.

### C. Empirical Review

#### ➤ Debt-to-Equity Ratio and Investing Cash Flow Sensitivity

Akaji et al. (2021) examined the effect of debt-equity financing on firm performance of 26 listed firms in the Oil & Gas, Health Care, and ICT sectors on the Nigerian Stock Exchange in Nigeria between 2013 and 2020 using ex-post facto design and ordinary least squares regression model. Findings revealed that debt-equity financing significantly improves firm performance; optimal mix of debt and equity is beneficial, with both equity financing and debt-equity financing showing positive effects on return on equity.

Ifegha and Okene (2023) examined how profitability moderates the effects of liquidity, firm size, and financial leverage on firm value among 15 Nigerian maritime companies (2013–2021) using random effect POLS. Findings revealed that profitability and gearing ratio significantly increase firm value, current asset ratio is negative and insignificant, while firm size has a positive but insignificant effect.

Emerole et al. (2024) examined the effect of debt-to-equity ratio on corporate performance of 9 listed commercial banks in Nigeria between 2012 and 2023 using ex-post facto research design and panel estimated generalised least squares regression with cross-section seemingly unrelated regression. Findings revealed that long-term debt has a negative but non-significant effect on earnings; short-term debt has a positive but non-significant effect.

- *Ho1: Debt-to-equity ratio has no Significant effect on the investing cash flow sensitivity of listed consumer goods firms in Nigeria.*

#### ➤ Short-Term Debt to Asset Ratio and Investing Cash Flow Sensitivity

Adeoye and Olejede (2022) examined the impact of capital structure on financial performance of 10 quoted food and beverages manufacturing industries on the Nigeria Stock Exchange in Nigeria between 2012 and 2017 using ex-post facto research design. Pearson moment correlation analysis, and panel regression analysis on cross-sectional time series data. Findings revealed that debt negatively affects performance; equity positively affects performance.

Okpunor et al. (2023) analyzed how leverage affects the financial performance of selected consumer goods firms listed on the Nigerian Exchange (2013–2021) using ex-post facto panel design. The study found significant positive effects of debt-to-asset ratio on return on assets, debt-to-equity ratio on return on equity, and interest coverage ratio on net profit margin.

Olulu-Briggs (2024) evaluated the impact of financial leverage, firm size, and profitability on firm value among 20 quoted insurance companies in Nigeria (2010 to 2022) using GMM and cointegration analysis. The results showed that long-term debt and firm size significantly increase Tobin's Q, while short-term debt and return on equity have positive but insignificant effects.

Prenaj et al. (2024) examined the impact of capital structure on company performance of 50 non-listed companies in Kosovo between 2015 and 2020 using pooled OLS fixed effects. Findings revealed that short-term and total debt reduce ROA; long-term debt has no significant effect on ROE; overall impact is weak, with capital structure generally showing a weak influence on performance.

- *Ho2: Short-term debt to asset ratio has no Significant effect on the investing cash flow sensitivity of listed consumer goods firms in Nigeria.*

#### ➤ Long-Term Debt to Total Asset and Investing Cash Flow Sensitivity

Lawani et al. (2023) studied the effect of financial leverage on the performance of eight listed consumer goods firms in Nigeria (2013–2022) using random effect regression. The results showed that debt-equity and long-term debt ratios have significant negative effects on financial performance, while short-term debt has an insignificant negative effect. Overall, financial leverage negatively affects the cash value added of the firms.

Onakpoma et al. (2023) examined how financial leverage affects the performance of Nigerian pharmaceutical firms, focusing on debt ratio impacts on earnings per share, dividend per share, and return on equity. Findings revealed that company income tax and value-added tax significantly improve profitability indicators, while higher debt ratios also increase these variables, though insignificantly.

Nwafor (2023) investigated the effect of financial leverage on the performance of Nigerian pharmaceutical firms (2018–2023) using correlation analysis on six years of financial data. Findings indicated that debt ratio and total debt-to-asset ratio significantly affect firm performance, confirming that leverage structure and liquidity strongly influence profitability in the industry.

