

Capital Structure and Liquidity of Consumer Goods Firms in Nigeria

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Abstract: An optimal capital structure ensures the liquidity, profitability and enhanced value for shareholders. Attaining an optimal capital structure requires the existing of all sources of funds, equity and debts. In Nigeria, however, the obstacles associated with accessing debts funds posed difficulties for some firms, including the consumer goods firms in Nigeria. The study examined capital structure and liquidity of consumer goods firms in Nigeria. Specifically, the effect of Debt Equity Ratio (DTER), Debt Assets Ratio (DTAR) and Debts Capitalization Ratio (DTCR) on Net Cash Flow of Consumer goods firms in Nigeria were examined. The study was based on time series data obtained from a sample of twelve (12) consumer goods firms listed on Nigeria Exchange Group during 2013-2025 periods. The data were analyzed using Descriptive Statistics, Unit Root and Panel Least Square Regression Analysis. Results suggest that Debt Equity Ratio positively, but non-significantly affect Net Cash Flow Ratio of the firms. {DTER Coeff. = 0.008920, and the P-value = 0.4487}. Results also show that Debt Assets Ratio positively, but non-significantly affect Net Cash Flow Ratio of the firms. {DTAR Coeff. = 0.304386, and the P-value = 0.2283}. Results further indicate that Debt to Capitalization Ratio positively, and significantly affect Net Cash Flow Ratio of the firms. {DTCR Coeff. = 0.777645, and the P-value = 0.0016}. The implication of these findings is that net cash flow of the consumer goods in firms in Nigeria will improve as combination of debts equity are used to finance the firms' operations. Based on these findings, the study recommends that consumer goods firms in Nigeria should finance their business operations with more of debt than equity. The study also recommends that the firms should use debt financing to fund investment in long term assets, as this will increase firm profitability and checkmate excesses use of free cash flow by the firm managers. The study further recommends that the firms should increase the overall debts proportions in their capital structure as this will reduce tax burden, guarantees ownership control and voting rights and enhance cash flow and profitability of the firms.

1. Introduction

Generating profit and maximizing stockholders' wealth perpetually are the most important objectives of firms (Flannery & Rangan, 2006). In an attempt to achieve these objectives of the business, firm managers are confronted with lots of difficult decision areas. One of such difficult decisions areas is the capital structure, which is the best combination of debts and equity to finance the business operation (Black, 2015). Therefore, capital structure decision is significant managerial decision, as it influences the shareholder return and risk. The market price of the shares is also affected by the capital structure decision as the company has to plan it initially at the time of promotion and subsequently during growth and expansion of the business (Khan et al, 2013). Capital structure decision is a big challenge for corporate management as it plays a vital role in the company's liquidity, profitability and long term survival. Any wrong decision on capital structure may lead to liquidity problems, financial distress or even bankruptcy for the firms (Shahar et al, 2015). Chen et al (2016) described capital structure as the amalgamation of different types of debts, such as debentures, long terms debts and different components of equity, including retained earnings, common and preferred equity that an entity uses to fund its operations. The capital structure of a firm is critical because it is related to the ability of the firm to meet stakeholders' needs. Kumar, et al (2017) stated that choosing the best combination of debt and equity, constitute one of the most critical business decisions. This decision-making involves an efficient mixing of different financing sources, debt versus equity to minimize the weighted average cost of capital. Bui, et al (2023) also opined that when the capital structure is at the optimal, the business experiences the lowest cost of capital, which maximizes the value of the owners. To create an optimal capital structure, determining the optimal amount of debt is vital. Various market factors, such as financial constraints, taxes, asymmetric information, and agency costs, affect the achievement of the optimal capital structure.

Sanghvi (2023) explained that capital structure ratios are derived from a company's financial statements of financial position, and they provide valuable insights into the company's financial health, risk profile, and ability to meet the company's financial obligations. Loth and Heller (2022) stated that measures of capital structure include, equity capital, long term debts, short term debts, debt equity ratio, debt assets ratio, equity to capitalization ratio, long-term debt to capitalization ratio, interest coverage ratio among others. Equity is a company's common and preferred stock plus retained earnings. Wohler (2017) also opined that debt to equity ratio, debt to assets ratio and interest coverage ratio are the most popular capital structure ratios used in empirical studies. Santiago (2023) equally identified several capital structure ratios, some of which include, but not limited to debt equity ratio, debt assets ratio, debts to total assets ratio, interest coverage ratio, equity to capitalization, long term debt to capitalization ratio. This study, however, adopted debt

equity ratio, debt assets ratio, debt to capitalization ratio and interest coverage ratio as proxies for capital structure.

Maverick, et al (2025) described debt to equity ratio as a measures a company's financial risk used to compare total outstanding debt obligations of the company to the value of shareholders' equity. It is a leverage ratio that used to measure the proportion of a company's debt to equity. A higher debt equity ratio means that more of the company's financing is from debt rather than from equity. Bui, et al (2023) defined debt assets ratio as a capital structure indicator which reflects the proportion of assets financed through borrowed capital. It shows the extent of a company's reliance on borrowed capital sources to finance its assets. Hargraves and Brown (2024) described debt-to-capitalization ratio measures a company's financial leverage by comparing its total debt to its total capital. It essentially indicates how much debt a company uses to finance its operations relative to the total funds available, including debt and equity. A higher debt to capitalization ratio suggests the company relies more on debt financing, potentially increasing financial risk. The independent variable of the study is net cash flow. Wingerard et al, 2013) defined net cash flow as the amount of money that the business is able to obtain from customers and debtors (cash inflow) during a period less the amount of money that the business is able to spend (cash outflow) within the period. It is the inflow of cash to the business as well as the outflow of cash from the business.

