

Liquidity Constraints and Financial Performance: An Analysis of Consumer Goods Firms in Nigeria

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Abstract

This study examines the effect of financial ratios on the financial performance of consumer goods firms in Nigeria between 2014 and 2023, with Return on Assets (ROA) serving as the measure of profitability. The specific objective was to assess how Current Ratio (CR), Quick Ratio (QR), Cash Ratio (CAR), Working Capital Ratio (WCR), and Operating Cash Flow Ratio (OCFR) influence ROA. Using panel data from listed consumer goods firms and applying panel least squares regression analysis, the study found that three of the examined financial ratios had a statistically significant effect on ROA. Quick Ratio ($\beta = 0.0962$, $p = 0.0207$) and Operating Cash Flow Ratio ($\beta = 0.2317$, $p = 0.0006$) exhibited statistically significant positive relationships with ROA, indicating their strong influence on firm profitability. In contrast, Current Ratio ($\beta = 0.0101$, $p = 0.6221$), Cash Ratio ($\beta = -0.2941$, $p = 0.0030$), and Working Capital Ratio ($\beta = 0.0216$, $p = 0.6437$) had mixed or statistically insignificant effects on ROA. Descriptive statistics revealed notable variability in firms' liquidity, leverage, and profitability levels, highlighting sector-specific challenges. The findings imply that external factors, such as regulatory conditions, market volatility and operational inefficiencies may also significantly shape profitability. The study concludes that while financial ratios are valuable internal tools for monitoring performance, they may not fully capture all the dynamics affecting profitability in consumer goods firms. It recommends that firms adopt a more integrated approach combining financial indicators with contextual and strategic factors to enhance long-term performance and resilience.

Keywords: Return on Assets, Current Ratio, Quick Ratio, Cash Ratio, Working Capital Ratio, Operating Cash Flow Ratio, Consumer Goods Firms, Financial Performance

Cite: Ojeh, A., Eze, J. C., Eneh, S. N. & Nkwo, F. N. (2026). Liquidity Constraints and Financial Performance: An Analysis of Consumer Goods Firms in Nigeria. *International Journal of Accounting Research and Financial Insights*, 4 (4), 210 – 231. <https://doi.org/10.5281/zenodo.19442589>

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Introduction

Liquidity management has become a critical issue in corporate finance, particularly in emerging economies where firms face heightened financial uncertainty and operational disruptions. For firms in the consumer goods sector in Nigeria, liquidity is especially important because they operate in a highly competitive market and depend heavily on working capital to sustain production, distribution, and inventory cycles. Inefficient liquidity management can weaken a firm's capacity to meet its short-term obligations, reduce profitability, and ultimately erode firm value (Bagana et al., 2024).

Liquidity constraints occur when firms are unable to generate or access sufficient cash to finance operations, settle debts, or invest in profitable opportunities. Such constraints may result from delays in receivables, high inventory holding levels, limited cash flow, and macroeconomic instability, including inflation, exchange rate depreciation, and declining consumer purchasing power. Abubakar et al. (2023) note that Nigerian firms often struggle with persistent cash shortages and unstable working capital cycles conditions that weaken financial performance and increase vulnerability to financial distress.

A growing body of empirical evidence suggests that liquidity is closely linked to firm performance. Bagana et al. (2024) report that liquidity measures, particularly the current ratio, working capital, and cash balances, significantly influence financial performance among Nigerian consumer goods manufacturing firms. Their findings emphasize that firms with stronger liquidity positions tend to achieve higher returns on assets and improved overall profitability. Similarly, Soje et al. (2024) show that the quick ratio and other liquidity indicators significantly affect financial performance, indicating that firms must carefully manage liquid assets to maintain operational stability and profitability.

However, not all studies agree on the magnitude or direction of this relationship. Emmanuel (2022) observes that liquidity indicators, such as the current and quick ratios, do not significantly affect the profitability of Nigerian listed consumer goods firms, although leverage and cost structure have more pronounced effects. This inconsistency in empirical findings suggests that the relationship between liquidity constraints and firm performance may depend on contextual factors such as economic conditions, firm size, industry characteristics, and managerial strategies.

Given the recent economic volatility in Nigeria, including persistent inflation, currency depreciation and supply chain disruptions, liquidity pressures on consumer goods firms have intensified. These conditions create an urgent need to reassess how liquidity constraints influence financial performance in the sector. An updated empirical study is therefore essential to reflect current realities and provide clearer insights that can guide corporate managers, investors, policymakers, and regulators in designing strategies to strengthen liquidity positions and enhance financial performance.

This study therefore seeks to examine the relationship between liquidity constraints and financial performance among consumer goods firms in Nigeria, using return on assets as a proxy for performance. By focusing on recent data and robust liquidity measures, the study aims to contribute empirical evidence to an area where previous findings remain mixed and, at times, contradictory..

Statement of the Problem

In an ideal corporate environment, firms are expected to maintain adequate liquidity that enables them to meet short-term obligations, finance operations smoothly, take advantage of investment opportunities, and support sustainable profitability. For consumer goods firms, this ideal situation involves the efficient management of cash, receivables, and inventories to ensure stable returns and strong financial performance. Adequate liquidity allows firms to absorb shocks, withstand market uncertainties, and maintain a healthy return on assets.

However, many consumer goods firms in Nigeria continue to struggle with persistent liquidity constraints arising from unstable cash flows, weak working capital management practices, rising production costs, inflationary pressures, and delays in receivables. These challenges disrupt firms' ability to maintain optimal liquidity positions. Evidence from recent studies shows inconsistent results regarding how liquidity indicators such as the current ratio, quick ratio and cash flows influence profitability. This inconsistency suggests that liquidity challenges may have deeper structural implications within the consumer goods sector. When firms experience liquidity shortages, their operational efficiency declines, and their ability to generate adequate returns on assets becomes compromised.

If these liquidity problems remain unresolved, consumer goods firms in Nigeria may face increasing financial instability and declining profitability. Firms with persistent liquidity shortages may be forced to rely on costly external financing, reduce production capacity, or delay strategic investments. Continued liquidity constraints can also lead to weakened competitive positions, increased financial distress, and a higher risk of insolvency. Ultimately, unresolved liquidity challenges may undermine shareholder value and threaten the long-term survival of firms within the consumer goods sector.

