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Tax reforms, capital structure and shareholders' assets among listed consumer goods firms in Nigeria

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Abstract
The study examined effect of tax reforms and capital structure on shareholders' assets among listed consumer goods firms in Nigeria. Ex-post facto research design was adopted with a population size of 19 listed consumer goods firms in Nigeria. The sample size was 15 firms purposively selected for a six-year period (2020 – 2025). 90 observations were made from the firms' annual reports. The descriptive statistics adopted were mean and standard deviation while the inferential statistics used was Ordinary Least Square (OLS) regression analysis, due to presence of panel effect in the Lagrangian Multiplier (LM) test between OLS and Random Effects Model (REM), denoted by probability value: 0.0000. The findings revealed that Effective Tax Rate (ETR) and Short-Term Debt (STD) each have negative and significant effect on shareholders' assets at 0.01 and 0.1 respectively among listed consumer goods firms in Nigeria. Long Term Debt (LTD), Debt-Equity Ratio (DER), and Retained Earnings per Share (REPS) each have positive effect on shareholders' assets, only REPS' positive effect is significant at 0.1 level of significance, among listed consumer goods firms in Nigeria. One of the recommendations holds that the Federal Government of Nigeria is urged to review law on company income tax down to 20% for large companies while small companies pay minimum tax of 0.5% on their annual turnover, among other items of tax that culminate ETR at 15% base and 25% ceiling of ETR is also suggested in the consumer goods sector. The managements of companies in the sector are also enjoined to ensure more long-term debt capital to provide more withholding tax from interest as tax relief and sustain retained earnings ratio which in turn can be used to offset short term obligations and for reinvestment at no capital market transaction cost.

Keywords: Effective tax rate, capital structure, shareholders' assets, consumer goods firms in Nigeria

Introduction

Finance Act bill on tax reforms in Nigeria was initiated in 2019 [18] and was successfully concluded in Government gazette as Finance Act of 2020 [17]. The amendments made by the Act on several items include reclassification of company size for corporate tax, Value Added Tax (VAT) increase from 5% to 7.5% and reduction in Customs and Excise Duties and Levies charged on companies' motor vehicles carrying goods and passengers within Nigerian road networks. Company size has been classified as small, medium and large on the basis of annual gross turnover which in turn determines corporate tax rates (0%, 25% and 30% respectively). The 2026 [29] tax regime has restructured company size to small company at 0% and other company at 30% of corporate tax (Federal Republic of Nigeria [FRN], 2025) [14].

Companies have been hitherto classified as small, medium and large respectively with annual turnovers of less than or equal to N25 Million, less than N100 Million and over N 100 Million Naira. As such, small companies are exempted from company tax (0%) while medium companies were charged 25% and large companies paid 30% from annual net profits (FRN, 2020). The 2025 [19, 46] Tax Act revised the classification into small company and other company to respectively be charged 0% and 30% of corporate taxes. Any other company wishing to pay 25% corporate tax must obtain Presidential approval on recommendation of the Nigerian Economic Council (FRN, 2025) [40]. Other charges imposed by the law alongside corporate tax include tertiary education tax (2% of assessable profits), Police Trust Levy (0.005% of profit before tax) and capital gain tax (10% on assets disposal and transfer, where applicable) to all companies operating within Nigerian environment. Tax credit system is obtainable from withholding tax on interest and dividend expenses and deferred tax assets arising from temporary difference between financial reporting and tax assessment in favour of company. In any reporting period that a company records operating loss, minimum tax of 0.5% on annual turnover replaces the 30% company income tax, while such loss is carried forward to subsequent years that the company operates at profits.

Despite the tax reforms in the period, Nigerians have witnessed persistent rise in the price level of consumer goods in the market. Hence, purchasing power and quality of living among low income and salary earners have been eroded. Some companies in recent times have been reported to have folded up and relocated to other jurisdictions, citing high operational costs and government policies (including taxes) in Nigeria (Oduogu *et al*. 2024) [42]. Flour Mills of Nigeria PLC (FMN) in Consumer Goods sector has been delisted from the Nigerian Exchange Limited and renamed Golden Penny Food Ltd (Northern Nigerian Flour Mills [NNFM] Annual Report, 2025) [11]. Dunlop Tyre and Rubber (DN Tyre & Rubber) and Grief Nigeria were delisted in April 9, 2026 [3], from the Nigerian Exchange, Limited following their failures of meeting listing requirements (NGX Market Bulletin, 2026). Orjiakor (2022) [39, 44] posits that tax administration and tax rate have respectively been responsible for firms exit in Nigerian business environment. He further establishes evidence that 28.09% and 35.35% of the companies sampled produced correlation between business climate and firms' exit from

Nigeria, respectively on tax administration (55.22%) and tax rate (49.25). The 2% Tertiary Education Tax on company assessable profit has been increased to 4% as Development Levy distributable among other government establishments, effective from January 1, 2026 (FRN, 2025).