Despite the amount of research existing in this area of study, records show that most of the studies focused mainly on the effect of capital structure on financial performance, firm profitability and firm value, while little was done on the effect of debt structure on firm profitability and firm value. In as much as it is important to ascertain the debt equity mixture in order to attain the optimal capital structure, it is also crucial to study the makeup of the total debt in a company's debt profile, their terms, and the proportion they hold in the overall capital structure. This knowledge is important for funds allocation and cash flow planning. Moreover, the consumer goods sub-sector of manufacturing firms has received little or no studies in the research area in recent times. It is this neglect of the consumer goods sub-sector coupled with the paucity of research work on the debt structure that motivated the present study to investigate the effect of capital structure on firm value of consumer goods firms in Nigeria.

1.2 Statement of the Problem

Despite the importance of capital structure theories in increasing liquidity, profitability and value of firms, attaining an optimal capital structure remains a puzzle to most firms in Nigeria, including the consumer goods firms. In most cases, lack of access to debt financing is responsible for this development. The stringent conditions by financial institutions in

the country is largely responsible for this. Some of the conditions include, landed property collateral in good location with good title, its perfection, including the execution of legal mortgage in favor of the lending financial institution. As a result of this development, most consumer goods firm resort to equity financing only, even when debt financing is required to attain the optimal capital structure. The consequence of this is inappropriate debt equity ratio, debt assets ratio, debt capitalization ratio and the resultant liquidity problems. The lack of access to loanable funds is coupled with wide fluctuation of foreign exchange rate, unabated inflation, decaying infrastructure, security concerns in food-producing regions, and the rising cost of fuel, which has driven up transportation cost for agricultural produce. Some of the consumer goods firms left the market as a result of lack of access to loanable funds and the harsh business environment in the country. The present study was motivated by this development to investigate the effect of capital structure on liquidity of consumer goods firms in Nigeria.

1.3 Objectives of the study

The main objective of the study is to examine capital structure and liquidity of consumer goods firms in Nigeria. Specifically, the study seeks to:

- i. Analyze the effect of debt equity ratio on net cash flow ratio of consumer goods firms in Nigeria.
- ii. Appraise the effect of debt asset ratio on net cash flow ratio of consumer goods firms in Nigeria.
- iii. Examine the effect of total debt to capitalization ratio on net cash flow ratio of consumer goods firms in Nigeria.

1.4 Research Questions

The specific objectives of the study were guided by the following research questions.

- i. what is the effect of debt equity ratio on net cash flow ratio of consumer goods firms in Nigeria?
- ii. How does debt asset ratio affect net cash flow of consumer goods firms in Nigeria?
- iii. To what extent does total debts to capitalization ratio affect net cash flow ratio of consumer goods firms in Nigeria?

1.5 Statement of Hypotheses

The following hypotheses formulated in their null forms will be tested. The results obtained from the test of the hypotheses will assist the research resolving the research problem.

- i. Debt equity ratio does not significantly affect net cash flow ratio of consumer goods firms in Nigeria.

- ii. Debt assets ratio does not significantly affect net cash flow ratio of consumer goods firms in Nigeria.
- iii. Total debt to capitalization ratio does not significantly affect net cash flow ratio of consumer goods firms in Nigeria.

2. Review of Related Literature

2.1.1 Capital Structure

Sharma and Vaidya (2024) described capital structure as the combination of debts and equity, which a company uses to finance its investment and operations. A company's capital structure includes various forms of debts, such as loans and bonds as well as equity, such as common and preferred stock. Aljamaan (2018) explained that debt is the money borrowed from lenders, such as banks or bondholders, which must be repaid with interest. Equity, on the other hand, represents the ownership in the company, including funds raised by issuing stock to investors and the company's retained earnings. Feder and Uhless (2023) noted that capital structure involves a complex assessment of capital costs from both debt and equity sources, and it entails evaluating such factors as interest rates, credit ratings, optimal tax policy, potential bankruptcy and expected returns for management and shareholders. Ultimately, an optimal capital structure can be determined by measuring the effectiveness of the different financing combinations for increasing potential returns versus any associated risks.

Horsefall (2021) described optimal capital structure as the perfect mix of debt and equity financing that helps in maximizing the value of a company in the market while at the same time minimizes its cost of capital. It is a minimum weighted average cost of capital at which the value of a firm is maximized. The goal of determining an optimal capital structure is to strike a balance between risk and return, minimizing the cost of capital while maximizing shareholders value. Rizov (2001) stated that optimal capital structure reduces the cost of financial resources, improves net economic returns and increases the value of the share. The optimal capital structure of a company is a function of various variables that include the business risks and the tax rate. However, the decision of capital structure is a continuous process, whenever the company needs finance for the project. Younus, et al (2014) insisted that researchers in finance are still unable to find a model that can help in determining an optimal capital structure despite the fact that there are many theories explaining it. Usually capital structure policy depends upon the company's size, ownership, profitability, various costs, earning growth and liquidity of company's assets.

2.1.2 Debts Equity Ratio

Khoiriah (2022) described debt-equity ratio as a leverage ratio used to compare a company's debts to the value of its shareholder equity. The ratio is useful for potential investors to

decide whether a company is sound for investment purpose. It is also used by financial institutions to determine whether to approve a loan or not. If the costs incurred to obtain a loan (cost of debt) are less than the cost of equity (cost of equity), then the source of funds originating from loans or debt will be more effective in generating profits. Glover (2021) stated that investors, stakeholders, lenders, and creditors are interest in a company's debt-to-equity ratio to determine the business risk profile. The higher the debts, is the higher the risk, and the less likely that the business will be able to access more loans or have an investor invest in the business. Debt equity ratio enables firm managers determine when the business has taken too much debt and the point at which the debt becomes detrimental to the business. It enables the managers distinguish between healthy debt levels and potentially harmful ones, ensuring better financial decision-making for the business. Afanny, et al (2022) explained that debt to equity ratio is one of the factors that affects company value. Debt to equity ratio compares total debts with equity, and use of debt to equity variable is to determine how much the company's dependence on debt is. Debt should not be greater than capital so that the company's burden doesn't increase. High debt will increase interest expense borne by the company. This will reduce profits, small profits will make investors less confident in the company and tend to avoid risks that might harm or affect their investment.

