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ASSET STRUCTURE AND FINANCIAL PERFORMANCE OF FAST-MOVING CONSUMER GOODS FIRMS IN NIGERIA

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Abstract

The nexus between asset structure and financial performance has gained significant attention in accounting and finance literature. While assets are recognized as crucial for a firm's profitability and growth, empirical findings on this relationship's strength and direction remain inconclusive due to variations in asset sources, industry patterns, firm characteristics, and research methodologies. This study examines this issue in Nigeria's 25 listed fast-moving consumer goods (FMCG) firms from 2012 to 2021. The study employs ordinary least square (OLS) model to examine the relationship between asset structure characteristics and financial performance (ROE). The asset structure was analyzed using four accounting ratios, and financial performance was measured using return on equity (ROE). The results demonstrate that fixed asset components (FATA and FATO) have a considerable positive influence on financial performance (ROE), accounting for 56.3% and 65.7% of each unit increase, respectively, but current asset components (CATA and CATO) have little to no effect on ROE. These findings corroborate prior studies emphasizing the importance of fixed assets as strategic drivers of financial performance.

Keywords: Asset Structure, Corporate Financial Performance, Causality, Return on Equity, Developing Economy.

1. INTRODUCTION

The nexus between asset structure (AS) and financial performance (FP) is of significant interest, particularly in emerging economies. Assets are crucial for shareholder wealth, profitability, and operational efficiency, contributing to GDP and enhancing a firm's growth and employment.

However, research on this topic in developing countries is limited, with varying perspectives on the relationship's strength and direction due to differences in AS across countries and industries, firm characteristics, and research methodologies.

Strategic asset management improves financial performance, adapts to economic changes, and strengthens competitive positions in developing economies, influenced by economic conditions, market dynamics, regulatory frameworks, and managerial practices.

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Asset structure refers to a firm's assets, including current, fixed, and intangible assets, which are expected to generate future benefits. It includes production, turnover, and wasting assets (ZhengSheng & NuoZhi, 2013a,b).

Asset structure is crucial for corporate growth and survival, positively influencing earnings and risk mitigation. As a key driver of corporate wealth creation and a tool for risk mitigation, research on asset structure is more globally relevant and practical than capital structure research. Firms should construct asset structures that align with their core objectives, especially in tight economic conditions.

Asset structuring is crucial in asset-based lending, where liquidity and solvency are prioritized over income generation. This approach has fewer operational requirements and lower reliance on income.

The Asset Structure Dilemma

Corporate finance addresses three key questions: acquiring fixed assets, financing these assets, and optimizing their returns. These questions define the scope of corporate finance and are crucial for business success, regardless of the enterprise type.

Addressing these concerns is based on theory and practical evidence. The accounting context illuminates the interaction between asset structure, financial, and capital structures, emphasizing its relevance to the organizational structure dilemma.

Exhibit 1 shows the ABC Company's balance sheet, revealing an asset structure of $72.3 million, with liabilities accounting for 44.8% and equity accounting for 55.2%. This breakdown illustrates the company's total financial structure, which consists of debt and equity components.

ABC Company Limited

Balance Sheet at 31 December 2023

ASSETS		
	($'000)	% Distribution
Current Assets	24,000	33.2
Long-Term Investments & Funds	6,300	8.7
Property, Plant & Equipment	34,500	47.7
Intangible Assets	6,000	8.3
Other Assets	1,500	2.1
Total Assets	**72,300**	**100.0%**
	Asset Structure	**100.0%**

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LIABILITIES		
Current Liabilities	13,800	19.1%
Long-Term Liabilities	18,600	25.7%
Total Liabilities	**32,400**	**44.8%**
OWNERS' EQUITY		
Contributed Capital	13,500	18.7%
Retained Earnings	26,400	36.5%
Total Owners' Equity	**39,900**	**55.2%**
	Capital Structure	**100.0%**
Total Liabilities & Equities	**72,300**	**100.0%**
	Financial Structure	**100.0%**

Exhibit 1: ABC's Balance Sheet composition of Asset Structure, Capital, and Financial Structure

This study examines the impact of asset structure on corporate financial performance in one of Nigeria's largest and most important industries. To be clear, Nigeria is a major player in the ECOWAS subregion, accounting for over 53% of the population and 68.5% of its GDP. This study examines the 25 Nigerian Stock Exchange (NSE) listed fast-moving consumer goods (FMCG) companies from 2012 to 2021, specifically if asset structure (AS) is influenced by factors affecting a firm's capital structure. This study also introduces the previously overlooked theoretical frameworks to mainstream literature, explaining the AS and FP nexus, thus addressing a gap in traditional economic models. The motivation is to establish causal influences of AS attributes on FP, particularly in Nigeria, enhancing scholarly knowledge. The paper is organized as follows: Section 2 reviews relevant literature; Section 3 outlines data, hypotheses, and methodology; Section 4 presents model specification, analysis, and results; Section 5 concludes the paper and discusses its limitations.