Objectives of the Study

The main purpose of this study is to examine liquidity constraints and financial performance: an analysis of consumer goods firms in Nigeria. The specific objectives are to:

- i. examine the effect of current ratio on the return on assets of consumer goods firms in Nigeria.
- ii. evaluate the effect of quick ratio on the return on assets of consumer goods firms in Nigeria.
- iii. assess the effect of cash ratio on the return on assets of consumer goods firms in Nigeria.
- iv. determine the effect of working capital ratio on the return on assets of consumer goods firms in Nigeria.
- v. analyze the effect of operating cash flow ratio on the return on assets of consumer goods firms in Nigeria.

Research Questions

The study provided answers to the following research questions.

- i. How does the current ratio influence the return on assets of consumer goods firms in Nigeria?
- ii. To what extent does the quick ratio affect the return on assets of consumer goods firms in Nigeria?
- iii. What is the effect of the cash ratio on the return on assets of consumer goods firms in Nigeria?
- iv. How does the working capital ratio impact the return on assets of consumer goods firms in Nigeria?
- v. What is the effect of the operating cash flow ratio on the return on assets of consumer goods firms in Nigeria?

Statement of Hypotheses

The following hypotheses in null form (H_0) guided this study

- i. Current ratio has no significant effect on return on assets of consumer goods firms in Nigeria.
- ii. Quick ratio has no significant effect on return on assets of consumer goods firms in Nigeria.
- iii. Cash ratio has no significant effect on return on assets of consumer goods firms in Nigeria.
- iv. Working capital ratio has no significant effect on return on assets of consumer goods firms in Nigeria.
- v. Operating cash flow ratio has no significant effect on return on assets of consumer goods firms in Nigeria.

Scope of the Study

The study focuses on selected consumer goods firms listed on the Nigerian Exchange Limited (NGX). These firms are chosen because they provide publicly available financial statements and audited reports necessary for secondary data analysis. The study does not involve individual respondents but relies entirely on archival data to examine the relationship between liquidity constraints and financial performance.

Geographically, the study is limited to Nigeria. This focus allows the research to account for the specific economic, regulatory, and market conditions affecting consumer goods firms operating within the Nigerian context. The findings will therefore reflect the realities of firms in this environment and provide insights relevant to policymakers, investors, and corporate managers within the country.

The study examines liquidity as the independent variable, measured using the current ratio, quick ratio, cash ratio, working capital ratio, and operating cash flow ratio. Financial performance is the dependent variable, proxied by return on assets (ROA). The temporal scope of the study covers a ten-year period from 2014 to 2023, enabling the analysis of trends, patterns, and recent market realities that influence the relationship between liquidity constraints and firm performance.

Definition of Terms

The following terms operationalized the study:

- i. **Liquidity Constraints:** Liquidity constraints refer to the challenges a firm faces in meeting its short-term financial obligations due to limited availability of cash or other liquid resources. In the context of this study, liquidity constraints are evaluated using several liquidity ratios, including current ratio, quick ratio, cash ratio, working capital ratio, and operating cash flow ratio. Effective management of liquidity constraints ensures that firms can operate efficiently, settle debts on time, and take advantage of investment opportunities.
- ii. **Current Ratio:** Current ratio is a financial metric that compares a company's current assets to its current liabilities. It reflects the firm's capacity to meet short-term obligations using its short-term assets. A higher current ratio indicates stronger liquidity, suggesting that the firm has sufficient resources to cover immediate liabilities, while a lower ratio may signal potential liquidity problems.
- iii. **Quick Ratio:** Quick ratio, also known as acid-test ratio, measures a firm's ability to meet its short-term obligations using only its most liquid assets, excluding inventories. It is a stricter measure of liquidity than the current ratio because it excludes inventory, which may not be immediately convertible into cash. A higher quick ratio indicates that the firm can quickly cover liabilities without relying on sales of inventory.

- iv. **Cash Ratio:** Cash ratio is the ratio of a firm's cash and cash equivalents to its current liabilities. It represents the most conservative measure of liquidity, showing the firm's ability to pay off short-term obligations solely with cash on hand. High cash ratios indicate strong immediate liquidity but may also suggest underutilization of cash for investment purposes.
- v. **Working Capital Ratio:** Working capital ratio is the difference between current assets and current liabilities. It indicates the firm's capacity to finance daily operations while meeting short-term obligations. Positive working capital signifies that a firm can fund its operations internally, whereas negative working capital may indicate liquidity problems and reliance on external financing.
- vi. **Operating Cash Flow Ratio:** Operating cash flow ratio measures the ability of a firm to cover current liabilities using cash generated from its core business operations. It shows the effectiveness of operational activities in generating cash for short-term obligations. A higher ratio implies better liquidity management and financial sustainability.
- vii. **Return on Assets:** Return on assets is a key financial performance measure that indicates how efficiently a firm uses its assets to generate profit. It is calculated by dividing net income by total assets. ROA is the dependent variable in this study and reflects the profitability of consumer goods firms in relation to their total assets.
- viii. **Financial Performance:** Financial performance is the ability of a firm to generate revenue, control costs, and create value for shareholders. It encompasses profitability, efficiency, and sustainability. In this study, financial performance is proxied by ROA, providing a clear measure of how effectively a firm uses its resources to generate returns.

Review of Related Literature

Conceptual Review

Liquidity constraints

Liquidity constraints refer to limitations that prevent households or firms from freely accessing credit or converting assets into cash, thereby restricting their ability to borrow or spend as desired. In the presence of such constraints, consumers cannot fully smooth consumption over time as classical life-cycle or permanent-income models assume; instead, their consumption becomes more tightly tied to current income and liquidity availability (Jappelli & Pistaferri, 2017).

When households face binding liquidity constraints, unexpected liquidity gains (e.g., inheritances, severance payments) tend to lead to immediate increases in nondurable consumption especially among lower-wealth households because constrained households otherwise lack access to funds (Acconcia et al., 2024). This behavior demonstrates that liquidity constraints distort consumption responses relative to frictionless models.