2.1.3 Debts Assets Ratio

Hayes and Kindness (2025) defined debt-to-assets ratio as a leverage ratio that measures how much debt a company carries in relation to the value of its total assets. This ratio shows the degree to which a company has used debt to finance its assets. In other words, it shows what percentage of the company's assets are funded by debt, as opposed to equity. The calculation considers all of the company's debt including term loans, bonds, payables and all assets, including tangible and intangibles assets. If a company has a total debt-to-total assets ratio of 0.4, it means that 40% of its assets are financed by creditors, and 60% by shareholders' equity. Bui, et al (2023) also explained that debt assets ratio shows the extent a company relies on its borrowed capital to finance its assets. The ratio can be calculated using the total debt, long-term debt, or short-term debt, each corresponding to the ratio of total debt, long-term debt, and short-term debt-to-total assets. A low debt to assets ratio indicates a high level of financial independence from creditors, suggesting less dependence on debt. Conversely, a higher ratio signals a greater likelihood of debt payment difficulties or the risk of bankruptcy. Forge (2023) stated that debt assets ratio provides financial managers an idea about the health of the business, whether it is growing or experiencing financial distress. It provides a useful overview of how a company has grown and acquired its holdings over its life, as well as a forecast of its solvency in the future.

2.1.4 Debt Capitalization Ratio

Kenton and Kindness (2020) described total debt-to-capitalization ratio as a measures of a company's total debt as a percentage of its total capital, indicating the level of leverage and associated risk of insolvency. It is a tool that measures the total amount of outstanding company debt as a percentage of the firm's total capitalization. The ratio is an indicator of the company's leverage. A higher ratio result means that a company is more highly leveraged, which carries a higher risk of insolvency. Capitalization refers to the total amount of money raised to purchase assets. A business can raise money by issuing debt to creditors or by selling stock to shareholders. Vătavu (2015) stated that debt is cheaper than equity, such that a firm can increase its firm value by employing debt financing up to a reasonable limit. Debt is preferred over equity for two circumstantial reasons: the cost of debt financing is far lower than that of equity and the tax-shield benefit of debts. Hagrave and Brown (2024) stated that total debt-to-capital ratio is calculated by taking the company's interest-bearing debt, both short- and long-term liabilities and dividing it by the total capital. Total capital is all interest-bearing debt plus shareholders' equity, which may include items such as common stock, preferred stock, and minority interest. The ratio gives analysts and investors a better idea of a company's financial structure and whether or not the company is a suitable investment. The higher the total debt-to-capital ratio, the riskier the company.

2.1.5 Firm Liquidity

Akenga (2017) defined a company's liquidity as its ability to convert short-term assets into cash in an adequate and timely manner. Short-term assets include short-term financial investments, short-term receivables, short-term advances, and inventory. Liquidity shows a company's ability to meet its short-term debt obligations, and it is one of the factors that influences financial performance. Vargiolu (2024) confirmed that liquidity reflects a firm's ability to meet its short-term obligations without incurring significant losses. It is a vital aspect of financial health, as adequate liquidity ensures that firms can respond to customer needs, meet regulatory requirements, and seize investment opportunities. However, maintaining high liquidity levels can sometimes come at the cost of reduced profitability, as idle cash or low-yielding assets do not contribute to earnings growth.

Issah (2020) insisted that a business with good liquidity will have more investment opportunities, greater profitability, and increased credibility with customers, investors, lending banks, etc., at the same time. Good prevention of possible risks. Therefore, the efficiency of businesses will increase. Dadebo and Afolabi (2020) noted that liquidity is measured using the traditional ratio-based method and the cash flow-based method. The traditional method uses liquidity indicators such as the current ratio, quick ratio, capital adequacy ratio and cash conversion cycle. Kong et al (2019) stated that the cash flow based

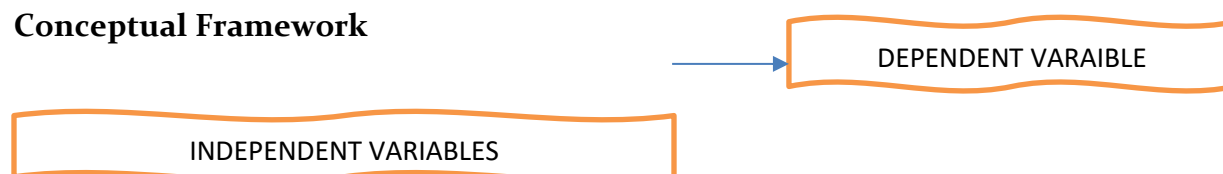
method uses liquidity indicators such as the debt repayment ratio from net operating cash flow (Cash flow ratio - CFR) and the demand guarantee ratio critical needs cash coverage (CNCC) from the cash flow statement to analyze the impact of financial activities on a business's cash flow. This approach helps managers and investors better understand liquidity status and make smart financial decisions to optimize financial performance.