2. LITERATURE AND THEORETICAL REVIEW

Despite extensive research since Modigliani and Miller's (1958) work, our understanding of asset structure selection remains limited. While finance theory has progressed in elucidating the relevance of capital structure to firm value, the theoretical frameworks and empirical implications surrounding asset structure are less developed.

Agency Theory

This study is anchored on Jensen and Meckling's (1976) agency theory as a foundational explanatory framework to understand the relationship between corporate ownership and

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management and its impact on corporate performance. Its relevance in explaining the influence of asset structure on corporate financial performance can be summarized in terms of (a) alignment of interests between shareholders and management, (b) investment decisions under the dictum of shareholder wealth maximization, (c) risk and return considerations with different asset structures carrying varying levels of risks, impacting financial performance, (d) monitoring and control, whereby a well-structured asset base can facilitate better monitoring and control mechanisms, reducing agency costs, and (e) capital structure, where asset structure impacts a firm's capital structure; for instance, companies with more tangible assets might have easier access to debt financing, which potentially enhances financial performance by leveraging these assets for growth. In summary, agency theory provides insights into how asset structure can influence corporate financial performance by affecting the alignment of interests, risk management, investment decisions, and the effectiveness of monitoring mechanisms.

Accountant's Perspective of Asset Structure and Efficiency

From an accountant's perspective, asset categories are viewed as investment portfolios. Fixed assets can enhance productivity and financial performance, while poor asset management can lead to cash flow issues. Firms in emerging markets that invest in intangible assets, such as brand equity or patents, may achieve competitive advantages. The Conceptual Framework defines assets as economic benefits that support cash flows or measurable services, with balance sheet listings indicating ownership and control.

Asset Structure and Firm Value

Setiadharma and Machali (2017) analysed the effects of asset structure and firm size on the value of 34 real estate companies listed on the Indonesia Stock Exchange from 2010 to 2014. They found that asset structure directly influences firm value but does not indirectly impact it through capital structure, which does not mediate this relationship. Ambrose and Megginson (1992) discovered that the likelihood of a takeover bid is positively correlated with fixed assets but negatively correlated with firm size and changes in institutional holdings. Delcoure (2007) reported a positive link between asset structure and firm value in Central and Eastern European companies, noting that fixed assets signal stability to investors and can be used as collateral. Fixed assets also have a higher liquidation value than intangible assets, making them less risky in bankruptcy situations (Gaud et al., 2003). Overall, a substantial base of tangible assets enhances a firm's ability to provide collateral (Alipour et al., 2015), affirming that asset structure significantly affects firm value.

The Signaling Effect of Asset Structure

Signaling theory suggests that information can reveal or obscure a firm's true liquidation value, especially in the presence of external noise. This theory is applied in various economic contexts to explain corporate behavior amid asymmetric information. Corporate managers use their asset structure to signal stability and resist bankruptcy threats, enhancing the company's image. Signaling theory has been applied across accounting and finance disciplines to reduce information asymmetry in related transactions, including corporate governance practices (Herbert et al., 2020; Herbert & Agwor, 2021a).

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Asset indivisibility in the context of Portfolio theory and Risk management

Markowitz and Tobin's portfolio theory assumes fixed asset investments are divisible. Robinson and Barry (1980) found that indivisible asset choices limit opportunities and are used more intensively. Assets provide liquidity for consumption, and investors assess them based on their liquidity and underlying value, often reflected in dividend yields. Han et al. (2019) further examined the link between indivisibility and asset liquidity, emphasizing that an asset's value derives from both its liquidity potential and actual dividends.

Asset Structure and Shareholder wealth maximization

The shareholder wealth maximization (SWM) principle suggests that a firm's primary goal is to maximize return on equity (ROE), which includes profit maximization. This principle can lead to higher dividend payments, share price growth, and increased shareholder wealth. SWM is crucial for firms; a lack of commitment may deter shareholder investment. Successful strategies include market leadership, improving operating margins, enhancing productive capacity, developing superior products, and acquiring complementary businesses (Dockery et al., 2000).