Afolabi et al. (2025) assessed how debt structure affects firm valuation among seven ICT firms in Nigeria (2014–2023) using panel data analysis with fixed, random, and pooled OLS models. Findings revealed that total, long-term, and short-term debt positively influence firm value, while the debt-to-equity ratio reduces Tobin's Q. The study recommended lowering debt-to-equity ratios to improve firm value through increased equity financing.

- *Ho3: Long-term debt to total asset ratio has no Significant effect on the investing cash flow sensitivity of listed consumer goods firms in Nigeria.*

#### D. Gap in Empirical Review

The study addresses a notable gap in the empirical literature through its focus on consumer goods firms in Nigeria, a sector that has received limited attention compared to industries such as oil & gas, maritime, ICT, and banking (Akaji et al., 2021; Ifegha & Okene, 2023; Emerole, Ifuruze & Ndubuisi, 2024). Previous studies have examined the effect of capital structure on financial performance or firm value, such as the significant negative impact of debt-to-equity and long-term debt on consumer goods firms' performance (Lawani et al., 2023), and the mixed effects of short-term debt on return on assets and firm value (Okpunor et al., 2023; Olulu-Briggs, 2024). However, few studies have explored how different dimensions of capital structure influence investing cash flow sensitivity. Most research either focuses on single components of debt or uses multi-sector samples (Prenaj, Miftari & Pula, 2024; Adeoye & Olejede, 2022), leaving a gap in understanding the combined effects of debt-to-equity ratio, short-term debt to total assets, and long-term debt to total assets on investment behavior. This study examines these variables specifically in Nigerian consumer goods firms, providing updated, sector-specific evidence that shows how capital structure heterogeneity affects investing cash flow sensitivity, thereby addressing both methodological and sectoral gaps in the literature.

### III. METHODOLOGY

This study adopted an *ex-post facto* research design. *Ex-post facto* is suitable for examining relationships between variables where independent variables cannot be manipulated, as they have already occurred. The study relied on secondary data extracted from the annual financial statements and reports of selected consumer goods firms. Data collected includes capital structure data such as debt-to-equity ratio, short-term debt to asset ratio, long-term debt to total asset ratio, and investing cash flow-related measures relevant for assessing investing cash flow sensitivity. The study population comprised of all 19 consumer goods firms

listed on the Nigerian Exchange Group as at October 2025. These firms vary in size, capital structure, and operational characteristics, providing a representative base for investigating the study's objectives. A purposive sampling technique was employed to select five leading consumer goods firms: Nestlé Nigeria Plc, Unilever Nigeria Plc, Nigerian Breweries Plc, Cadbury Nigeria Plc, and PZ Cussons Nigeria Plc. These firms were chosen because they are market leaders with significant investment activities, extensive operational histories, and publicly available, reliable financial data spanning several years.

The study employed descriptive statistic and panel ordinary least square regression analysis to examine the effect of capital structure heterogeneity on investing cash flow sensitivity of consumer goods firms in Nigeria. The analysis was performed using EViews version 10 software, enabling the estimation of both fixed and random effects models, and the choice between models was guided by the Hausman test.

#### ➤ Model Specification

The study employed a multiple regression model to estimate the effect of capital structure heterogeneity on investing cash flow sensitivity of consumer goods firms in Nigeria following approaches used in related studies (Afolabi et al., 2025).