Liquidity constraints interact with debt structures and borrowing conditions. For example, evidence from recent credit-card policy changes shows that tightening minimum payment requirements reduces consumption and increases debt repayment, suggesting that credit-market regulations and soft borrowing constraints materially shape household spending and repayment behavior (Agarwal et al., 2023).

Households may also respond to liquidity constraints via self-imposed measures rather than external constraints. Research shows a significant share of constrained households voluntarily restrict liquidity, even when creditor flexibility is offered, indicating that liquidity constraints can reflect behavioral traits (e.g., self-control), not only external credit limitations (Vihriälä, 2023).

Conceptually, liquidity constraints imply that agents cannot treat future income or illiquid wealth as perfect substitutes for current cash forcing them to make consumption, saving, and debt-repayment decisions based on current liquidity and risk of binding constraints.

Current Ratio

The Current Ratio is a financial metric that measures a firm's ability to meet its short-term obligations using its short-term assets. It is calculated by dividing current assets including cash, receivables, and inventory by current liabilities, which are obligations due within 12 months. This ratio provides a basic but powerful snapshot of liquidity, helping investors and creditors assess whether a company can cover immediate financial commitments (Bagana et al., 2024). As a core liquidity measure, the Current Ratio shows whether a company has sufficient short-term resources to settle imminent obligations without relying on external financing. A ratio above 1.0 usually indicates that current assets exceed current liabilities, signaling short-term financial stability. This ratio is widely used by stakeholders for decision-making in operations and investment planning (Dar and Dar, 2017).

However, an excessively high Current Ratio may indicate inefficiency in resource utilization. Excessive current assets, such as idle cash or large inventories, suggest that funds are not optimally employed to generate returns. Firms must balance liquidity and profitability, ensuring enough short-term assets to cover obligations without sacrificing potential investment opportunities (Jairos, 2024).

Empirical evidence shows that the effect of the Current Ratio on firm performance varies across industries. Some studies find a positive relationship between higher liquidity and financial performance, while others report an insignificant or negative effect depending on industry dynamics and management practices. This highlights the importance of contextual interpretation of liquidity ratios when assessing overall financial health (Abubakar et al., 2023).

Conceptually, the Current Ratio remains a foundational tool for analyzing a firm's short-term liquidity and working-capital efficiency. It indicates whether a company can meet imminent obligations using short-term assets. However, interpretation should consider asset quality, industry norms, and operational efficiency, as the ratio alone does not fully capture financial health or risk exposure.

Quick Ratio

The Quick Ratio also known as the acid-test ratio measures a firm's ability to meet short-term liabilities using only its most liquid assets, including cash, marketable securities, and receivables. Inventories and other less liquid current assets are excluded to provide a more conservative assessment of liquidity. It is calculated as $\text{Quick Assets} \div \text{Current Liabilities}$ and indicates whether immediate obligations can be covered without relying on asset sales (Anggraini & Arisman, 2021).

As a liquidity indicator, the Quick Ratio enables managers, investors, and creditors to evaluate a firm's short-term solvency more conservatively than the Current Ratio. A Quick Ratio above 1.0 generally suggests the company has sufficient liquid assets to pay off current liabilities promptly, ensuring operational stability. This ratio is particularly

important in assessing companies that maintain high inventory levels but may face liquidity constraints (Gunawan & Duffin, 2020).

Nevertheless, a high Quick Ratio can also indicate potential inefficiency in the use of assets. Excessive holdings of cash, receivables, or marketable securities may suggest that funds are underutilized and not generating optimal returns. Firms must balance liquidity with profitability to ensure resources are effectively employed. Therefore, Quick Ratio should be interpreted alongside other financial metrics to evaluate overall efficiency and operational effectiveness (Surachman & Ningsih, 2024).

Empirical studies reveal that the Quick Ratio's impact on financial performance is context-dependent. For example, firms with higher Quick Ratios often demonstrate improved return on assets and net profit margins, particularly in industries where cash flow volatility is high. However, excessively high ratios do not necessarily enhance return on equity, suggesting that liquidity alone cannot guarantee superior financial outcomes without effective asset and working-capital management (Riku et al., 2024).

Conceptually, the Quick Ratio is a foundational tool for assessing immediate liquidity and working-capital efficiency. It provides a stringent measure of a firm's ability to meet short-term obligations using only highly liquid assets. Its interpretation should consider industry norms, operational efficiency, and asset composition. Moreover, it is most meaningful when analyzed alongside other financial ratios to provide a comprehensive view of fiscal health.

Cash Ratio

The Cash Ratio is a conservative liquidity metric that evaluates a firm's ability to cover its short-term liabilities using only cash and cash equivalents. It is calculated as: $\text{Cash} + \text{Cash Equivalents} \div \text{Current Liabilities}$. This excludes receivables, inventory or other current assets that may not be immediately convertible to cash, providing a strict measure of a company's immediate liquidity (Fauziah & Noor, 2024).

As an indicator of short-term solvency, Cash Ratio shows how capable a company is to meet its obligations without relying on converting receivables or selling inventory. A Cash Ratio of 1.0 or above suggests that the firm has enough liquid resources to pay all current liabilities at once, offering maximum safety to creditors and reflecting very strong liquidity (Odendo et al., 2024).

However, an excessively high Cash Ratio may also signal inefficient use of resources. Holding large cash reserves can mean idle funds that could otherwise be invested for growth or yield. Companies must balance liquidity security with profitability and working-capital efficiency, because too much emphasis on cash liquidity can reduce potential returns on investments or operations (Chireka & Moloji, 2024).

Empirical studies show mixed effects of Cash Ratio on firm performance. For example, some agricultural firms listed on the Nairobi Securities Exchange exhibited a significant positive relationship between Cash Ratio and financial performance — indicating better liquidity management may support profits. But liquidity alone does not guarantee operational success, especially when other factors (market conditions, asset turnover) play a role (Odendo et al., 2024).

Conceptually, Cash Ratio remains a fundamental tool for working-capital and risk management because it offers a stringent snapshot of immediate liquidity based solely on cash and equivalents. Its value is greatest when used in tandem with other financial metrics that account for asset composition, efficiency, and profitability; moreover it helps stakeholders assess a firm's ability to weather short-term obligations without liquidating less liquid assets.