Some Ignored Theoretical Perspectives

The relationship between asset structure and financial stability is a critical area of study in finance and economics, yet several theoretical frameworks that could provide deeper insights are often overlooked. One such framework is the *Modigliani-Miller* (1958) *Theorem*, which posits that under certain conditions, the value of a firm is unaffected by its capital structure. While this theorem has been foundational in understanding firm valuation, the implications for financial stability are frequently not fully explored, particularly in the context of varying asset structures across firms.

Theory of Causation

The theory of causation explains the logical relationship between two events, where one event (the cause) leads to another (the effect). It addresses simultaneous and sequential occurrences, focusing on the first event producing the second. The theory has three key dimensions: cause must precede effect in time, cause and effect must be in close proximity, and objects similar to the cause share a "like relation" (See: Andreas & Guenther, 2021; Leung, 2001, 2002).

The Kairetic theory

The kairetic concept by Strevens (2004, 2008) posits that causal claims have a foundational causal-explanatory basis, making causation and explanation mutually exclusive. A causal model involves an explanandum if it reflects a genuine causal process. Validating causal explanations requires investigating mediating processes, as causal explanation helps identify when and where relationships can be replicated.

The Keynesian Theory of Investment

Keynes' General Theory of Employment, Interest, and Money (1936) explains the Great Depression's significant waste of productive potential and the limitations of micro-level

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economic coordination. Neoclassical investment theory suggests that investment drives aggregate production, employment, and economic fluctuations. Firms decide to invest by weighing expected return on new capital against cost, influenced by the real interest rate.

Rigid Accelerator Theory

Clark's rigid accelerator theory of investment, introduced in 1917, links investment demand to future demand changes due to increased production. It suggests that a firm's output increases its capital stock, leading to net investment when production is expected to grow. The theory is represented mathematically as $Kt^* = \sigma Y$.

Modern Portfolio Theory

Markowitz's 1952 Modern Portfolio Theory (MPT) is an investment and portfolio management model that emphasizes diversification based on risk-return relationships. It evaluates portfolios by comparing standard deviation to expected returns, aiming to maximize returns or minimize risk by combining assets with varying risk and return profiles. The efficient frontier represents the optimal portfolios yielding the highest expected return for a specific risk level, suggesting a direct relationship between risk appetite and expected returns with higher risk correlating with higher expected returns, and vice versa.

Asset structure-related empirical results

Research on the relationship between AS and FP can be partitioned into three categories.

1. **Causative Relationship:** Numerous studies affirm a direct causal relationship between AS and FP, indicating that both fixed and current assets significantly contribute to firms' financial performance (e.g., Iqbal & Mati, 2012; Mba & Omagwa, 2017; Olatunji & Tajudeen, 2014; Olonite et al., 2021; Svetlana & Aaro, 2012; ZhengSheng & NuoZhi, 2013a, b).
2. **Type-Specific Impact:** A second group of research focuses on specific asset types, finding that either fixed assets or current assets have a causal relationship with FP (e.g., Al-Ani, 2014; Iqbal & Mati, 2012) or current (Al-Ani, 2014; Tanui et al., 2021).
3. **No Significant Relationship:** The third category includes studies that report either no significant causal relationship or evidence of a negative or weak positive impact of fixed assets on profitability (e.g., Al-Ani, 2014; Kotšina & Hazak, 2012; Li, 2004).

Overall, these studies highlight the varying impacts of asset structure on financial performance, with some suggesting strong relationships and others indicating minimal or negative effects.

Financial Performance

Asset structure is crucial for achieving organizational goals and driving growth. Effective resource utilization and management significantly impact a firm's financial performance, which assesses how well it generates revenue. Corporate financial performance (FP) is a key indicator of financial stability, serving as a tool for governance and management. ROA and ROE are the leading metrics of FP, aiming to maximize shareholder wealth. Since Cochran and Wood's 1984

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discussion on financial performance in accounting and finance literature, there has been little change in the understanding of corporate financial performance (FP). FP can be divided into two main areas: shareholder return and accounting return. It encompasses both financial and capital market metrics (Bonaventura et al., 2012; Mahoney & Roberts, 2004; McGuire et al., 1988, 1990; Owiredu & Kwakye, 2020; Waddock & Graves, 1997) and is often used as a dependent variable in strategic management research (Taouab & Issor, 2019). FP is represented in three forms: market-based indicators, accounting-based metrics of efficiency, and survey estimates of financial performance (Orlitzky et al., 2003).