- *Functional Form:*

$$ICFS = f(DER, STDR, LTDR, LnTA)$$

- *Econometric Form:*

$$ICFS_t = \beta_0 + \beta_1 DER_t + \beta_2 STDR_t + \beta_3 LTDR_t + LnTA_t + \epsilon$$

Where:

ICFS	= Investing Cash Flow Sensitivity
DER	= Debt-to-Equity Ratio
STDR	= Short-term Debt to Asset Ratio
LTDR	= Long-term Debt to Total Asset Ratio
LTA	= Natural Logarithm of Total Assets
$\beta_0$	= Intercept,
$\beta_1 - \beta_4$	= Coefficients of independent variables,
$\epsilon$	= Error term

Table 1 Description of Variable in the Model

Variable	Type	Definition & Measurement	Sources
<b>Investing Cash Flow Sensitivity (ICFS)</b>	Dependent	Measures how investment responds to changes in internal cash flow; indicates financial constraints (ICFS = $\Delta$ Investment / $\Delta$ Investing Cash Flow)	Guizani (2020); Machokoto, Ibeji, & Chipeta (2021)
<b>Debt-to-Equity Ratio (DER)</b>	Independent	Shows a firm's reliance on debt vs. equity; indicates leverage and risk (DER = Total Debt / Total Equity)	Rajan & Zingales (2015);
<b>Short-term Debt to Asset Ratio (STDR)</b>	Independent	Proportion of assets financed by short-term obligations; reflects liquidity pressure (STDR = Short-Term Debt / Total Assets)	Custódio et al. (2019);
<b>Long-term Debt to Total Asset Ratio (LTDR)</b>	Independent	Proportion of assets financed by long-term obligations; reflects financing stability (LTDR = Long-Term Debt / Total Assets)	Naser (2024); Gungoraydinoglu & Öztekin (2016)

Source: Researcher's Compilation (2025)

#### IV. ANALYSES AND RESULTS

##### ➤ Data Analysis

Table 2 Descriptive Statistics for the Variables

	ICFS	DER	LTDR	STDR
Mean	8.502529	0.469671	0.078473	0.118712
Median	0.236772	0.487502	0.031857	0.069680
Maximum	427.2020	5.126900	0.627610	0.681288
Minimum	-6.209792	-6.634471	0.000000	0.000000
Std. Dev.	60.43920	1.614128	0.114729	0.134068
Skewness	6.850816	-1.937047	2.617111	1.697236
Kurtosis	47.96419	12.66319	11.97237	7.226412
Jarque-Bera	4603.152	225.8039	224.7928	61.21875
Probability	0.000000	0.000000	0.000000	0.000000
Sum	425.1265	23.48353	3.923641	5.935600
Sum Sq. Dev.	178992.0	127.6651	0.644978	0.880733
Observations	50	50	50	50

Source: E-views 10.0 Output, 2026

Table 2 presents the descriptive statistics for the variables used in the study: Investing Cash Flow Sensitivity (ICFS), Debt-to-Equity Ratio (DER), Long-term Debt to Total Asset Ratio (LTDR), and Short-term Debt to Asset Ratio (STDR). The mean value of ICFS (8.50) shows that, on average, investment spending in consumer goods firms responds positively to internal cash flow changes, although the high standard deviation (60.44) and wide range between the maximum (427.20) and minimum (-6.21) indicate substantial variability in firms' investment behaviors. The mean DER (0.47) suggests a moderate use of debt relative to equity, but the large standard deviation (1.61) and negative

skewness (-1.94) imply that some firms maintain lower debt levels, while a few rely heavily on equity financing. The mean LTDR (0.08) and STDR (0.12) indicate that long-term and short-term debts make up a relatively small proportion of total assets, suggesting conservative debt policies among the sampled firms. However, both variables show positive skewness and high kurtosis, reflecting that a few firms have significantly higher debt ratios than others. The Jarque-Bera probabilities for all variables are 0.0000, indicating non-normality in the data distribution, which may be due to firm-specific financial differences and investment intensity across the sample.