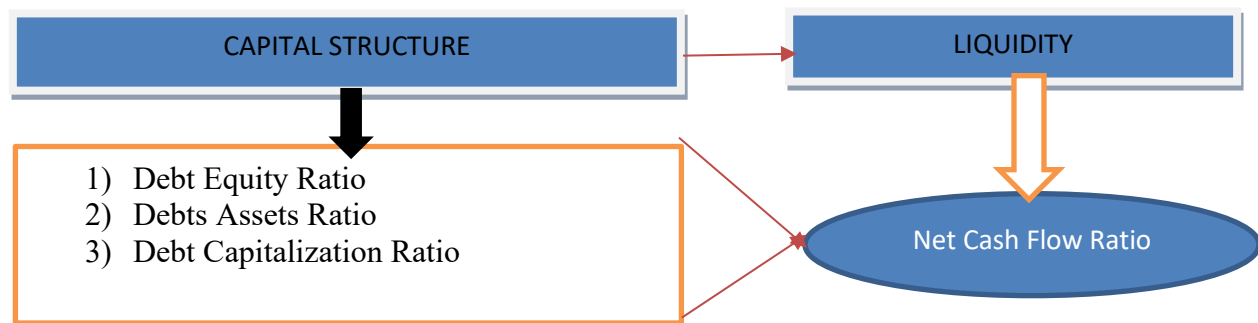
2.1.6 Net Cash Flow Ratio

Hayes, et al (2025) described cash flow as the movement of money into and out of a company over a certain period of time. Assessing cash flows is essential for evaluating a company's liquidity, flexibility, and overall financial performance. If the company's inflows of cash exceed its outflows, its net cash flow is positive. If outflows exceed inflows, it is negative. Net cash flow is calculated by subtracting total cash outflow from total cash inflow. A company's cash flow statement reports its sources and use of cash over a certain period of time. Cash flow can be categorized as cash flows from operations, from investing, and from financing. Stobierski (2020) noted that for investors, understanding the difference between profit and cash flow makes it easier to know whether a profitable company is good for long-term investment based on its ability to remain solvent in times of economic crisis. For entrepreneurs and business owners, understanding the relationship between the terms can inform important business decisions, including the best way to pursue growth.

Faulkenberry (2015) noted that cash flow is a better metric than profits for evaluating the health of a company because accounting earnings are affected by non-cash items such as depreciation or amortization..Cash flow provides a more accurate metric than accounting earnings for evaluating the true contribution or worth of core business operations. Bhandari and Iyer (2013) observed that cash flows create value and are regarded as a real resource for company expenditures. Cash can be used for transactions such as the payment of wages, salaries and debt, acquisition of inventory or goods as well as the distribution of profits. Dave (2025) stated that positive cash flow indicates that a company's liquid assets are increasing, enabling it to cover obligations, reinvest in its business, return money to shareholders, pay expenses, and provide a buffer against future financial challenges. Companies with strong financial flexibility fare better, especially when the economy experiences a downturn, by avoiding the costs of financial distress.

Fig 2.2:
Conceptual Framework





Source: Author's Compilation, 2026

2.2 Theoretical Framework

The supporting theories are: Agency Theory propounded by Jensen and Mecking in 1976. Trade-Off Theory developed by Myers in 1977. The study is, however, anchored Trade-Off Theory, because of its direct connection with the primary objective of the study.

Mecking and Jensen (1976) proposed the agency theory, which is characterized by a specific percentage of debt in the organization's financial structure that lowers agency costs resulting from disagreements between managers and firm owners (Leland, 1998). Agency expenses would decrease as a result of fewer disagreements between agencies, which would lead to an increase in revenue. A company's use of debt can help control and supervise managers to ensure that they pursue objectives that are beneficial to the business. Buferna, et al (2005) noted that the inclusion of debt in the financial structure motivates firm managers to support a company's expansion in order to provide cash flows that would finance debt payments. Dawar (2014) observed that the company becomes more profitable as a result. This theory holds that employing debt, whether it be short-term or otherwise, reduces agency conflicts between managers and shareholders of a company, which promotes economic progress of the firm.

The Trade-Off Theory was developed by Myers in 1977. The theory states that every company has an optimal capital structure that may be determined by balancing the benefits and drawbacks of equity. A firm chooses how much debt capital and how much equity capital to include in its capital structure by evaluating the benefits and drawbacks of each source. While having a lot of debt in the capital structure might result in agency fees and insolvency, debt capital also offers tax deductions. Information asymmetry and the competing interests of many company stakeholders result in agency costs. Meckling and Jensen (1976) stated that through the integration of agency costs into the trade-off theory a company can ascertain its optimal financial configuration by balancing the benefits of debt (like tax advantages) against the drawbacks of excessive debt (like financial distress) and the ensuing agency costs for equity versus debt. The theory states that a company's

capital structure shouldn't be more debt-heavy than it needs to be because doing so will raise the cost of debt relative to its benefit.

2.3 Empirical Review

Marjohan et al (2023) investigated the effect of liquidity, profitability, and debt to equity ratio on firm value in mining companies listed on the Indonesia during 2012-2021 periods. The population of the study consists of all the mining companies listed in Indonesia during the period, out of which 4 companies were selected. A total of 40-year data observation were examined using descriptive analysis, the classical assumption test, regression analysis and the determination coefficient test. Results of analysis indicate that financial performance has no effect on the value of the company. It was also found that debt to equity ratio has no effect on the value. Profitability proxied with return on equity has significantly effect on the value of the companies. Yu and Kim (2023) explored the effects of profitability and debt-to-equity ratio on operating leverage in the case of companies listed on the Korea Exchange from 2000 to 2021. The number of firm-year observations for the firms that fulfilled the sampling conditions was 29,486. The data were analyzed using descriptive statistics, regression and correlation analysis. Results suggest that there was a positive correlation between profitability and debt-to-equity ratio for Korean firms. Waryati, et al (2023) analyzed the effect of debt equity ratio, return on assets, and book value on stock returns of Food and Beverage industrial companies listed in Indonesia. The study was based on a population of 30 Food and Beverage companies in Indonesia, with sample of 7 companies. The data obtained from Capital Market Directory were analysis using panel data regression analysis. Findings show that return on assets has a significant negative effect on stock returns, debt to equity ratio and book value has no impact on stock returns. Omotayo, et al (2024) appraised the relationship between capital structure and financial performance of listed non-financial companies in Nigeria. The population consists of 105 companies listed in Nigeria during 209-2022 periods, out of which 60 were selected. The data collected from the companies focused on debt to equity ratio (DER), leverage ratio (LEV), return on assets (ROA). Fixed Effect Regression model was used to analyze the data. Results reveal a positive, but non-significant association between Debt to Equity ratio and ROA. Conversely, Leverage exhibits a negative but non-significant influence on ROA. Overall, the study's outcome suggests that capital structure has no significant effect on the companies. Oktasari, et al (2025) evaluated the influence of the financial ratios: Current Ratio (CR), Debt to Equity Ratio (DER) and Return on Equity (ROE) on Stock Returns simultaneously and partially. The population in this study are construction and building sub-sector companies listed on the Indonesia Stock Exchange during 2016-2020 period, totaling 12 companies. The sampling technique using the saturated sample method amounted to 12 companies. Panel Data Regression Analysis was used to examine the dat.