A Synopsis of Nigeria's Fast-Moving Consumer Goods (FMCG) Industry

The fast-moving consumer goods (FMCG) industry in Nigeria comprises everyday products like fruits, vegetables, toilet paper, foods, detergents, cosmetics, beverages, candies, perishables, and over-the-counter medications. The sector is characterized by intense competition, high volumes, and significant investments in global brands. Products are classified into nondurable, durable, and services categories.

The FMCG industry is a thriving sector in Nigeria. The top 25 FMCGs in Nigeria, including BUA Foods Plc, Dangote Sugar Plc, Nestle Plc, Nigerian Breweries Plc, and Presco Plc, have a combined market value of N7,633.4 billion, with BUA accounting for 67.2% of this total. The sector is a significant part of the Nigerian Stock Exchange and contributes significantly to the country's economic growth. The study sample includes all the 25 major players selected based on revenue, product range, cross-country presence, product popularity, and annual reports. Appendix 1 presents the market position of these firms.

3. METHODOLOGY AND HYPOTHESIS SPECIFICATION

The study used data from the NSE Factbook and Daily Official List of FMCG companies from 2012 to 2021, with a sample size of 25 quoted FMCGs. The relationship between AS and FP, specifically Return on Equity (ROE), was analyzed using the Ordinary Least Squares (OLS) model. The OLS model offers advantages over instrument variable regression, including reduced sensitivity to specification errors and suitability for uncertainty (Dockery et al., 2000; Tsegba & Herbert, 2013a, b; Herbert & Agwor, 2021a). The assumptions underlying the OLS test were met, leading to the adoption of the OLS econometric model for this research.

Econometric Causal Model Specification

Pearl (2009) introduced a structural equation framework for causal models, stating that independent variables (AS characteristics) determine dependent variable (ROE). These models can analyze deterministic and probabilistic causations (Andreas & Guenther, 2021), emphasizing that independent variables influence dependent variables, not vice versa.

$$Y_{it} = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon_I \quad (1)$$

where, Yit, the dependent variable, is ROE; α is the intercept term; X_1 is the ratio of Fixed Assets to Total Assets (FATA), X_2 is the Fixed Assets Turnover ratio (FATO), X_3 is Current Assets to Total Assets ratio (CATA), X_4 is Current Assets Turnover ratio (CATO), and $\varepsilon_1$is the

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error term. This is represented as equations 2 and 3 below.

$$ROE = f(FATA, FATO, CATA, CATO) \quad (2)$$

$$ROE = \alpha_0 + \beta_1 FATA + \beta_2 FATO + \beta_3 CATA + \beta_4 CATO + \varepsilon_I \quad (3)$$

where:

ROE	=	Return on equity ratio (Dependent variable)
FATA	=	Fixed assets to Total assets ratio (Independent variable)
FATO	=	Fixed assets Turnover ratio (Independent variable)
CATA	=	Current assets to Total assets ratio (Independent variable)
CATO	=	Current assets Turnover ratio (Independent variable)
β	=	Beta representing unknown parameters
εί	=	Error terms

Table 1: Variable Indicators

Dimension/Variable	Indicator
Return on Equity (ROE) Regressand	Corporate Financial Performance (FP)
FATA - Regressor	Fixed Assets/Total Assets
FATO - Regressor	Net Sales/Avg Fixed Assets
CATA - Regressor	Current Assets/Total Assets
CATO - Regressor	Net Sales/Current Assets

Table 1 defines the regressand (ROE) and four regressors, using McFadden R^2 for model fit and correlation matrix, tolerance value, and variance inflation factor for multicollinearity. Regression models are used for predicting outcomes and analyzing multiple variables' effects, with regressors expected to positively impact ROE. An increase in the regressor should, therefore, result in a higher FP (ROE).

***Fixed Assets Ratios*:** are essential for corporate financial analysis, providing insights into a firm's management and utilization of tangible assets. They assess efficiency, profitability, and risk, aiding in informed investment decisions and evaluating a firm's financial health. Effective management of fixed assets significantly influences profitability and financial performance, emphasizing their importance in operational and production processes. Various fixed asset ratios are used to taxonomise assets based on their natural identities, physical attributes, and potential to generate income. The empirical interest in fixed asset structure ratios is primarily focused on FATA and FATO.

1. *Property, Plant, and Equipment (PPE) to Total Assets* or (*FATA*) *Ratio*: This ratio is a measure of a firm's investment in tangible fixed assets, calculated as PPE divided by total assets. A high ratio indicates significant investment in fixed assets, while a low ratio suggests otherwise.
2. *Fixed Asset Turnover* (*FATO*) *Ratio*: measures a firm's efficiency in using its fixed asset portfolio for revenue generation, comparing net sales to fixed assets. A higher FATO ratio indicates better management utilization of fixed assets.