Table 3 Panel EGLS Multiple Regression Analysis (ICFS)

Variable	Coefficient	Standard Error	t-Stat	p-Value
DER	-1.338441	0.432318	-3.095968	0.0034
LTDR	-16.30349	9.248971	-1.762735	0.0847
STDR	-19.07737	9.229087	-2.067092	0.0445
LNTA	4.078021	3.509191	1.162097	0.2513
C	-70.82106	62.40184	-1.134919	0.2624

$R^2 = 0.866425$ , Adjusted  $R^2 = 0.810107$ , F-Stat = 6.506388, Prob(F-stat) = 0.00000, DW = 2.36000

Source: E-views 10.0 Output, 2026

The regression results in Table 3 show how the explanatory variables, namely debt-to-equity ratio (DER), long-term debt ratio (LTDR), short-term debt ratio (STDR), and firm size (LNTA), affect investing cash flow sensitivity (ICFS). The model recorded a high coefficient of determination ( $R^2$ ) of 0.866, meaning that about 86.6% of the variation in ICFS is explained by the independent variables, indicating a strong explanatory power of the model. The adjusted  $R^2$  of 0.810 further confirms this strength after adjusting for sample size and number of variables. The F-statistic value of 6.506 and its probability of 0.000 indicate that the model is statistically significant, implying that the independent variables jointly exert a significant influence on ICFS. The Durbin-Watson value of 2.36 suggests the absence of serious autocorrelation problems, thereby confirming the model's reliability.

In terms of individual variable effects, DER, LTDR, and STDR all have negative coefficients, meaning they inversely affect investing cash flow sensitivity. Specifically, DER ( $-1.338$ ,  $p = 0.0034$ ) is statistically significant, showing that higher leverage through equity financing reduces a firm's sensitivity of investment to cash flow. Similarly, STDR ( $-19.077$ ,  $p = 0.0445$ ) also exerts a significant negative impact, suggesting that reliance on short-term debt constrains firms' investment flexibility. LTDR ( $-16.303$ ,  $p = 0.0847$ ) has a negative but weakly significant effect at the 10% level, implying that long-term borrowings may also reduce investment responsiveness to internal cash flow, possibly due to repayment obligations. LNTA, representing firm size, is positive but insignificant ( $p = 0.2513$ ), showing that firm size does not significantly influence ICFS. Overall, the results imply that higher debt levels, both short and long term, weaken firms' internal investment capacity, aligning with the pecking order theory which posits that firms prefer internal financing to debt because of its lower risk and information cost.

## V. DISCUSSION OF FINDINGS

### ➤ *Debt-to-Equity Ratio and Investing Cash Flow Sensitivity*

The findings revealed that the debt-to-equity ratio (DER) had a significant negative effect on investing cash flow sensitivity (ICFS), suggesting that higher leverage reduces a firm's dependence on internal financing for investment. This implies that firms with greater access to debt capital rely less on internal cash flow to finance new investments, consistent with the pecking order theory, which emphasizes internal funding preference but allows for debt financing when retained earnings are insufficient. The result contrasts with Akaji et al. (2021), who found that debt-equity financing significantly improved firm performance, indicating a positive role of leverage. However, the current study's negative relationship aligns more closely with Lawani et al. (2023), who found that debt-equity ratios exert significant negative effects on firm performance, suggesting that excessive leverage can constrain liquidity and investment flexibility. Similarly, Emerole, Ifurueze, and Ndubuisi (2024) reported a negative but non-significant influence of long-term debt on performance, supporting the notion that high leverage may discourage optimal investment. The divergence from

Akaji et al. (2021) could stem from sectoral differences, as consumer goods firms may experience higher sensitivity to interest rate fluctuations and market risks, making debt financing less effective in supporting investment-driven growth.