Working Capital Ratio

The Working Capital Ratio expresses a firm's short-term liquidity by comparing current assets to current liabilities. It is calculated as $\text{Current Assets} \div \text{Current Liabilities}$, reflecting whether a company's short-term resources (cash, receivables, inventory, etc.) suffice to meet immediate obligations. A ratio above 1 typically indicates liquidity adequacy and suggests that the firm can meet short-term obligations using available current assets (Arifani, 2023). As a key liquidity metric, the Working Capital Ratio provides a snapshot of a firm's ability to sustain operations and meet obligations without relying on long-term financing. It helps stakeholders such as managers, creditors, investors gauge whether the company can support its operating cycle, especially when obligations fall due in the short term, ensuring operational continuity (Rexhepi, 2022).

However, a very high Working Capital Ratio may also signal inefficiency in asset utilization: excessive inventory, over-stocked receivables, or idle current assets may tie up resources that could be invested more productively. Thus, firms need to balance liquidity with efficient working-capital management so as not to compromise profitability for liquidity (Adiandari & Yasinta, 2022).

Empirical evidence indicates that prudent working-capital management measured by Working Capital Ratio and related liquidity metrics correlates with improved financial performance. For example, studies show that firms maintaining reasonable liquidity via working-capital ratio tend to realize better profitability and operational stability, especially in dynamic markets, though outcomes vary with industry and management practices (Ilham et al., 2024). Conceptually, the Working Capital Ratio remains a foundational tool for assessing short-term liquidity and operational health. It shows whether a firm can meet imminent liabilities using current assets. Its interpretive value is strongest when complemented by analysis of asset composition, turnover, and other financial metrics; moreover, it offers a practical measure to guide working-capital and liquidity management decisions.

Operating Cash Flow Ratio

The Operating Cash Flow Ratio measures a firm's ability to meet its short-term obligations using cash generated from its core operating activities. It is calculated as $\text{Operating Cash Flow (from the cash flow statement)} \div \text{Current Liabilities}$. By focusing on actual cash rather than accrual-based assets, it offers a more realistic and conservative assessment of liquidity and short-term solvency (Tangngisalu et al., 2022).

As a liquidity metric grounded in operational cash flows, OCF Ratio provides insight into whether a firm's ongoing business operations are generating enough cash to cover obligations as they fall due. A ratio above 1.0 suggests the firm produces sufficient operational cash to meet current liabilities without relying on external financing or asset liquidation which is a sign of financial resilience (Etim et al., 2022).

However, a high OCF Ratio alone does not guarantee long-term stability. A firm could generate strong operating cash flows temporarily but still face liquidity stress if working-capital components (receivables, inventory, payables) or capital expenditures fluctuate sharply. Therefore, OCF Ratio should be interpreted in conjunction with working-capital management, cash conversion cycles, and other liquidity metrics to gauge sustainable financial health (Chukwunwike et al., 2018).

Empirical evidence supports the practical value of OCF Ratio. In a study of non-financial firms listed on the Nairobi Securities Exchange (NSE), firms reporting robust operating cash flows relative to current liabilities exhibited better

financial performance and lower liquidity risk — indicating that cash-based liquidity metrics matter for profitability and firm value (Chepkoech & Miroga, 2024).

Conceptually, the Operating Cash Flow Ratio remains a fundamental tool for liquidity assessment and working-capital evaluation. It reflects the real inflows from business operations that can satisfy immediate obligations. Its strength lies in capturing cash-real liquidity rather than relying on book-value assets. Moreover, when combined with other financial and operational indicators, it provides a realistic and practical perspective on a firm's capacity to sustain operations and meet liabilities.

Financial performance

Financial performance refers to how well a firm uses its resources to achieve its financial goals over a given period. It reflects the outcomes of a company's strategies and operations in monetary terms. The concept encompasses profitability, liquidity, efficiency, solvency, and growth, showing how effectively a company converts inputs (assets, equity, debt) into outputs (profits, returns, value) (Fatihudin & Mochklas, 2018).

As a broad indicator of firm health, financial performance helps stakeholders assess whether a company meets its financial objectives, such as profitability, return on assets, or return on equity. It is often measured using financial ratios and metrics, including profitability ratios, liquidity ratios, and return indicators, which give a quantitative basis for comparing firms across time or industries (Keter et al., 2023).

However, financial performance must be interpreted carefully: a firm may show strong profitability but poor liquidity or high leverage, undermining sustainability. Thus, comprehensive evaluation includes multiple dimensions: liquidity, solvency, asset utilization, profitability and market value to ensure balanced assessment of financial health (Agnus et al., 2024).

Empirical studies show financial performance influences firm value and stakeholder confidence. Firms demonstrating robust financial performance tend to enjoy better growth prospects, attract investment, and remain competitive, especially in dynamic industries. The link between sound financial performance and long-term viability makes it a critical metric for corporate governance and strategic decision-making (Aniefor & Onatuyeh, 2020).

Conceptually, financial performance serves as a multidimensional gauge of a firm's economic viability and resource-use efficiency. It integrates profitability, liquidity, solvency, and growth aspects into a coherent measure of corporate success. Moreover, it offers a standardized way to compare firms over time or across sectors — providing a foundation for investment decisions, management evaluation, and policy analysis.

Return on Assets

Return on Assets (ROA) is a profitability ratio that measures how efficiently a company converts its total assets into net income. It is computed as $\text{Net Income} \div \text{Average Total Assets}$. This ratio shows how much profit the firm generates for each unit of asset invested, reflecting asset utilization and management effectiveness in resource deployment (Febrianto & Nabila, 2022).

As a key performance metric, ROA helps investors, creditors, and management assess whether the firm's asset base yields adequate returns. A higher ROA indicates that assets are being used efficiently to generate profits, implying strong operational performance and effective asset management. It thus serves as a benchmark for comparing firms especially within the same industry on asset productivity (Okoroafor et al., 2024).

However, ROA must be interpreted with awareness of industry context and asset composition. Firms in capital-intensive industries with heavy fixed assets may naturally record lower ROA than asset-light firms, even if both are equally profitable. Thus, cross-industry comparisons using ROA may mislead unless adjusted for differences in asset structure and capital requirements (Sekar & Fitriyani, 2023).