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The general hypothesis suggests no causal relationship between asset structure and corporate financial performance, divided into two sub-hypotheses.

H_{01}: There is no causal relationship between the fixed assets ratio (FATA) and corporate financial performance (ROE). This implies that fixed assets have no causative influence on ROE.

Further disaggregation leads to two specific sub-hypotheses focusing on the effects of each asset type:

1. **H_{01a}**: There is no causal relationship between fixed assets turnover (FATO) and corporate financial performance (ROE).
2. **H_{01b}**: There is no causal relationship between fixed assets to total assets ratio (FATA) and corporate financial performance (ROE).

Current Assets Ratios: Current assets offer quick cash conversion, providing liquidity and economic value within a year. CA ratios, including CATA and CATO, are crucial in understanding AS and FP relationships.

1. *Current Assets to Total Assets (CATA) Ratio*: calculated by dividing current assets by total assets, indicates a firm's liquidity management strategy and day-to-day expenses coverage, providing valuable insights into its investment policies.
2. *Current Assets Turnover (CATO) Ratio*: measures a firm's revenue generation potential, indicating how effectively current assets are converted into revenue over a specific period, with a higher ratio indicating a stronger revenue profile.

H_{02}: There is no causal relationship between current assets ratios and corporate financial performance (ROE). This implies that current assets have no causative influence on ROE.

The CA ratio's null hypothesis, similar to FA ratios, is divided into two sub-hypotheses.

1. H_{02a}: There is no causal relationship between current assets turnover (CATO) and corporate financial performance (ROE).
2. H_{02b}: There is no causal relationship between current assets to total assets ratio (CATA) and corporate financial performance (ROE).

The study evaluates the impact of fixed and current asset structures on ROE, providing a comprehensive analysis of their nexus with corporate financial performance.

4. MODEL SPECIFICATION, ANALYSIS, AND DISCUSSION

Equations 1 and 2 use multiple regression to model ROE and AS components, with T-statistics, F-test, Durbin-Watson test, and adjusted R-square assessing individual variables' significance, autocorrelation, and the percentage of independent variables' variation explanation.

Test for normal distribution

A normality test assesses if a sample dataset is from a normally distributed population. It can

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be done graphically or through statistical tests like the Jarque-Bera test. The graph and residuals indicate the data is not normally distributed, rejecting the null hypothesis, with a p-value of ≤0.05 indicating statistical significance (Akani, 2019; Pallant, 2005).

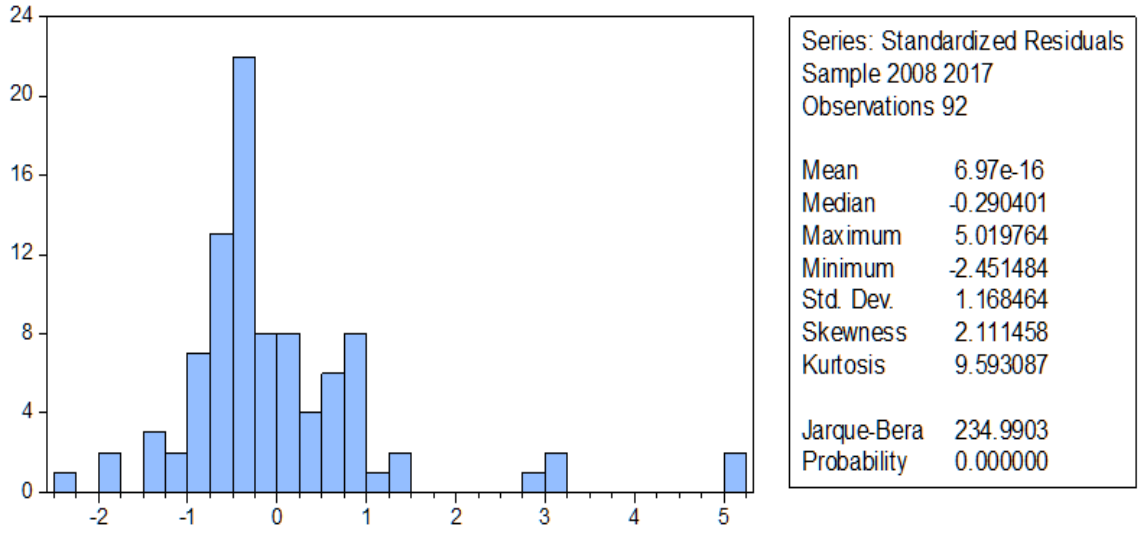

Figure 1: Normality Test of the Variables

Hausman Test

The Hausman test determines whether to use the fixed-effects model (FEM) or the random-effects model (REM). The null hypothesis favors REM, which assumes a normal distribution, while the alternative hypothesis supports FEM. The FEM is reliable when variables are statistically correlated, while REM is preferable when no correlation exists (Beck & Katz, 2007; Bell & Jones, 2015; Bell et al., 2019). A p-value of 0.5416 rejects the null hypothesis, indicating FEM preference.