### ➤ *Short-Term Debt to Asset Ratio and Investing Cash Flow Sensitivity*

The study found that short-term debt-to-asset ratio (STDR) had a significant negative effect on investing cash flow sensitivity. This suggests that as firms rely more on short-term financing, their ability to invest becomes more constrained, possibly due to the repayment pressure and short maturity structure of such loans. This finding aligns with Adeoye and Olejede (2022), who reported that debt negatively affects firm performance in the Nigerian food and beverages sector, highlighting the adverse effect of debt obligations on operational flexibility. It also partially agrees with Prenaaj, Miftari, and Pula (2024), who found that short-term and total debt reduce return on assets, confirming the restrictive nature of short-term borrowing. However, the current finding contrasts with Okpunor et al. (2023), who documented a positive relationship between debt ratios and performance among consumer goods firms, implying that moderate leverage may enhance financial outcomes when effectively managed. The negative result observed in this study may reflect the high cost of borrowing and unstable credit conditions in Nigeria, where short-term debt often carries higher interest rates and refinancing risks, thereby reducing firms' ability to sustain investment activities.

### ➤ *Long-Term Debt to Total Asset and Investing Cash Flow Sensitivity*

The analysis revealed that long-term debt-to-total asset ratio (LTDR) had a negative but weakly significant effect on investing cash flow sensitivity at the 10% level. This implies that as firms increase their long-term borrowing, their reliance on internal cash flow for investment decisions slightly decreases, possibly because long-term financing provides more stable capital for investment projects. This result corresponds with Lawani et al. (2023), who found that long-term debt ratios exert significant negative effects on firm performance, supporting the idea that high leverage can erode profitability and reduce financial flexibility. Similarly, Nwafor (2023) reported that total debt-to-asset ratio significantly affects firm performance, confirming that debt structure influences profitability and investment behavior. Conversely, the result differs from Afolabi et al. (2025), who found that long-term and short-term debts positively affect firm valuation, suggesting that debt can enhance value when efficiently utilized. The weak significance in the current study may be attributed to the moderate use of long-term debt among Nigerian consumer goods firms, who often rely more on equity or internal funds due to underdeveloped capital markets and high long-term borrowing costs.

## VI. CONCLUSION AND RECOMMENDATIONS

This study examined the effect of capital structure heterogeneity on the investing cash flow sensitivity in Nigerian consumer goods firms, focusing on debt-to-equity

ratio, short-term debt, and long-term debt. The findings reveal that higher debt-to-equity ratios and increased short-term debt significantly reduce the sensitivity of investment to internal cash flows, indicating that firms with greater leverage manage liquidity pressures and financing constraints more cautiously. Conversely, long-term debt does not have a significant effect, suggesting that stable, long-term financing does not strongly influence investment responsiveness. The results align with the Pecking Order Theory, highlighting firms' preference for internal financing and cautious use of debt, and they reflect the broader empirical evidence that the impact of debt structure on investment and firm performance varies across sectors, debt types, and market conditions.

Based on the conclusion above, the researchers recommended among others that:

Consumer goods firms should carefully manage their debt-to-equity ratios to avoid excessive leverage. While some debt can provide tax benefits and support investment, high DER significantly reduces cashflow sensitivity, limiting firms' flexibility to respond to investment opportunities. Firms should aim for an optimal balance between debt and equity to maintain financial stability and investment agility.

Firms should monitor their reliance on short-term debt, as higher levels significantly reduce investment sensitivity to cash flow. Overreliance on short-term financing can create liquidity pressures and refinancing risks. Companies should diversify funding sources and consider extending debt maturity where feasible to reduce dependence on immediate cash flows.

Although long-term debt was not found to significantly affect cashflow sensitivity, firms should still use it strategically for capital investments. Long-term financing provides stability and allows for better planning of large investments without increasing short-term liquidity pressures. Firms should ensure that long-term debt is aligned with long-term growth objectives and investment projects.

#### ➤ Contribution to Knowledge

This study adds to existing knowledge by examining how variations in capital structure, namely debt-to-equity ratio, short-term debt, and long-term debt, impact the investing cash flow sensitivity in Nigerian consumer goods firms. Unlike earlier research that largely focused on overall firm performance or valuation, this study directly links debt composition to investment behavior, showing how different debt types affect firms' dependence on internal cash flows. The results provide clear insights into the specific roles of short-term and long-term debt in influencing investment decisions, deepening understanding of financial constraints and capital structure dynamics in emerging economies.

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