Results indicate that only ROE has a positive and significant effect on Stock Returns, while DER, and CR do not affect Stock Returns during the period.

Prenaj, et al (2024) analyzed the impact of the capital structure on the performance of non-listed

companies. The study is based on data from 50 non-listed companies in Kosovo during 2015–2020 periods. Pooled Ordinary Least Square Regression Model as well as Panel Data Regression Analysis were used to analyze the data obtained for the study. The Kosovar non-listed companies use two accounting-based measures of financial performance: return on assets (ROA) and return on equity (ROE). Results of analysis indicate that capital structure negatively influencing ROA. On the other hand, capital structure affects the company's performance positively, except for long-term debt, which has no significant impact on ROE. Ahmed, et al (2024) examined the relationship between corporate performance and capital structure of listed firms in Dhaka Stock Exchange. The study was based on 78 listed firms in Dhaka Stock Exchange during 2017–2021 periods. Panel Data Regression analysis was used to analyze the data obtained from the firms. Results show that all forms of debt ratios, short-term, long-term, and total debt ratio exhibited a substantial negative impact on ROA. Conversely, specific debt ratios, like the short-term to total debt and the total debt-to-total asset ratio, displayed a notable positive correlation with ROE. Long-term total debt ratio yielded a negative and insignificant effect on ROE.

Aghaebe and Oranefo (2024) examined the effect of capital structure on financial performance of consumer goods firms in Nigeria. The population comprised of 21 listed consumer goods firms in Nigeria during from 2012–2022 periods, out of which 16 were selected. The data obtained from the firms were analyzed using descriptive tools, correlational and regression analyses. The Pooled Ordinary Least Square Regression Technique was used in testing the hypotheses of the study. Test results indicate that: short term debt to equity ratio has a significant negative effect on ROA; long term debt to equity ratio has a non-significant positive effect on ROA.; total debt to equity ratio has a non-significant negative effect on ROA of the firms.

Ogan, et al (2024) studied the effect of capital structure on corporate performance of quoted manufacturing firms in Nigerian during 2019–2023 periods. Descriptive statistics, Correlation, and Regression Analysis were used to analyze the data from the selected firms. Research results reveal that total debt to total asset structure, short- term debt to total asset, and long-term debt to total asset structure have an insignificant effect on the corporate performance of quoted manufacturing firms in Nigeria. Only total debt to total equity has significant effect on performance of firms. Mursalini, et al (2024) investigated how current ratio and debt ratio influence profitability of retail trade sub-sector firms listed on the Indonesian during 2018–2022 periods. The study used a sample of 22 companies and

110 annual financial reports. Descriptive Statistics Classical Assumption Tests, Multiple Linear Regression Analysis were used to study the data obtained from the firms. Findings reveal that the current ratio has a certain impact on profitability with a significance value of $0.002 < 0.05$. Additionally, the debt ratio has a partial effect on profitability with a significance value of $0.000 < 0.05$. The combined influence of the current ratio and debt ratio on profitability is estimated to be 34.9%.

Atieno (2023) studied the effect of long-term debt financing on the profitability of commercial airlines in Kenya. The census sampling technique was adopted for the study; thus every commercial airline was used to establish the effect of long-term debt management on profitability. Secondary data were collected from audited financial statements of the airlines and analyzed using descriptive statistics, correlational and panel data regression analysis. Research results indicates that long-term debt financing has a negative and statistically significant effect on the profitability of commercial airlines in Kenya. This is supported by a regression coefficient of -0.2318 and a p-value of 0.038 . Ibthia, et al (2024) analyzed the influence of Short-Term Debt, Long Term Debt, Total Debt to Assets, Total Debt to Equity, and Liquidity on Company Performance with Company Size as a moderating variable on consumer goods firms listed in Indonesia during 2018-2022 period. The population consists of 47 consumer goods firms. A sample of 38 firms was selected using the purposive sampling method. Panel Data Regression Analysis was used to examine the data obtained for the study. Results show that partially and simultaneously, Short-Term Debt (STD), Long-Term Debt (LTD), and Total Debt to Assets (TDTA) have a significant effect on Company Performance. Firm Size can moderate the impact of Short-Term Debt, Long-Term Debt, Total Debt to Asset, Total Debt to Equity, and Liquidity on Company Performance.

Gara et al (2025) examined capital structure and its influence on the financial performance of selected listed industrial goods companies in Nigeria during 2014-2023 periods. Capital structure is used to determine how firms mix their equity and debt in financing its business operations to boost financial performance. Secondary data were extracted from the annual reports and accounts of three (3) purposively selected industrial goods firms in Nigeria. The firms are Dangote Cement PLC, Lafarge Africa PLC and BUA Cement PLC. Findings suggest that a higher equity ratio significantly improved financial performance; and a higher debt ratio equally impacted on the financial performance.

Suju (2025) analyzed the effect of debt financing on profitability of selected Nepalese commercial banks, focusing on key debt-related ratios and their relationship with Return on Assets (ROA) and Return on Equity (ROE). The study used secondary data from ten (10) commercial banks in Nepal over a 10-year period (1970/71 to 1979/80). A simple random sampling method was used to select the 10 banks from a total of 20, resulting in 100

observations. Descriptive Statistics, Pearson's Correlation Matrix and Panel Least Square Regression were used for the data analysis. Findings indicate that Debt to Equity Ratio (DER) and Interest Coverage Ratio (ICR) significantly influence profitability, with ICR showing a positive correlation and DER a negative correlation with both ROA and ROE. Regression analysis reveals that ICR and DER are key predictors of ROA and ROE, with ICR having a positive effect and DER a negative one. Short-term debt also appears to have a positive influence on profitability, while long-term debt ratios show weak or no significant correlation.