Literature Review

Tax reforms, in the recent years in Nigeria, have to do with adjustments in the extant tax laws on tax rates as well as introduction of other duties and levies charged on companies operating in Nigeria. They are introduced to enable taxpayers perceive relief in terms of tax exemptions and tax credits from withholding tax and deferred tax assets. They are appreciative from direct reduction of tax, levy and duty rates from the law. Conversely, VAT on consumption of goods and services has been increased from 5% to 7.5% in the Finance Act of 2020 [17]. It is always inclusive in the prices of non-exempted goods and services consumed. Part VI of the Nigeria Tax Act of 2025 [16] has also included goods imported among locally produced ones to be subjected to customs and excise tariff. However, the duties charged on carriage to the hinterland have been reduced from 35% to 10% (goods transported and/ or over 10 passengers transported in a vehicle) and 35% to 5% (less than 10 passengers in a car). Section 4(1)b of the Nigeria Police Trust Fund Act has imposed a levy of 0.005% on annual net profits of companies operating in Nigeria (FRN, 2019) [18].

Other subsisting taxes include capital gain tax on assets disposal and tertiary education tax. The 2025 [46] tax reforms have changed tertiary education tax to development levy, from 2% to 4% on companies' assessable profits, collapsing the levy of 0.25% on profit before tax of companies for National Agency for Science and Engineering Infrastructure (NASENI) initially effective from January 1, 2022 into current Development Levy, effective from January 1, 2026. Other charges that form the components of the 4% Development Levy, according to Section 59(3) of Act are Nigerian Education Loan, National Information Technology and Development Fund, National Board for Technological Incubation, Defence and Security Infrastructure Fund, and National Cyber-Security Fund (FRN, 2025). All these corporate taxes and levies culminate effective tax rate measurable as total tax expense divided by profit before tax (Chijioke & Nwakaego, 2026 [8]; Nu *et al*. 2024; Ali & Farooq, 2022) [1]. Effective tax rate is identifiable with determinants such as firm size, leverage, profitability, capital intensity and inventory intensity, among others (Salaudeen & Eze, 2018).

Capital structure has been a composition of equity-debt mix for cost of capital economics while withholding taxes from various forms of interests and dividends paid incentivize relief from various forms of duties and taxes the companies are liable to, from one reporting period to another. Chijioke and Nwakaego (2026) and Thomas *et al*. (2025) [8, 47] hold notion of capital structure in four components which are debentures, preferred stock, common stock and retained earnings while other authors such as Saleem (2025) [46], Nu *et al*. (2024), Ali *et al*. (2022) [1], Ezekwesili and Afodigbueokwu (2021) and Murunga and Nyamute (2019) [15, 34] present capital structure from debt capital component only in form short term debt, long term debt and total debt. Pecking Order Theory (1984) of capital structure advocates ranking methods of further capital financing of companies with topmost priority given to higher portion of retained earnings from annual profits declared before consideration is given to debt capital or other classes of equity. No transaction costs are involved when retained earnings are used for further investment and shareholders' wealth maximization. Realistically, a number of annual reports in the period of study conversely recorded operating losses and accumulated losses (Cadbury Nigeria PLC, 2023 & 2024; Nestle Nigeria PLC, 2023 & 2024; Guinness Nigeria PLC, 2020, 2023 & 2024; Dangote Sugar Refinery PLC, 2023, 2024 & 2025; Honeywell Flour PLC, 2024 [5, 6, 9, 10, 11, 17, 22]; International Breweries PLC, 2020 – 2025; PZ Cussons Nigeria PLC, 2024) [6, 23, 28] while minimum tax of 0.5% is still being charged on annual turnover of the companies. The use of cumulative retained earnings over the years is then exposed to drainage occasioned by accumulated losses in many companies in the domain.

Trade-off Theory (1973) advocates debt capital financing of company activities particularly in tax jurisdictions that welcome thin capitalisation of equity. Clusters of bonds, debentures and borrowings are being used as sources of debt capital financing with redemption at maturity while debt capital holders receive annual interest (possibly broken into bi-annual or quarter) net of withholding tax serving as tax credit to the firm. The higher gearing companies, according to the Theory, maximize their market value while rising costs from bankruptcy, agency, taxes and financial distress are put to barest minimum (Naidu, 2011) [35]. The Theory becomes static when redemption is honored at maturity without rollover. It becomes dynamic when other debt capital holders are newly subscribed for perpetuation of the next foreseeable future or retiring debt holders liquidate their holdings before maturity through discount houses. Companies in small size are more linked to static tradeoff with financial distress, including tax rate effect, while large companies are more dynamic in their debt financing renewal and meeting liquidity obligations both in the short and long term, with investment diversification and less impact of increase in tax rates (Amrullah *et al*. 2022; AL-Muaither & Marzouk, 2019).