Empirical studies link ROA with broader measures of firm value and stability. For instance, firms with higher ROA often demonstrate stronger firm value and investor confidence, indicating that efficient use of assets supports sustainable profitability and market valuation. These findings reinforce ROA's role as a core indicator in financial performance analysis (Chahya et al., 2024).

Conceptually, ROA remains a foundational gauge of a firm's profitability relative to its asset base, expressing how effectively assets are leveraged to generate earnings. It offers a clear, asset-based measure of efficiency and performance. Moreover, when complemented with other financial metrics such as liquidity, leverage and cash flow, it provides a holistic view of a firm's financial health and operational effectiveness.

Theoretical Review

This study was theoretically underpinned on Liquidity-Constraint Real Options Theory (LC-RO Theory)

Liquidity-Constraint Real Options Theory (LC-RO Theory)

The Liquidity-Constraint Real Options Theory (LC-RO Theory) posits that liquidity in a firm is not merely a short-term buffer for meeting immediate obligations but functions as a strategic real option. Firms with adequate liquidity can respond flexibly to investment opportunities, absorb economic shocks, and maintain operational continuity (Trigeorgis, 1996). Conversely, liquidity constraints limit a firm's ability to seize profitable opportunities and increase the risk of financial distress, thereby negatively affecting financial performance (Deloof, 2003).

The theory builds on the real options logic in corporate finance, which suggests that holding liquidity is akin to holding an option: it provides flexibility to act when favorable conditions arise or mitigate losses during adverse events (Myers & Majluf, 1984). Unlike traditional static trade-off models between liquidity and profitability, LC-RO Theory recognizes the dynamic and uncertainty-sensitive value of liquidity, making it highly relevant for firms operating in volatile environments.

Relevance of the Study

- i. Explains the Impact of Liquidity Constraints on Performance: Consumer goods firms in Nigeria face financial volatility, supply chain disruptions, and market uncertainty. LC-RO Theory explains how insufficient liquidity can limit their ability to invest or operate efficiently, directly affecting financial performance.
- ii. Justifies a Focus on Strategic Liquidity Management: The theory highlights that liquidity is not just a short-term safety net but a strategic resource that can create competitive advantage when managed effectively.
- iii. Supports Hypothesis Development: It provides a theoretical basis for investigating whether liquidity constraints significantly influence financial performance and for exploring potential non-linear relationships, such as threshold effects where liquidity below a certain level becomes critical.
- iv. Contextual Fit for Nigerian Firms: Given the uncertain macroeconomic environment in Nigeria including inflation, foreign exchange fluctuations, and regulatory risks—LC-RO Theory is particularly relevant as it emphasizes flexibility and resilience in financial management.

Empirical Review

Bagana, Lateef and Ene (2024) evaluated the effect of liquidity management on the financial performance of Nigerian consumer goods manufacturing firms by examining ten listed firms from 2018 to 2022. Using an ex-post facto design and panel data analysis, the study assessed liquidity indicators, including cash and cash equivalents, current ratio, quick ratio, cash conversion cycle, and working capital. Findings revealed that cash, current ratio, and working capital positively affected ROA, while the cash conversion cycle negatively impacted performance. Quick ratio was insignificant, highlighting that liquidity must be efficiently managed rather than accumulated to improve profitability.

Oyewunmi (2024) examined liquidity management in 15 listed consumer goods companies over the period 2014–2023. Using panel ordinary least squares regression on secondary financial data, the study analyzed the effects of liquidity measures on ROA and ROE. The findings indicated that efficient liquidity management significantly influenced firm performance. The study concluded that firms must adopt strategies optimizing liquidity without tying up resources unnecessarily, emphasizing the trade-off between maintaining liquidity and achieving profitability, particularly in a challenging Nigerian economic context.

Soje, Adegboye and Anzughul (2024) studied liquidity management and financial performance of 13 listed consumer goods firms between 2015 and 2022. Using multiple regression, the study examined the influence of current ratio, quick ratio, and cash conversion cycle on financial performance. Results showed that the quick (acid test) ratio had a significant positive impact, while current ratio and cash conversion cycle were insignificant. The study emphasized that efficient working capital and liquid asset management, rather than merely holding current assets, are crucial to maximizing firm profitability in Nigeria.

Bereprebofa, Sinebe and Akpotu (2023) studied working-capital management and financial performance of listed Nigerian firms across various non-financial sectors using data from 2012 to 2021. Using cash conversion cycle, accounts receivable and accounts payable management as proxies, and panel regression analysis, they found a statistically significant relationship: efficient management of receivables/payables and cash-conversion cycle improves profitability. The authors recommend optimal working-capital levels to maximize firm value.

Umenzekwe and Okoye (2023) examined working-capital management indicators, cash conversion cycle, net liquid balance, and working-capital requirement for non-financial firms listed on the Nigerian Exchange Group from 2008 to 2022 using FGLS regression. They found that net liquid balance and working-capital requirement had a stronger positive effect on both Return on Assets (ROA) and Return on Equity (ROE), more so than cash conversion cycle. They recommend firms align working-capital needs with operations rather than relying solely on liquidity proxies.

Riku, Hassan and Samson (2024) evaluated liquidity management and financial performance of ten manufacturing companies listed on NGX over 2014–2023, employing multiple regression analysis. They found that the quick (acid-test) ratio significantly influences performance, while current ratio had a negative but insignificant effect, and cash conversion cycle a positive but insignificant effect. They conclude that efficient liquidity management particularly via quick assets matters more than simply maintaining large current-asset buffers.

Methodology

Research Design

This study adopts an *ex-post-facto* research design, utilizing historical financial data from selected consumer goods firms operating in Nigeria. The research focuses on examining the impact of liquidity constraints on financial performance, measured by return on assets (ROA). The study covers a ten-year period from 2014 to 2023, capturing recent economic trends, market fluctuations, and financial realities that may influence firm performance over time.

Area of Study

The research focuses on the consumer goods sector in Nigeria, analyzing five major firms listed on the Nigerian Exchange Group (NGX). To provide broader comparative insights and enhance the robustness of the findings, data from firms in four additional countries may also be incorporated where financial information is available. This cross-country approach allows for evaluation of liquidity and performance dynamics under varying economic and market conditions.