3 Methodology

The study adopted *ex-post facto* researcher design, whereby secondary data were obtained from the annual reports and financial statements of the selected consumer goods firms listed on Nigeria Exchange Group during 2013-2024 periods. This study was carried out in Nigeria and precisely on consumer goods firms listed on Nigeria Exchange Group during 2013-2024 periods. The data for the study were sourced from secondary sources, which is the annual reports and financial statements of the selected consumer goods firms listed on Nigeria Exchange Group during 2013-2024 periods. A total of twenty-one (22) consumer goods firms were listed on Nigeria Exchange Group during the period. The twenty-two firms constituted the population of the study. Twelve (12) consumer goods firms listed on Nigeria Exchange Group were selected for the study using purposive sampling method. The choice of this method was informed by data availability as some of the consumer goods firms did not use debt financing during the period.

Descriptive Statistics, Unit Root Test and Panel Least Square Regression Analysis are the statistical tools used to analyze the secondary data obtained from the annual reports and financial statements of the selected consumer goods firms in Nigeria. Descriptive Statistics, Unit Root Test are the diagnostic tests, while Panel Least Square Regression Model is the main tool of analysis, which was used to test the three null hypotheses formulated for the study. The independent variables of the study and measure of capital structure are: Debt Equity Ratio, Debts Assets Ratio (DTER), and Debts Capitalization Ratio (DTCR), while the dependent variable and proxy for firm liquidity is Net Cash Flow Ratio (NCFR).

Model Specification

The following model which are in line with the variables of the study was adopted from Anyam, et al (2024)

$$\text{NCFR} = \beta_0 + \beta_1(\text{DTER}) + \beta_2(\text{DTAR}) + \beta_3(\text{DTCR}) + \varepsilon$$

Where:

NCFR = Net Cash Flow Ratio

DTER = Debt Equity Ratio

DTAR = Debt Assets Ratio

DTCR = Debt Capitalization Ratio

β = Beta

ε = error term

Description of Variables

Variable Name	Label	Description	Formula
Net Cash Flow Ratio	NCFR	The net cash flow ratio measures the relationship between a company's net cash flow and its profit for the year. It is a measure of the number of times a company can pay off current debts with cash generated within the same period.	NCFR = Net Cash Flow/Current Liabilities
Debt Equity Ratio	DTER	Debt equity ratio is a financial leverage ratio used to determine the proportion of debt in a firm's capital structure. It is calculated by dividing total debt of a firm by its equity.	DTER = Total Debts/Total Equity
Debt Assets Ratio	DTAR	This is a leverage ratio used to understand a company's capital structure. The ratio represents the proportion of the company's assets that are financed by interest bearing liabilities. It is calculated by dividing total debt of a business by its total assets.	DTAR = Total Debts/Total Assets
Debts Capitalization Ratio	DTCR	This is a financial metric that indicates the proportion of a company's assets financed by debts. Calculated by dividing the total debt by its total capitalization, which is the sum of debt and equity.	DTCR = Total Debt / (Total Debt + Total Equity)

Source: Author's Compilation, 2026.

4 Data Analysis and Results

4.1 Data Analysis

Descriptive Statistics, Unit Root test and Least Square Regression Model were employed to analyze the secondary data obtained from the annual audited financial statement of the selected consumer goods firms. The results of the analysis are presented in tables 4.2.1 to 4.2.3.

4.2.1 Descriptive Statistics

	NCFR	DTER	DTAR	DTCR
Mean	0.340208	1.279375	0.236111	0.349097
Median	0.210000	0.495000	0.210000	0.330000
Maximum	2.120000	35.49000	1.960000	0.970000
Minimum	-0.350000	0.000000	0.000000	0.000000
Std. Dev.	0.428129	3.467667	0.232611	0.259992
Skewness	1.700039	7.700761	3.081953	0.312673
Kurtosis	6.155106	71.22211	22.27915	2.095206
Jarque-Bera	129.0913	29348.78	2458.077	7.258260
Probability	0.000000	0.000000	0.000000	0.026539
Sum	48.99000	184.2300	34.00000	50.27000
Sum Sq. Dev.	26.21109	1719.534	7.737422	9.666183
Observations	144	144	144	144

Source: E-view 8.0 Output

Descriptive Statistics of the variables of the study are presented in table 4.2.1. The table shows that the Mean of the variables are: 0.340208, 1.279375, 0.236111 and 0.349097 for NCFR, DTER, DTAR and DTCR while their Median are: 0.210000, 0.495000, 0.210000 and 0.330000 respectively. With the exception of DTER, the mean scores of the variables are near equal with the median, thus suggesting that the time series data are normally distributed. The Jarque-Bera Statistics test also confirms normal distribution for all the variables of the study as their p-values are less than 0.05 critical value. The other two statistical tests in the table which were used to test the normal distribution of the data set are: Skewness and Kurtosis tests. The Skewness results indicate positive skewness for all the variable during the period. The positive skewness of the variables suggest that the data distribution is asymmetrical, as most data points are clustered around the lower end of the range. It was also observed from the table that the skweness coefficient of all the variables crossed the benchmark rate of 1, except DTCR, which 3. On the other hand, DTCR have platykurtic distribution, with its coefficient less than three 3. These results also collaborated the previous tests, and thus confirmed the normal distribution of the data set used for the study.