Table 2: Random-Effect versus Fixed-Effect Models Test

Redundant Fixed Effects Tests			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	0.692711	(9,77)	0.7134
Cross-section Chi-square	7.162691	9	0.6202
Correlated Random Effects - Hausman Test			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	4.054532	5	0.5416

Stationarity/Unit Root Tests

Table 3 reveals that time series are nonstationary in levels form, with the first difference indicating a stationary process. Some series are not stationary in difference form, but other test statistics suggest stationary behavior. The results also indicate mixed order of integration, with no series integrating more than one order.

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Table 3: Robust Stationarity Test

Variables	ADF - Fisher Chi-square/PP - Fisher X^2	Statistics	Probability	Remark	Decision
ROE	Levin, Lin & Chu (LLC) t*	-3.71611	0.0001	Station	Reject H0
	Im, Pesaran & Shin W-stat	-2.26775	0.0117	Station	Reject H0
	ADF - Fisher Chi-square	48.5632	0.0093	Station	Reject H0
	PP - Fisher Chi-square	138.851	0.0000	Station	Reject H0
FATA	Levin, Lin & Chu t*	-5.06659	0.0000	Station	Reject H0
	Im, Pesaran and Shin W-stat	-1.38773	0.0826	Station	Reject H0
	ADF - Fisher Chi-square	44.7650	0.0406	Station	Reject H0
	PP - Fisher Chi-square	54.9499	0.0036	Station	Reject H0
	Levin, Lin & Chu t*	-1.81633	0.0347	Station	Reject H0
	Im, Pesaran and Shin W-stat	0.39039	0.6519	No Station	Accept H0
FATO	ADF - Fisher Chi-square	26.1942	0.6652	No Station	Accept H0
	PP - Fisher Chi-square	44.1617	0.0461	Station	Reject H0
	Levin, Lin & Chu t*	-4.36215	0.0000	Station	Reject H0
	Im, Pesaran and Shin W-stat	-1.87782	0.0302	Station	Reject H0
CATA	ADF - Fisher Chi-square	46.8166	0.0259	Station	Reject H0
	PP - Fisher Chi-square	91.9058	0.0000	Station	Reject H0
	Levin, Lin & Chu t*	-1.18440	0.1181	No Station	Accept H0
	Im, Pesaran and Shin W-stat	-0.55287	0.2902	No Station	Accept H0
CATO	ADF - Fisher Chi-square	35.4860	0.2254	No Station	Accept H0
	PP - Fisher Chi-square	85.4664	0.0000	Stationary	Reject H0

Notation: Station = Stationary; No Station = Not Stationary

Regression Results

The study used OLS regression to examine the relationship between AS characteristics and FP (ROE). The regression coefficient (β) indicates how a change in a predictor affects the dependent variable. Positive β coefficients indicate higher ROE, while negative coefficients indicate the reverse. The regressors explain 60% of ROE variation for FEM and REM, with the remaining 40% attributed to other factors (Table 4). FATA and FATO significantly positively affect ROE, while CATO has a negative impact. The Random Effect Regression Results show that independent variables explain 57% of ROE variation. FATA and FATO have significant effects on ROE, while CATA is negligible. CATO has a negative but statistically significant impact. The pooled OLS estimator is the correct form of the REM, as there are no random effects. The time-invariant regressor coefficients are calculated using pooled OLS.