Modigiliani-Miller's Theory II (MM II, 1963) holds relevancy of maximum proportion of debt capital mixed with equity capital to increase firm market value as withholding taxes are charged from the debt capital component and Weighted Average Cost of Capital (WACC) drops, as compared to companies totally funded by equity holders. The withholding tax on interests from debt capital such as debentures, bonds and borrowings serve as an addition to the withholding tax charged on dividends declared before distribution to shareholders (Naidu, 2011) [35]. Thus, the withholding tax alongside capital allowance granted serves as tax credit, increasing total assets while burden of tax expenses annually charged is also reduced. The increase in the company's net assets as a result of withholding tax credits contributes to shareholders' value in capital market share pricing (Nguyen & Pham, 2022; Jeroh & Edesiri, 2015) [30, 38]. Company size, liquidity and borrowing costs are notable as extraneous variables affecting capital structure heavily built in debt capital. Small companies with heavy proportion of liabilities are more disposed to burden of interest charges and tax rates as a result of changes in interest rates and tax rates than large companies with multiple sources of financing diversified investments (Amrullalloh *et al*., 2025; Kansal & Sharma,

2024) [31]. Company size measurable by log of total assets is identifiable as one of the factors maximizing shareholders wealth alongside revenue and profit (Edet & Charlie, 2024) [13].

Friedman's Shareholders Theory places responsibilities on the managements and boards of directors of companies in protecting best interest of shareholders in operating, investing and financing activities. The Theory urges the managements and boards of directors to remain committed to actualizing expected returns such as tax credits, profitability, dividend payout and retained earnings for wealth and net assets maximization. Shareholders wealth has been measured by cash value added (Ezekwesili & Afodigbueokwu, 2021), Tobin's Q (Madaki *et al*., 2026) [15, 33], market capitalisation (elestine *et al*., 2026) [39], return on assets (Olaide & Obiora, 2025) [43], return on equity (Arowoshegbe & Emeni, 2014) [4] and earnings per share (Dibua & Ikilidih, 2023; Arowoshegbe & Emeni, 2014) [4, 12]. The study then measures shareholders wealth in term of net assets which is total assets less total liabilities. Net assets align the International Financial Reporting Standard Three (IFRS 3) on Business Combination wherein net-worth and goodwill of a company are separately determined from purchase price offered. Net assets are also being used in due diligence for takeover assessment decisions acceptable to target companies.

Jadaun (2026) [29] had a systemic literature review on capital structure, firm performance and shareholders' wealth among listed firms in India. Being qualitative research design, 30 peer review articles were assessed on capital structure, financial performance and shareholders wealth. These empirical articles examined were found to have provided inconsistent directions of impact; 13 articles were recorded to have negative effect between debt-equity and financial performance while nine (9) articles point at positive effect between firm profitability and shareholders wealth. Furthermore, the review established that most of the articles are findings from other countries and less articles are within India, as a domain of study. The shareholders' wealth, as a nomenclature, has not been used in the Indian domain of studies, beyond measures such as Return on Assets (ROA), Return on Equity (ROE), Earnings per Share (EPS) and Tobin's Q.

Letom *et al*. (2026) [32] evaluated Pecking Order Theory on capital structure and market valuation of non-financial service firms in Nigeria. The research design adopted was ex-post facto research design, using panel data techniques across 96 firms in nine sectors with different observations. The sampled sectors were Agriculture, Conglomerates, Construction/Real Estate, Consumer Goods, Health, ICT, Industrial Goods, Oil and Gas and Services. Regression analysis was conducted on E-views 10 to report findings. The major findings hold that debt financing has positive and significant effect on market valuation of most firms in non-financial sectors of the Nigerian economy. Secondly, retained earnings ratio was found to have positive and insignificant effect on market valuation of most firms in non-financial sectors of the Nigerian economy.

Celestine *et al.* (2026) [7] studied capital structure and shareholders wealth in high cost borrowing environment experienced by listed manufacturing firms in Nigeria. The research design employed was ex-post facto research design. The period of study was 11 years (2013 – 2023) [12] with 473 observations obtained from 43 firms sampled purposively. The descriptive statistics used were mean and standard deviation while the inferential statistics were OLS and fixed effect models of regression analysis run on STATA 19.5. The findings revealed that short term debt has positive and insignificant effect on shareholders wealth. Long term debt has negative and insignificant effect on shareholders wealth. Cost of debt capital was found negative and significant to shareholders wealth. Profitability has positive and significant effect on shareholders wealth among listed manufacturing firms in Nigeria.