Table 4.2.2: Levin, Lin & Chu t*

Null Hypothesis: Unit root (common unit root process)							
Series: NCFR							
Date: 05/29/26 Time: 17:33							
Sample: 2013 2024							
Exogenous variables: Individual effects							
User-specified lags: 1							
Newey-West automatic bandwidth selection and Bartlett kernel							
Total (balanced) observations: 120							
Cross-sections included: 12							
Method			Statistic		Prob.*		
Levin, Lin & Chu t*			-3.16014		0.0008		
** Probabilities are computed assuming asymptotic normality							
Intermediate results on NCFR							
Cross section	2nd Stage Coefficient	Variance of Reg	HAC of Dep.	Lag	Max Lag	Bandwidth	Obs
1	-0.55389	0.0223	0.0129	1	1	5.0	12
2	-1.01842	0.0214	0.0041	1	1	10.0	12
3	-1.56363	0.0207	0.0055	1	1	10.0	12
4	-0.94580	0.0327	0.0395	1	1	3.0	12
5	-0.36904	0.1489	0.0368	1	1	10.0	12
6	-1.17495	0.0063	0.0243	1	1	2.0	12
7	-0.61016	0.0553	0.0460	1	1	3.0	12
8	-0.26468	0.0515	0.0577	1	1	0.0	12
9	-1.29065	0.0037	0.0022	1	1	8.0	12
10	-0.29454	0.0049	0.0094	1	1	2.0	12
11	0.34737	0.0435	0.0417	1	1	2.0	12
12	-0.72218	0.3608	0.0967	1	1	10.0	12
	Coefficient	t-Stat	SE Reg	mu*	sig*		Obs
Pooled	-0.65386	-7.340	1.100	-0.554	0.919		144

Source: E-view 8.o Output.

The results of the Unit Root Test are presented in table 4.2.2. The findings from PP-Fisher Unit Root Test suggest that the variables of the study are of mix order of integration. Net Cash Flow Ratio (NCFR) and Debt Equity Ratio (DTER) were found stationary at level $o(o)$. while Debt Assets Ratio (DTAR) and Debt Capitalization Ratio (DTCR) were found stationary after the first differencing $1(1)$. However, when all the variables were tested

together using Levin, Lin & Chu t^* common unit root test, they were found stationary at level $o(o)$ as shown in table 4.2.2.

Table 4.2.3: Pane Least Square Regression Analysis

Dependent Variable: NCFR				
Method: Panel Least Squares				
Date: 05/29/26 Time: 17:25				
Sample: 2013 2024				
Periods included: 12				
Cross-sections included: 12				
Total panel (balanced) observations: 144				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DTER	0.008920	0.011741	0.759712	0.4487
DTAR	0.304386	0.251546	1.210058	0.2283
DTCR	0.777645	0.241602	3.218710	0.0016
C	0.528401	0.059291	8.912010	0.0000
R-squared	0.452427	Mean dependent var		0.340208
Adjusted R-squared	0.395193	S.D. dependent var		0.428129
S.E. of regression	0.409933	Akaike info criterion		1.081741
Sum squared resid	23.52637	Schwarz criterion		1.164236
Log likelihood	-73.88536	Hannan-Quinn criter.		1.115262
F-statistic	5.325399	Durbin-Watson stat		1.670164
Prob(F-statistic)	0.001668			

Source: E-view 8.o Output.

Presented in table 4.2.4 is the Panel Least Square Regression Model, which is an e-view 8.o output. Panel Least Square Regression is a parametric technique which combines both cross-sectional and time series observations and treat all observations as one pooled data set. Results from the model suggest that about 40% of the variations in the Net Cash Flow Ratio of the consumer goods firms in Nigeria is explained by the predictor variables, comprising DTER, DTAR and DTCR, while the remaining 60% is explained by error margin and other variables not captured in the model of the study. It was also observed from the model that the Coefficient of Durbin Watson Statistics is 1.670154, which is approximately within the acceptable range of 2-4. In view of this, we conclude that there is no autocorrelation in the model of the study.

4.3 Discussion of Results

Debts Equity Ratio and Firm Liquidity

The panel least square regression model in table 4.2.3 shows that the coefficient of Debts Equity (DTER) is 0.008920, while the p-value is 0.4487. Therefore, we state that Debt Equity Ratio positively, but non-significantly affect Net Assets of consumer goods firms in Nigeria. This result is consistent with Pecking Order Theory, developed by Myers and Majluf in 1984. The theory argued that, all other things being equal, companies seeking to finance have a hierarchy of preferred financing options that progresses from the most preferred to the least preferred, starting with internal funding (retained earnings), then debt financing, next debt-equity hybrid, and equity financing as the last option. The result is consistent with: Khoiriah (2022) who noted that Debt to Equity Ratio has a significant effect on Return on Equity on publicly traded companies on the Indonesian Stock Exchange. Akintoye (2019) who observed that companies with debt and equity mix has higher value than companies with only equity as it significantly effects on return on assets which support the traditional view of capital structure. Nasution, et al (2019) who observed that debt equity ratio had a significant effect on return on equity in automotive and component companies listed on the Indonesia Stock Exchange.

The study, is however, inconsistent with: Otekunrin, et al (2020) who found that debt equity ratio and profitability (returns on equity) had a negative relationship. Syaifulhaq, et al (2020) who concluded that capital structure proxied by debt to equity ratio has a negative coefficient direction but is not significant to the firm's value. Alzubi and Bani-Hani (2021) who noted that debt-to-equity and firm size both have a substantially negative impact on performance. Tarigan, et al (2021) who noted that leverage ratio proxied by debt-to-equity ratio has a negative and significant effect on earnings per share. Afanny, et al (2022) who found that debt to equity ratio have no effect on company value on companies in the food and beverage sector listed on Indonesia Stock Exchange. Susilawati, et al (2022) who found that Debt Equity Ratio has a significant negative effect on Return on Assets. Marjohan et al (2023) who observed that debt to equity ratio has no effect on the value in mining companies listed on the Indonesia. Waryati, et al (2023) who concluded that debt to equity ratio and book value has no impact on stock returns on Food and Beverage industrial companies in Indonesia. Oktasari, et al (2025) who noted that the variables of Debt to Equity Ratio (DER), and Current Ratio (CR) do not affect Stock Returns.