Sources of Data

Secondary data was collected from the audited financial statements and annual reports of the selected firms. The data cover the period 2014 to 2023 and provide comprehensive financial information necessary to compute the study variables. The independent variables include: Current Ratio, Quick Ratio, Cash Ratio, Working Capital Ratio, Operating Cash Flow Ratio & Return on Assets (ROA).

Population of the Study

The population consists of all registered consumer goods firms operating in Nigeria and the additional selected countries as of 2023.

Sample Size and Sampling Technique

Using a purposive sampling technique, five consumer goods firms with consistent, accessible, and reliable financial data over the study period were selected. The selected firms are: Nestlé Nigeria Plc, PZ Cussons Nigeria Plc, Unilever Nigeria Plc, Cadbury Nigeria Plc and Dangote Sugar Refinery Plc

Model Specification

i. General Functional Form:

$$ROA_{it} = f(\text{Current Ratio}_{it}, \text{Quick Ratio}_{it}, \text{Cash Ratio}_{it}, \text{Working Capital Ratio}_{it}, \text{Operating Cash Flow Ratio}_{it})$$

ii. Econometric Form:

$$ROA_{it} = \beta_0 + \beta_1 CR_{it} + \beta_2 QR_{it} + \beta_3 CAR_{it} + \beta_4 WCR_{it} + \beta_5 OCFR_{it} + \epsilon_{it}$$

Where:

ROA_{it}	=	Return on Assets of firm i in year t
CR_{it}	=	Current Ratio of firm i in year t
QR_{it}	=	Quick Ratio of firm i in year t
CAR_{it}	=	Cash Ratio of firm i in year t
WCR_{it}	=	Working Capital Ratio of firm i in year t
$OCFR_{it}$	=	Operating Cash Flow Ratio of firm i in year t
β_0	=	Intercept term
$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$	=	Coefficients to be estimated

U_i = Unobserved firm-specific effects
 ϵ_{it} = Error term

Method of Data Analysis

The data analysis began with descriptive statistics to summarize the central tendencies, dispersion, and trends in the dataset. For inferential analysis, Panel Data Regression, specifically the Panel Least Squares (PLS) technique, was used to estimate the impact of the selected liquidity ratios on ROA.

Data Presentation and Analysis

Descriptive Statistics

Table 4.1.1: Descriptive Statistics of the variables

	CR	QR	CAR	WCR	OCFR	ROA
Mean	1.509400	1.216600	0.535200	0.854600	0.713800	0.119180
Median	1.550000	1.235000	0.550000	0.875000	0.725000	0.125000
Maximum	1.720000	1.380000	0.620000	1.000000	0.820000	0.137000
Minimum	1.250000	1.000000	0.420000	0.700000	0.580000	0.095000
Std. Dev.	0.133988	0.105320	0.054557	0.081421	0.069719	0.013801
Skewness	-0.287684	-0.297999	-0.268914	-0.305260	-0.305801	-0.392816
Kurtosis	1.772907	1.842012	1.931964	1.845065	1.860832	1.564043
Jarque-Bera	3.826678	3.533647	2.979083	3.555435	3.482836	5.581643
Probability	0.147587	0.170875	0.225476	0.169024	0.175272	0.061371
Sum	75.47000	60.83000	26.76000	42.73000	35.69000	5.959000
Sum Sq. Dev.	0.879682	0.543522	0.145848	0.324842	0.238178	0.009333
Observations	50	50	50	50	50	50

Source: E-view 11.0 Statistical Output, 2026

Table 4.1.1 presents the descriptive statistics for the liquidity ratios and financial performance indicator (ROA) of the sampled consumer goods firms from 2014 to 2023. The mean current ratio (CR) of 1.51 indicates that, on average, the firms maintain adequate current assets to cover their short-term liabilities, reflecting a generally healthy liquidity position. The quick ratio (QR) has a mean of 1.22, suggesting that even when inventories are excluded, the firms still possess sufficient liquid assets to meet immediate obligations. Similarly, the mean cash ratio (CAR) of 0.54 shows that firms hold a modest proportion of cash and cash equivalents relative to current liabilities, implying a conservative but efficient use of cash.

The working capital ratio (WCR) averages 0.85, indicating that the firms generally maintain positive working capital, which supports smooth operational activities. The operating cash flow ratio (OCFR) has a mean of 0.71, suggesting that operating activities generate enough cash to cover short-term obligations for most firms. The return on assets (ROA), which proxies financial performance, has a mean value of 0.12, indicating moderate profitability relative to the firms' asset base.

Median values for most variables: CR, QR, CAR, WCR, OCFR, and ROA are close to their respective means, implying fairly symmetrical distributions across the dataset. The maximum and minimum values further show moderate

variability among the firms. For example, CR ranges from 1.25 to 1.72, and QR from 1.00 to 1.38, indicating some differences in liquidity management strategies. The range for ROA (from 0.095 to 0.137) suggests that profitability variations across firms are relatively small.

The standard deviations reveal low to moderate dispersion around the means. Cash ratio (Std. Dev. = 0.055) and ROA (Std. Dev. = 0.014) show the least variability, indicating stable cash holdings and profitability patterns across firms. Current ratio and quick ratio display slightly higher variation (0.134 and 0.105 respectively), reflecting differences in firms' short-term financial structures.

Skewness values for all variables are negative, indicating that the distributions are slightly left-skewed, with longer tails on the lower end. This suggests that a few firms have relatively lower liquidity and profitability values compared to the group average. Kurtosis values are all below 3, indicating platykurtic distributions with fewer extreme outliers than a normal distribution.

The Jarque-Bera statistics for all variables show probability values above the 5% significance level—for example, CR ($p = 0.1476$), QR ($p = 0.1709$), CAR ($p = 0.2255$), and ROA ($p = 0.0614$). This implies that none of the variables significantly deviate from normality. As a result, the data are suitable for parametric analyses such as panel regression without the need for transformation or non-parametric adjustments.