Amu *et al.* (2026) [3] examined thin capitalization, tax aggressiveness and firm value of listed consumer goods firms in Nigeria. Ex-post facto research design was employed while financial data were historically collected from 19 consumer goods firms for a period of 13 years (2012 – 2024). 205 observations were recorded. Both heteroscedasticity and panel effect were tested present in the panel data. The findings revealed that both random effects and robust fixed effects models produced that thin capitalization and tax aggressiveness each have positive and insignificant effect on firm value (measured by Tobin's Q) of listed consumer goods firms in Nigeria. Madaki *et al.* (2026) [33] assessed effect of financing decisions on shareholders assets value of listed consumer goods firms in Nigeria. Ex-post facto research design was adopted while financial data were extracted from companies' annual reports for a period of 10 years (2014 – 2023) [5]. 180 observations were made from 18 firms. The descriptive statistics used were mean, median, standard deviation, skewness, kurtosis and jargue bera. The inferential statistics used was fixed effects model of regression analysis. The findings revealed that equity financing and retained earnings each have positive effect on shareholder assets value (measured in Tobin's Q) of listed consumer goods firms in Nigeria, but the positive effect is only significant with equity financing.

Efenyumi and Nworie (2025) [14] studied tax planning and shareholders wealth maximization among listed banks in Nigeria. Ex-post facto research design was adopted with a population size of 12 banks and sample size of nine by purposive sampling. The period of study was 10 years (2014 – 2023) with 90 observations from the banks' annual reports. The descriptive statistics employed were mean, median, standard deviation, skewness, kurtosis and jarque bera while the inferential statistics was panel corrected standard errors model of regression analysis, due to presence of heteroscedasticity, run on E-Views 10.0. The findings revealed that effective tax rate has negative and significant effect on shareholders' return among listed banks in Nigeria. Olaide and Obiora (2025) [43] examined tax aggressiveness and shareholders wealth of selected transportation firms in Nigeria. Ex-post facto research design was adopted because of secondary data sourced from annual reports of transportation firms listed on the Nigerian exchange group. The period of study was 11 years (2012 – 2022) with 65 observations from seven firms. The regression analysis was run on E-Views 9.0 and the findings showed that effective tax rate, book tax difference and temporary tax difference are each having positive and significant effect on shareholders wealth (profit after tax divided by total assets) of selected transportation firms listed on the Nigerian Exchange Group. Permanent tax difference was found to have positive and insignificant effect on shareholders wealth.

Saleem (2025) [46] investigated moderating role of tax on the relationship between capital structure dynamics and financial stability and on the relationship between capital structure dynamics and profitability in Malaysian telecom companies. The period of study was 15 years (2009 – 2023). 60 observations were made from the annual reports of the four telecom companies listed. The descriptive statistics were mean and standard deviation while the inferential statistics used was regression analysis. OLS regression results reported show that long term debt has positive effect while effective tax rate has negative effect but both effects are significant on financial stability (liquidity) in Malaysian telecom companies. As for indirect reports, long term debt moderated by effective tax rate has negative and significant effect while total debt moderated by effective tax rate has positive and significant effect on financial stability in Malaysian telecom companies. Robust test findings (due to presence of heteroscedasticity) report that long term debt and effective tax rate were each having negative and significant effect on profitability in Malaysian telecom companies. But long-term debt moderated by effective tax rate was only negative and insignificant while total debt moderated by effective tax rate was having positive and significant effect on profitability.

Kansal and Sharma (2024) [31] assessed capital structure and shareholders wealth maximization in Indian automobile companies. Ex-post facto research design was employed with 30 listed firms sampled for a period of 10 years (2013 – 2022). The descriptive statistics used were mean and standard deviation while the inferential statistics used was multiple regression analysis. The findings revealed that profitability and dividend policy each have positive and significant effect on shareholders wealth. Debt-equity has negative and significant effect on profitability. Debt-equity and cost of borrowing each have negative and significant effect on shareholders wealth (measured by share market price) in Indian automobile companies listed.