Table 4: Regression Results: Pooled-Effect, Fixed-Effect and Random-Effect

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Pooled Regression Results				
FATA	0.657398	0.140656	4.673803	0.0000
FATO	0.563344	0.097173	5.797350	0.0000
CATA	0.001521	0.001673	0.909182	0.3658
CATO	-0.252287	0.118901	-2.121833	0.0367
C	4.291082	0.785173	5.465145	0.0000
R-squared (R^2)	0.568648	Mean dependent var		9.212826

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Adjusted R-squared	0.543570	S.D. dependent var		1.779097
S.E. of regression	1.201951	Akaike info criterion		3.268763
Sum squared resid	124.2431	Schwarz criterion		3.433228
Log likelihood	-144.3631	Hannan-Quinn criterion		3.335142
F-statistic	22.67467	Durbin-Watson stat		1.839085
Prob(F-statistic)	0.000000			
Fixed Regression Results				
FATA	0.616420	0.151680	4.063947	0.0001
FATO	0.554229	0.100782	5.499307	0.0000
CATA	0.001217	0.001770	0.687355	0.4939
CATO	-0.208894	0.159900	-1.306405	0.1953
C	4.242986	0.809783	5.239660	0.0000
	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.600957	Mean dependent var		9.212826
Adjusted R-squared	0.528404	S.D. dependent var		1.779097
S.E. of regression	1.221756	Akaike info criterion		3.386560
Sum squared resid	114.9370	Schwarz criterion		3.797721
Log likelihood	-140.7818	Hannan-Quinn criter.		3.552508
F-statistic	8.282992	Durbin-Watson stat		1.937008
Prob(F-statistic)	0.000000			
Random Regression Results				
FATA	0.657398	0.142974	4.598039	0.0000
FATO	0.563344	0.098774	5.703373	0.0000
CATA	0.001521	0.001700	0.894444	0.3736
CATO	-0.252287	0.120860	-2.087437	0.0398
C	4.291082	0.798110	5.376553	0.0000
	Effects Specification			
			S.D.	Rho
Cross-section random			0.000000	0.0000
Idiosyncratic random			1.221756	1.0000
	Weighted Statistics			
R-squared	0.568648	Mean dependent var		9.212826
Adjusted R-squared	0.543570	S.D. dependent var		1.779097
S.E. of regression	1.201951	Sum squared resid		124.2431
F-statistic	22.67467	Durbin-Watson stat		1.839085
Prob(F-statistic)	0.000000			
	Unweighted Statistics			
R-squared	0.568648	Mean dependent var		9.212826
Sum squared resid	124.2431	Durbin-Watson stat		1.839085

Table 5:Cross-Section Random Effect Model Test Comparisons

Variable	Fixed	Random	Var (Diff.)	Prob.
FATA	0.616420	0.657398	0.002565	0.4185
FATO	0.554229	0.563344	0.000401	0.6489
CATA	0.001217	0.001521	0.000000	0.5358
CATO	-0.208894	-0.252287	0.010961	0.6785

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Table 5 compares FEM and REM, showing each variable's probability coefficient exceeds 0.05, suggesting FEM instead of rejecting the null hypothesis, aligning with Hausman test statistics inference from Table 2.

Table 6: Correlation Matrix of the Regressors in the model

Covariance					
Correlation	**ROE**	**FATA**	**FATO**	**CATA**	**CATO**
ROE	3.130783				
	1.000000				
FATA	1.160469	1.204423			
	0.597609	1.000000			
FATO	2.079049	1.082452	3.246834		
	0.652091	0.547380	1.000000		
CATA	17.74857	0.145202	20.04987	6148.482	
	0.127924	0.001687	0.141905	1.000000	
CATO	0.863687	0.776610	1.690000	23.03176	2.133136
	0.334211	0.484512	0.642166	0.201110	1.000000

Table 6 reveals a positive relationship between ROE and AS indices, with FATO having the strongest relationship (0.652), followed by FATA (0.598), CATO (0.334), and CATA (0.128).

Causal relationships between FATA, FATO, CATA, and CATO and ROE

Tables 5 and 6 reveal that FATA and FATO significantly impact ROE, contributing 65.7% and 56.3% for unit improvement, respectively. CATO does not affect ROE but has a significant negative effect. Studies in emerging economies have shown mixed results regarding the phenomenon of interest. Some studies suggest a positive relationship between a well-defined asset structure and performance, while others suggest external factors like market conditions or firm size influence the relationship (See: Section 2: *Asset structure-related empirical results*).

5. CONCLUSION AND RECOMMENDATION

The study examines the relationship between asset structure and corporate financial performance using ROE as a reference and FMCG firms listed on the NSE from 2012 to 2021. The study finds that fixed assets significantly influence ROE, while current assets either have no discernible effect or have a significant negative effect. These findings align with previous research on the nexus between asset structure and firm performance. The following conclusions can be drawn from this study: It emphasizes the importance of a well-structured portfolio for improved financial performance, profitability, liquidity, and stability. It also underscores strategic asset allocation for operational efficiency, cost-effectiveness, economic stability, and growth opportunities. Firms must adapt their strategies to suit changing consumer preferences and market conditions in Nigeria's FMCG sector. The study further highlights the importance of asset structure for maximizing corporate returns and shareholder value, as well as the impact of prudent investment decisions on the financial performance of Nigerian public firms. Research on capital structure principles and proxy metrics is primarily focused on AS and FP,

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but examining the AS relationship directly offers more comprehensive evidence. Further research should explore causal relationships using theoretical proxies, considering economic, institutional, and market factors.