Debts Assets Ratio and Firm Liquidity

The model also reveals that the coefficient of Debts Assets Ratio (DTAR) is 0.304386, while p-value is 0.2283. Hence, we opine that Debt Assets Ratio positively, but non-significantly affect Net Assets of consumer goods firms in Nigeria. This result is also in line with Pecking Order Theory. This result also agrees with: Hirdinis (2019) who confirmed that capital

structure has a significant positive effect on firm value while firm size has a significant negative effect on firm value. Ahmad, et al (2020) who found that long-term debt to total assets, total debt to total assets and total debt to total equity have positive effect on firm value. Sanusi, et al (2022) who found that capital structure and profitability have a positive and statistically significant impact on the value of telecommunications industry listed on the Indonesia. Ibthia, et al (2024) who noted that partially and simultaneously, Short-Term Debt (STD), Long-Term Debt (LTD), and Total Debt to Assets (TDTA) have a significant effect on Company Performance of consumer goods industry listed in the Indonesia Stock Exchange. The result, however, sharply disagrees with: Shahzad et al (2022) who noted that debt assets ratio and debt equity ratio negatively influence the company performance in sugar sector companies listed in Pakistan. Kasasbeh (2021) who found that total debt to total assets and short-term debt to total assets are significant and negative on return on assets and return on equity. However, the impacts of long-term debt to total assets are significant and flattering on both return on assets and return on equity.

Debts Capitalization Ratio and Firm Liquidity

The regression model further reveal that the coefficient of Debts Capitalization Ratio (DTCR) is 0.777645, while the p-value is 0.0016. Thus, which postulate that Debts Capitalization Ratio positively and significantly affect Net Assets of consumer goods firms in Nigeria. This result is in line with The Trade-Off Theory was developed by Myers in 1977. Myers (1977) argued that companies make financing decisions by balancing the advantages and disadvantages of debt and equity financing to achieve an optimal capital structure. Essentially, firms weigh the benefits of tax shields from debt against the potential costs of financial distress, like bankruptcy, when determining their optimal debt-equity mix. The result also agrees with: Ahmed, et al (2024) who concluded that specific debt ratios, like the short-term total debt and the total debt-to-total asset ratio, displayed a notable positive correlation with ROE. Taqi, et al (2016) who found that equity and long term debt have a positive and significant effect, whereas short term debt has a negative impact on financial performance listed in Bombay Stock Exchange.

The result sharply disagrees with: Duru, et al (2017) who found that total debt shows a negative and non-significant effect on profit after tax of food and Beverages industries in Nigeria. Prenaj, et al (2024) who found that capital structure composed of short-term debt, long-term debt, and total debt is negatively influencing the performance of the companies measured by ROA. Aghaebe and Oranefo (2024) who noted that short term debt to equity ratio has a significant negative effect on ROA of the firms; long term debt to equity ratio has a non-significant positive effect on ROA of the firms.; total debt to equity ratio has a non-significant negative effect on ROA of the firms

5.1 Summary of Findings

In line with the results of the data analysis, we summarize the findings of the study as follows:

- i. Debt equity ratio positively, but non-significantly affect net cash flow ratio of consumer goods firms in Nigeria. This was observed from the coefficient of DTER, which is 0.008920 and the P-value, which is 0.4487 ($0.4487 > 0.05$).
- ii. Debt assets ratio positively, but non-significantly affect net cash flow ratio of consumer goods firms in Nigeria. From the model, the coefficient of DTAR is 0.304386 and the P-value, which is 0.2283 ($0.2283 > 0.05$).
- iii. Debt capitalization ratio positively, significantly affect net cash flow ratio of consumer goods firms in Nigeria. This result is in line with the coefficient of DTCR, which is 0.777645 and the P-value, which is 0.0016 ($0.0016 < 0.05$).

5.2 Conclusion

The study empirically examined capital structure and liquidity of consumer goods firms in Nigeria, and was based on a total of 144 panel data observations extracted from the annual reports and audited financial statement of twelve (12) consumer goods firms listed on Nigeria Exchange Group during 2013-2024 periods. The data were analyzed using Descriptive Statistics, Unit Root test and Panel Least Square Regression Analysis. Based on the results of the data analysis, we conclude that Debt Equity Ratio (DTER), Debt Assets Ratio (DTAR) positively, but non-significantly affect Net Cash Flow Ratio (NCFR) of consumer goods firms in Nigeria, while Debt Capitalization Ratio (DTCR) positively and significantly affect Net Cash Flow Ratio (NCFR) of the firms during the period.

5.3 Recommendations

The study proposed the following recommendations for the firm managers of the consumer goods firms operating in Nigeria. The recommendations are based on the findings of the study and discussions.

- i. Consumer goods firm managers in Nigeria should finance their business operations using more of debt than equity, provided that the proportion of debt in the capital structure is within the optimal capital structure of the firms. This will increase the firms' cash flow, the liquidity, profitability and firm value of the firms.
- ii. The firms should also use debt financing to fund investment in long term assets. This will among other increase liquidity and profitability of the firms and also check the excesses of firm managers in the use of free cash flow of the firms. This is because debts financing commits the firm managers with debt repayment and interest servicing.

- iii. The firm managers should also increase the proportion of total debts in their firms' capital structure. This will equally reduce overall tax burden, guarantees ownership control and voting rights and enhance cash flow and profitability for the firms.

5.4 Contributions to Knowledge

The novelty of this research lies on its finding that debts capitalization ratio positively and significantly affects net cash flow ratio of the consumer goods firms in Nigeria. This presents an opportunity for the Nigeria consumer goods firm managers to leverage debt financing to reduce their firms overall tax burden, guarantee ownership and voting rights for their firm owners and enhance cash flow and profitability of their firms. This will also assist the firm managers eliminate high floatation cost, and possible market failure associated with equity financing.

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