Edet and Charlie (2024) [13] investigated capital structure decision and shareholders wealth maximization of quoted consumer goods companies in Nigeria. Ex-post facto research design was adopted with a population of 21 firms and sample size of 15 firms, using purposive sampling. The period of the study was 10 years (2013 – 2022) with 150 observations. The descriptive statistics used were mean, median, standard deviation, skewness, kurtosis and jarque-bera. The inferential statistics used was panel regression analysis on E-Views. The findings revealed that long term debt, total equity and revenue each have positive and significant effect on shareholders wealth (measured in market capitalisation) of listed consumer goods firms in Nigeria. Dibua and Ikilidih (2023) [12] investigated effect of debt financing on shareholders' wealth of quoted manufacturing firms in Nigeria. Ex-post research design was adopted. 21 manufacturing firms were sampled for a period of 11 years (2010 – 2020). The descriptive statistics employed were mean, median, standard deviation, skewness, kurtosis and jarque bera. The inferential statistics used was regression analysis by least square model run on E-Views 10. The findings showed that debt capital ratio has negative and significant effect on shareholders' earnings per share.

Ezekwesili and Afodigbueokwu (2021) [15] examined effect of capital structure on shareholders wealth of industrial goods firms in Nigeria. Ex-post facto research design was adopted with a sample of 13 firms. Regression analysis by least squares was run on E-Views 9.0. The findings provided that short term debt and long-term debt each have positive and significant effect on cash value added to shareholders wealth among listed industrial goods firms in Nigeria. Arowoshegbe and Emeni (2014) [4] assessed shareholders wealth and debt-equity mix of listed non-financial firms in Nigeria. Ex-post facto research design was adopted with a period of 15 years (1997 – 2011). The population of the study was 134 firms and the sample size were 60, using Yamane formula. The observations made from the firms' annual reports were 826. The regression analysis used produced debt ratio as having negative and significant effect on each of return on equity (ROE) and earnings per share (EPS) among listed firms in Nigeria.

Purpose of the Study

The study aims at examining effect of effective tax rate, debt capital and profitability on shareholders' assets among listed consumer goods firms in Nigeria. The specific objectives are to evaluate effect of:

1. effective tax rate on shareholders' net assets among listed consumer goods firms in Nigeria;
2. short term debt on shareholders' net assets among listed consumer goods firms in Nigeria;
3. long term debt on shareholders' net assets among listed consumer goods firms in Nigeria;
4. debt-equity ratio on shareholders' net assets among listed consumer goods in Nigeria;
5. retained earnings on shareholders' net assets among listed consumer goods firms in Nigeria; and

Hypothesis

The hypotheses formulated from the purpose of the study are:

H_{01}: Effective tax rate does not have significant effect on shareholders' net assets among listed consumer goods firms in Nigeria.

H_{02}: Short term debt does not have significant effect on shareholders' net assets among listed consumer goods firms in Nigeria.

H_{03}: Long term debt does not have significant effect on shareholders' net assets among listed consumer goods firms in Nigeria.

H_{04}: Debt-equity ratio does not have significant effect on shareholders' net assets among listed consumer goods firms in Nigeria.

H_{05}: Retained earnings do not have significant effect on shareholders' net assets among listed consumer goods firms in Nigeria.

Methodology

The study adopted ex-post facto research design due to secondary data collected from historically financial figures in the audited annual reports of companies. The population of the study is 19 listed consumer goods firms on the Nigerian Exchange Group (as at October 2, 2026) [39] out of which 15 were purposively sampled for a period of six years (2020 – 2025). 90 observations (15 firms multiplied by six years) were made. The descriptive statistics employed were and standard deviation while the inferential statistics was regression analysis run on STATA 17. Diagnostic and post estimation tests were carried out and the presence of panel effect in Lagrangian Multiplier (LM) test justified choice of

fixed effects model over random effects model / Ordinary Least Square (OLS). The regression equation model was thus expressed as follows:

$NAPS = \bar{\alpha}_0 + \beta_1 ETR_{it} + \beta_2 STD_{it} + \beta_3 LTD_{it} + \beta_4 DER_{it} + \beta_5 REPS_{it} + \varepsilon_{it}$; Where:

NAPS = Net Assets per Share (measured by);

$\bar{\alpha}$ = intercept (alpha) which is constant;

ETR = Effective Tax Rate (measured by , Chijioke & Ngawaego, 2026 [8]; Nu *et al*. 2024; AL-Muaither & Marzouk, 2019);

STD = Short Term Debt (measured by , Ali *et al*., 2022; Nu *et al*., 2024; Saleem, 2025) [1, 46];

LTD = Long Term Debt (measured by , Ali *et al*., 2022; Nu *et al*., 2024; Saleem, 2025) [1, 46];

DER = Debt-Equity Ratio (measured by Ali *et al*., 2022; Nu *et al*., 2024; Saleem, 2025) [1, 46]; and

REPS = Retained Earnings per Share (measured by , Saleem, 2025) [46].