This study explores the nexus between asset structure and financial performance in Nigerian FMCG companies. These recommendations highlight the significance of efficient asset management in enhancing financial performance and competitiveness in the global market.

i. FMCG firms should diversify their asset base, including tangible and intangible assets like manufacturing facilities and brand equity, to enhance operational efficiency and consumer loyalty.

ii. Investing in technology like supply chain management systems, and customer relationship management can improve operational efficiency, market responsiveness, and financial performance.

iii. Just-in-time inventory systems and AI can reduce inventory costs, improve cash flow, and enhance financial performance.

iv. Developing brand equity can enhance asset value, lead to higher prices, and increase market share.

v. FMCG firms should evaluate their logistics and distribution capabilities to swiftly meet cost-effective consumer demands, thereby enhancing their competitive advantage.

vi. Implementing sustainable practices in the asset structure can enhance corporate reputation, attract ethical consumers, and boost brand loyalty.

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Appendix 1

Market standing of the top 25 FMCG Firms in Nigeria by year-to-date performance

S/N	Product/Coy Name	Products Sub-Sector	Date Listed	Date Incorporated	Mkt Cap. ₦ Billion
1.	BUA Foods Plc	Food Products	Jan. 5, 2022	April 13, 2005	5,130
2.	Dangote Sugar Refinery Plc	Food Products	March 8, 2007	January 4, 2005	971.70
3.	Nestle Plc	Food Products--Diversified	April 20, 1979	Sept. 25, 1969	871.92
4.	Nigerian Breweries Plc	Beverages--Brewers/Distillers	Sept. 5, 1973	Nov. 16, 1946	400.77
5.	Presco Plc	Food Products--Diversified	Oct. 9, 2002	Sept. 24, 1991	259.00
6.	FrieslandCampina Wamco Plc	Food Products	1990	April 17, 1973	199.17
7.	National Salt Co. Plc	Food Products	Oct. 20, 1992	April 30, 1973	182.28
8.	Flour Mills Nig Plc	Food Products	Aug. 14, 1979	Sept. 29, 1960	169.00
9.	PZ Cussons Nig Plc	Personal/Household Products	Feb. 18, 1974	April 12, 1948	144.52
10.	International Breweries Plc.	Beverages-Brewers/Distillers	April 26, 1994	Dec. 22, 1971	139.68
11.	Guinness Nigeria Plc	Beverages-Brewers/Distillers	January 2, 1965	April 29, 1950	139.53
12.	Unilever Plc	Foods/Household Products	April 1, 1973	Nov. 4, 1923	112.03
13.	Cadbury Nig Plc	Food Products--Diversified	1976	January 9, 1965	37.60
14.	Honeywell Flour Mills Plc	Food Products	Oct. 20, 2009	July 9, 1985	34.20
15.	Vita Foam Nig. Plc	Household Durables	1978	August 4, 1962	32.52
16.	Champion Brewery Plc	Beverages -Brewers/Distillers	Sept. 1, 1983	July 31, 1974	29.67
17.	N Nig. Flour Mills Plc	Food Products	Jan. 1, 1978	Oct. 29, 1971	9.56
18.	Ellah Lakes Plc	Food Products	Jan. 14 1993	July 2, 1980	9.36
19.	FTN Cocoa Processors Plc	Food Products	Aug. 28, 2008	August 26 1991	8.62
20.	Nigerian Bottling Coy Plc	Nonalcoholic Beverages	1972	Nov. 1951	8.53
21.	Golden Guinea Breweries Plc	Beverages-Brewers/Distillers	Sept. 28, 1978	Sept. 26, 1962	3.23
22.	Union Dicon Salt Plc	Food Products	Sept. 23, 1993	Nov. 12, 1991	**2.21**
23.	McNichols Plc	Food Products	Dec. 18, 2009	April 26, 2004	1.76
24.	Multi-Trex Integrated Foods Plc	Food Products	Nov. 1, 2010	Oct. 30, 1999	**1.34**
25.	Dufil Prima Foods Plc	Food Products	2008	Dec. 19, 2001	N/A