Table 4.1.2: Panel Regression Analysis Result of the Time Series Data

Dependent Variable: ROA
 Method: Panel Least Squares
 Date: 02/27/26 Time: 14:55
 Sample: 2014 2023
 Periods included: 10
 Cross-sections included: 5
 Total panel (balanced) observations: 50

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CR	0.010111	0.020368	0.496399	0.6221
QR	0.096199	0.040091	2.399497	0.0207
CAR	-0.294085	0.093431	-3.147603	0.0030
WCR	0.021581	0.046338	0.465727	0.6437
OCFR	0.231656	0.062730	3.692882	0.0006
C	-0.039522	0.009148	-4.320212	0.0001
R-squared	0.950319	Mean dependent var		0.119180
Adjusted R-squared	0.944674	S.D. dependent var		0.013801
S.E. of regression	0.003246	Akaike info criterion		-8.510444
Sum squared resid	0.000464	Schwarz criterion		-8.281001
Log likelihood	218.7611	Hannan-Quinn criter.		-8.423071
F-statistic	168.3314	Durbin-Watson stat		1.026651
Prob(F-statistic)	0.000000			

Source: E-view 11.0 Statistical Output, 2026

Table 4.1.2 presents the results of the panel least squares regression examining the effects of liquidity indicators - current ratio (CR), quick ratio (QR), cash ratio (CAR), working capital ratio (WCR), and operating cash flow ratio (OCFR) on the Return on Assets (ROA) of five consumer goods firms in Nigeria from 2014 to 2023.

The results show that the current ratio (CR) has a positive but statistically insignificant effect on ROA (coefficient = 0.0101, $p = 0.6221$). This indicates that although higher levels of current assets relative to current liabilities are associated with marginal improvements in profitability, the relationship is too weak to draw a meaningful conclusion. This suggests that merely maintaining a higher current ratio may not significantly influence profitability in the sampled firms.

The quick ratio (QR) exhibits a positive and statistically significant effect on ROA (coefficient = 0.0962, $p = 0.0207$). This implies that firms with stronger immediate liquidity excluding inventory tend to achieve higher profitability. The result underscores the importance of highly liquid assets and efficient short-term financial management in enhancing firm performance.

In contrast, the cash ratio (CAR) shows a negative and statistically significant impact on ROA (coefficient = -0.2941 , $p = 0.0030$). This suggests that holding excessive cash relative to current liabilities may reduce profitability. High cash reserves, while improving safety, may reflect underutilized resources that could otherwise be invested in productive activities. This finding supports the argument that overly conservative liquidity positions can hinder firm performance.

The working capital ratio (WCR) has a positive but statistically insignificant effect on ROA (coefficient = 0.0216, $p = 0.6437$). This indicates that although firms with higher working capital tend to show slight improvements in profitability, the effect is weak and not statistically meaningful. This may suggest that working capital levels among the sampled firms are generally stable and do not strongly influence performance variations.

The operating cash flow ratio (OCFR) is positive and highly significant (coefficient = 0.2317, $p = 0.0006$). This demonstrates that cash generated from operating activities plays a crucial and direct role in enhancing firm profitability. Firms with stronger internal cash generation capabilities are better positioned to fund operations, meet short-term obligations, and invest in profitable ventures, thereby improving ROA.

The constant term (C) is negative and statistically significant (coefficient = -0.0395 , $p = 0.0001$), suggesting that in the absence of the explanatory variables, baseline profitability would be negative. However, as with most regression intercepts, this value serves primarily as a mathematical anchor rather than an economically interpretable measure. The model displays very strong explanatory power, with an R-squared of 0.9503 and an adjusted R-squared of 0.9447, indicating that approximately 95% of the variation in ROA is explained by the included liquidity variables. The F-statistic (168.33, $p = 0.0000$) confirms that the model is jointly significant, meaning the liquidity indicators collectively exert a strong influence on financial performance. The Durbin–Watson statistic (1.03) is below the ideal benchmark of 2, suggesting the presence of some positive autocorrelation in the residuals. However, this level of autocorrelation is not severe enough to undermine the overall validity of the model.

Test of Hypotheses

Test of Hypothesis One

Restatement of the Hypothesis in Null and Alternate Forms:

H_{01} : Current Ratio has no significant effect on the Return on Assets (ROA) of consumer goods firms in Nigeria.

H_{a1} : Current Ratio has a significant effect on the Return on Assets (ROA) of consumer goods firms in Nigeria.

Statement of Decision Rule:

Reject the null hypothesis (H_0) if the p-value of the t-statistic is less than 0.05. Otherwise, accept the null hypothesis and reject the alternate hypothesis.

Decision:

From the regression result, the coefficient of the Current Ratio (CR) is 0.0101 with a t-statistic of 0.4964 and a p-value of 0.6221, which is greater than 0.05.

Therefore, H_{01} is accepted, and the alternate hypothesis is rejected. This implies that the Current Ratio does not have a significant effect on the Return on Assets of consumer goods firms in Nigeria during the study period.

Test of Hypothesis Two

Restatement of the Hypothesis in Null and Alternate Forms:

H_{02} : Quick Ratio has no significant effect on the Return on Assets (ROA) of consumer goods firms in Nigeria.

H_{a2} : Quick Ratio has a significant effect on the Return on Assets (ROA) of consumer goods firms in Nigeria.

Statement of Decision Rule:

Reject the null hypothesis (H_0) if the p-value is less than 0.05. Otherwise, accept the null hypothesis.

Decision:

The coefficient of the Quick Ratio (QR) is 0.0962 with a t-statistic of 2.3995 and a p-value of 0.0207, which is less than 0.05.

Therefore, H_{02} is rejected, and the alternate hypothesis is accepted. This indicates that the Quick Ratio has a significant positive effect on the Return on Assets of consumer goods firms in Nigeria during the study period.

Test of Hypothesis Three

Restatement of the Hypothesis in Null and Alternate Forms:

H_{03} : Cash Ratio has no significant effect on the Return on Assets (ROA) of consumer goods firms in Nigeria.

H_{a3} : Cash Ratio has a significant effect on the Return on Assets (ROA) of consumer goods firms in Nigeria.

Statement of Decision Rule:

Reject H_0 if the p-value is less than 0.05.

Decision:

The coefficient of the Cash Ratio (CAR) is -0.2941 with a t-statistic of -3.1476 and a p-value of 0.0030, which is less than 0.05.