$B_0 - \beta_5$ = coefficients of the independent variables;

ε = standard error;

I = number of firms observed (15); and

t = period of the study, six years (2020 – 2025) [46].

Result

Table 1: Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min.	Max.
NAPS	90	44.4938	139.6765	-116.4300	730.9900
ETR	90	0.1667	0.5928	-4.7152	0.7824
STD	90	1.0736	2.2693	0.0503	12.7079
LTD	90	0.1514	0.2417	0.0005	1.7840
DER	90	3.1812	13.3130	-15.5078	103.6188
REPS	90	-2.4486	38.8453	-306.8521	37.5604

Source: STATA 17 Outputs

From the Table 1, there are losing companies with net liabilities per share on the average of N 116.43 kobo while other companies in the industry have highest net assets per share on the average of N730.99 kobo. The minimum ETR with -4.7152 connotes adverse impact of tax on some of the companies, almost five times affecting the assets. The maximum ETR with 0.7824 allude favourable impact of tax to other companies in the sector on the average of 78.24% boosting their net assets. The minimum STD with 0.0503 implies that some companies explore the short-term debt to boost the assets at least 5.03% while other companies in the sector maximize short term debt impact on the assets at 12.7 times. The long-term debt on maximum leverage records average of 178% positive impact on the most companies' net assets. The minimum DER with -15.5078 hints that there are which their debt-equity ratio negatively affects their net assets fifteen and half times while other companies in the industry maximize the debt-equity ratio more than 103 times to boost their net assets. The REPS with least -306.8521 illustrate companies with accumulated loss on the average affecting the net assets while other companies in the industry use retained earnings to bolster the net assets at more than 37.5 times.

Table 2: Normality Test

Variable	Obs	W	V	z	p-value
NAPS	90	0.3879	46.303	8.459	0.00000
ETR	90	0.4464	41.873	8.237	0.00000
STD	90	0.3082	52.331	8.729	0.00000
LTD	90	0.5592	33.345	7.735	0.00000
DER	90	0.3757	47.225	8.502	0.00000
REPS	90	0.3858	46.461	8.466	0.00000

Source: STATA 17 Outputs

From the Table 2, the p-value of each of the variables hints significance of null hypothesis advocating non-normality of the data. Therefore, the data are not normally distributed.

Table 3: Variance Inflation Factor

Variable	VIF	I/VIF
ETR	1.00	0.9975
STD	1.84	0.5436
LTD	2.03	0.4919
DER	1.02	0.9837
REPS	1.19	0.8431
Mean	1.42	

Source: STATA 17 Outputs

From the Table 3, the VIF is relatively and jointly greater than 1 but less than 5. These results hint tolerance range and absence of multi-co-linearity. Therefore, there is no multi-co-linearity among the variables.

Table 4: Imtest for Heteroskedasticity

Variable	Chi ^{2}	Df	p-value
Heteroskedasticity	13.72	20	0.8442
Skewness	5.31	5	0.3792
Kurtosis	2.84	1	0.0917
Total	21.88	26	0.6953

Source*:* STATA 17 Outputs

From the Table 4, the imtest was conducted for heteroscedasticity since the data are described as not normally distributed in the Table 2. The p-value for heteroscedsaticity is 0.8442, implying that there is absence of heteroscedasticity.

Table 5: Langrarian Multiplier Test for Random Effects

Variable	Chi ^{2}		p-value
NAPS	106.16		0.0000

Source: STATA 17 Outputs

From the Table 5, Langrarian Multiplier Test ascertains the presence of panel effect in the data with the p-value 0.0000. Therefore, choice of Ordinary Least Square (OLS) over random effects of the regression analysis is established.

Table 6: Ordinary Least Square and Random Effects Regression Models for NAPS

		OLS			REM			
	Coefficient	Std. Error	t-test	P-value	Coefficient	Std. Error	t-test	P-value
ETR	-80.5677	23.4405	-3.44	0.001***	-19.2884	14.4641	-1.33	0.182
STD	-14.4847	8.2943	-1.75	0.084*	-4.3051	6.7023	-0.67	0.502
LTD	124.6698	81.8744	1.52	0.132	21.9735	52.1423	0.42	0.673
DER	0.1096	1.0511	0.10	0.917	0.1377	0.6385	0.22	0.829
REPS	0.7543	0.3891	1.94	0.056*	0.4916	0.2378	2.07	0.039**
Constant	56.0995	17.3523	3.23	0.002	49.9826	18.8390	2.65	0.008
R-Squared Adjusted	0.1213		R-Squared Adjusted		0.1172			

P-Value	0.0069		P-value	0.2798				
F-ratio	3.46		Chi ^{2}	6.28				
Observations	90		observations	90				
Source: STATA 17 Outputs								

* connotes 0.1 level of significance, ** represents 0.05 level of significance and *** represents 0.01 level of significance.

The Table 6 presents the OLS and random effects reports of the regression analysis due to presence of panel effect in the data. The OLS is thus chosen for interpretation and analysis of results. The regression equation of the study is then expressed as: NAPS = 56.0995 – $80.5677ETR_{it}$ – $14.4847STD_{it}$ + $124.6698LTD_{it}$ + $0.1096DER_{it}$ + $0.7543REPS_{it}$ + $17.3523_{it.}$ The ETR coefficient signifies loss of N80.57k from every N1 of Net Assets per Share (NAPS) of company in the study as a result of heavy tax aggregate on the companies. The STD coefficient holds that every N1 of Net Assets per Share loses N14.49k for engaging short term borrowings and liabilities in the period. The LTD coefficient hints that every N1 of Net Assets per Share gains N124.67k for using debt capital in the period. The DER coefficient represents 0.11 kobo as an addition to every N1 of NAPS for engaging heavier debts and thin equity capital in the period. The REPS coefficient depicts 0.75kobo gain to every N1 of NAPS for reinvesting retained earnings in the period. The R-Squared adjusted which is the coefficient of determination was found as 0.1213 with p-value 0.0069. These figures imply that the explanatory variables (ETR, STD, LTD, DER & REPS) jointly produce 12.13% of the effect on the dependent variable (NAPS) while remaining 87.87% of the positive effect is attributable to extraneous variables which are outside the current study. The probability value (0.0069) of the joint effect further establishes that the positive effect is also significant.

Testing of Hypotheses

H_{01}: Effective tax rate does not have significant effect on shareholders' net assets among listed consumer goods firms in Nigeria.

From the **Table 6**, the t-test and the p-value for ETR are -3.44 and 0.001 by OLS respectively, hinting that ETR is negative and significant at 0.01 level of significance. Therefore, the null hypothesis one is rejected to uphold alternate hypothesis that effective tax rate significantly has negative effect on shareholders' net assets among listed consumer goods firms in Nigeria.

H_{02}: Short term debt does not have significant effect on shareholders' net assets among listed consumer goods firms in Nigeria.

From the **Table 6**, the t-test and the p-value for STD are -7.75 and 0.084 by OLS respectively, suggesting that short term debt is negative and significant at 0.1 level of significance. Thus, the null hypothesis two is rejected that short-term debt does not have significant effect on shareholders' net assets among listed consumer goods firms in Nigeria.

H_{03}: Long term debt does not have significant effect on shareholders' net assets among listed consumer goods firms in Nigeria.

From the **Table 6**, the t-test and the p-value for LTD are 1.52 and 0.132 by OLS respectively, implying that long term debt has positive and insignificant effect on net assets. The null hypothesis three is then accepted that long term debt does not have significant effect on shareholders' net assets among listed consumer goods firms in Nigeria.

H_{04}: Debt-equity ratio does not have significant effect on shareholders' net assets among listed consumer goods firms in Nigeria.

From the **Table 6** and OLS section, the t-test and the p-value for DER are 0.10 and 0.917 respectively. These figures suggest that debt-equity ratio has positive and insignificant effect on shareholders' net assets among listed consumer goods firms in Nigeria. The null hypothesis four is also accepted that debt-equity ratio does not have significant effect on shareholders' net assets among listed consumer goods firms in Nigeria.

H_{05}: Retained earnings do not have significant effect on shareholders' net assets among listed consumer goods firms in Nigeria.

From the **Table 6** and OLS section, the t-test and the p-value produce 1.94 and 0.056 respectively, signaling positive and significant at 0.1 level of significance. The null hypothesis five is rejected while alternate hypothesis is accepted that retained earnings have positive and significant effect on shareholders' net assets among listed consumer goods firms in Nigeria.

Discussion

The study establishes that effective tax rate, retained earnings and debt capital produce 12 .13% effect positively and significantly on shareholders' assets among listed consumer goods firms in Nigeria. Specifically, retained earnings, with positive and significant effect, strongly uphold ranking priority of Pecking Order Theory that advocate use of internal financing of investment growth without transaction costs. Debt-equity ratio and long-term debt, each with positive effect, support Trade-Off Theory that promotes thin capitalisation and downward cost of financial distress in. But the Modigiliani-Miller Hypothesis II (MM II) on debt capital's withholding tax adding to market value of shareholders' wealth, the negative and significant effect of ETR found proves the proposition otherwise. The apparent factor which could explain this argument against the MM II is undeniable in the less gearing of long-term debt capital employed in the period. Short term debt produces negative and significant effect, signaling liquidity and financial stability issue in the period, only that Dynamic Trade-off Theory gives the liquidity challenge a cover in the short run.

Effective tax rate is found as having negative and significant effect on shareholders' net assets among listed consumer goods firms in Nigeria. This finding is in perfect corroboration of Efenyumi and Nworie (2025) and Saleem (2025) [14, 46] who established that ETR has negative and significant effect on shareholders' wealth among listed banks in Nigeria and among listed telecom companies in Malaysia, respectively. The finding at the same time is in contrast with Amu *et al*. (2026) [3] who found that ETR has positive effect while Obiora and Olaide (2025) [43] further

present such positive effect as significant on shareholders' wealth. Short term debt is found having negative and significant effect on shareholders' net assets among listed consumer goods firms in Nigeria. This finding disagrees with Celestine *et al*. (2026) [7] who uphold that short-term debt has positive effect on shareholders' wealth while Ezekwesili and Afodigbueokwu (2021) [15] posit that such effect is not only positive but also significant among listed manufacturing firms in Nigeria. Long term debt is established as having positive and insignificant effect on shareholders' net assets among listed consumer goods firms in Nigeria. This finding is in consonance with Celestine *et al*. (2026) and Amu *et al*. (2026) [3, 7] who recorded same positive and insignificant effect. But Edet and Charlie (2024) [13] and Ezekwesili and Afodigbueokwu (2021) [15] have earlier established that the positive effect is significant. Conversely, Saleem (2025) [46] holds that long-term debt has negative and significant effect on shareholders' wealth. Debt-equity ratio is found to have positive and insignificant effect on shareholders' net assets among listed consumer goods in Nigeria. This finding partially agrees with Letom *et al*. (2026) [32] who establish that debt financing has positive and significant effect on shareholders' wealth. This finding again has inverse direction with Kansal and Sharma (2024), Dibua and Ikilidih (2023) and Arowoshegbe and Emeni (2014) [4, 12, 31] who earlier establish that debt-equity ratio has negative and significant effect on shareholders' wealth. Retained earnings (REPS) were found having positive and significant effect on shareholders' net assets among listed consumer firms in Nigeria. This finding partially corroborates Letom *et al*. (2026) and Madaki *et al*. (2026) [32, 33] who established that retained earnings only have positive effect on shareholders' wealth.

Conclusion

The study, in the era of tax reforms and inflation in the economy, assessed effect of effective tax rate and capital structure on shareholders' assets among the listed consume goods firms in Nigeria. Joint finding alludes significant effect of tax reforms and capital structure to be enhancing shareholders' assets. But specifically, effective tax rate and short-term debt were each found excessively contributing to diminution of shareholders' assets while retained earnings attempt to bolster shareholders' assets, despite losses and accumulated losses recorded among listed consumer goods firms in the period.

Recommendations

From the findings and the conclusion reached, it is pertinent to proffer the following recommendations:

1. ETR, in the current Nigerian tax law, comprises company income tax, development levy, capital gain tax and police trust levy less withholding taxes from debt capital and dividends declared and temporary tax assets. Effective tax rate has not been favourable to consumer goods firms' operations in the period of study. The Federal Government of Nigeria is then urged to review the company income tax down to 20% for large companies while small companies in the sector sustain minimum tax of 0.5% of their annual turnover. The companies reporting loss before tax should be relieved of both minimum tax and the loss figures in the subsequent years profits are reported. The Nigeria Tax Act (FRN, 2025) [16] enunciates 15% as the base for ETR while this study is recommending ETR ceiling should not be more than 25% of the companies' operating incomes.
2. STD has been overstretched to the extent of having liquidity crunch from settling current liabilities as and when due in the annual operations. More equity finance should be injected through capital market in order to bolster net assets adequacy while accounts receivable from debtors are put to barest minimum in the annual operations and report.
3. LTD shows positive growth to the shareholders' assets but has not been utilized to the maximum. The managements of consumer goods firms, in their strategic decisions, are then enjoined to take leverage of more debt capital into their capital structure in a way that maximizes shareholders' assets while dividend payout ratio is held constant while shareholders are indifferent in dividend growth, due to need for reinvestment of the retained earnings portion of the profit after tax.
4. Furthermore, DER corroborates positivity of gearing ratio on shareholders' assets. More of long-term debt is required in the capital structure for shareholders' assets to gain more withholding taxes while short term debt negative effect is neutralized and net assets appreciate.
5. The managements of consumer goods firms should sustain higher portion of profits declared as retained earnings. They have positive on impact shareholders' net assets. It is a source of internal financing short term obligations and reinvestment without transaction costs unavoidable in capital market financing.

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