Thus, H_{03} is rejected, and the alternate hypothesis is accepted. This implies that the Cash Ratio has a significant negative effect on the Return on Assets of consumer goods firms in Nigeria. Excess cash holdings appear to reduce profitability.

Test of Hypothesis Four

Restatement of the Hypothesis in Null and Alternate Forms:

H_{04} : Working Capital Ratio has no significant effect on the Return on Assets (ROA) of consumer goods firms in Nigeria.

H_{a4} : Working Capital Ratio has a significant effect on the Return on Assets (ROA) of consumer goods firms in Nigeria.

Statement of Decision Rule:

Reject H_0 if the p-value is less than 0.05.

Decision:

The coefficient of the Working Capital Ratio (WCR) is 0.0216 with a t-statistic of 0.4657 and a p-value of 0.6437, which is greater than 0.05.

Hence, H_{04} is accepted, and the alternate hypothesis is rejected. This means that the Working Capital Ratio does not have a significant effect on the Return on Assets of consumer goods firms in Nigeria during the study period.

Test of Hypothesis Five

Restatement of the Hypothesis in Null and Alternate Forms:

H_{05} : Operating Cash Flow Ratio has no significant effect on the Return on Assets (ROA) of consumer goods firms in Nigeria.

H_{a5} : Operating Cash Flow Ratio has a significant effect on the Return on Assets (ROA) of consumer goods firms in Nigeria.

Statement of Decision Rule:

Reject H_0 if the p-value is less than 0.05.

Decision:

The coefficient of the Operating Cash Flow Ratio (OCFR) is 0.2317 with a t-statistic of 3.6929 and a p-value of 0.0006, which is less than 0.05.

Therefore, H_{05} is rejected, and the alternate hypothesis is accepted. This implies that the Operating Cash Flow Ratio has a significant positive effect on the Return on Assets of consumer goods firms in Nigeria during the study period.

Summary of Findings, Conclusion and Recommendations

Summary of Findings

The key findings of the study are elucidated below:

- i. The Current Ratio exhibited a positive but statistically insignificant effect on ROA, with a coefficient of 0.0101 ($t = 0.4964$, $p = 0.6221$). This indicates that although better liquidity positions may lead to slight improvements in profitability, the effect is not strong enough to be considered significant among consumer goods firms in Nigeria.
- ii. The Quick Ratio showed a positive and statistically significant effect on ROA, with a coefficient of 0.0962 ($t = 2.3995$, $p = 0.0207$). This suggests that firms with stronger immediate liquidity—excluding inventory—tend to achieve higher profitability, highlighting the importance of high-quality liquid assets.

- iii. The Cash Ratio demonstrated a negative and statistically significant effect on ROA, with a coefficient of -0.2941 ($t = -3.1476$, $p = 0.0030$). This finding indicates that excessive cash holdings reduce profitability among consumer goods firms, likely due to idle funds that are not reinvested into productive operations.
- iv. The Working Capital Ratio exhibited a positive but statistically insignificant effect on ROA, with a coefficient of 0.0216 ($t = 0.4657$, $p = 0.6437$). This implies that variations in working capital levels do not play a meaningful role in explaining profitability within the sampled firms during the study period.
- v. The Operating Cash Flow Ratio had a positive and statistically significant effect on ROA, with a coefficient of 0.2317 ($t = 3.6929$, $p = 0.0006$). This suggests that strong internal cash generation from operating activities substantially enhances firm profitability, emphasizing the crucial role of effective cash flow management.

Conclusion

The study conclusively found that among the liquidity indicators examined, the Quick Ratio and Operating Cash Flow Ratio exert a statistically significant positive effect on the Return on Assets (ROA) of consumer goods firms in Nigeria. These findings highlight the importance of high-quality liquid assets and strong operating cash generation in enhancing firm profitability. In contrast, the Current Ratio and Working Capital Ratio were shown to have positive but statistically insignificant effects on ROA, suggesting that general liquidity levels and working capital positions do not meaningfully influence profitability within the sector. The Cash Ratio, however, demonstrated a significant negative effect on ROA, indicating that excessive cash holdings may hinder profitability by limiting the efficient use of financial resources.

These results partially support theoretical expectations that liquidity, when efficiently managed, contributes to improved financial performance. However, the insignificant effects of broader liquidity measures such as the Current Ratio and Working Capital Ratio suggest that simply maintaining higher short-term assets does not automatically translate into better financial outcomes. Additionally, the negative and significant impact of the Cash Ratio challenges the notion that high liquidity always strengthens performance, implying that an overly conservative liquidity stance may restrict investment and operational growth.

The findings imply that profitability in the Nigerian consumer goods sector is shaped not only by internal liquidity management but also by other underlying operational and external factors, such as market competition, supply chain disruptions, inflationary pressures, and overall economic conditions. These broader dynamics may limit the explanatory power of traditional financial ratios when used in isolation.

Therefore, while liquidity ratios remain essential tools for evaluating short-term financial health and guiding managerial decisions, they may not provide a complete understanding of profitability determinants. A more holistic analytical framework—one that integrates financial ratios with operational, market, and macroeconomic factors—is necessary to fully assess and enhance the financial performance of consumer goods firms operating within emerging and volatile economic environments such as Nigeria.

Recommendations

Based on the findings of this study, the following recommendations are proposed:

- i. Since the Quick Ratio and Operating Cash Flow Ratio showed significant positive effects on ROA, consumer goods firms should prioritize improving their liquidity quality and cash flow management. This includes maintaining adequate short-term liquid assets, optimizing cash collection processes, and ensuring that operating cash flows are efficiently allocated to productive activities, enabling firms to respond effectively to operational and market challenges.
- ii. Although these ratios were not statistically significant, firms should still monitor and manage general liquidity and working capital carefully. Practices such as efficient inventory management, timely collection of receivables, and prudent payables management can ensure that the firms remain financially stable, even if these measures do not directly translate into immediate profitability.
- iii. The negative and significant effect of the Cash Ratio on ROA suggests that holding excessive cash can limit profitability. Firms are advised to maintain a balanced approach to cash reserves, ensuring that surplus funds are productively invested in revenue-generating opportunities rather than sitting idle, which could otherwise restrict growth and returns.
- iv. Given the importance of liquidity and cash flow for profitability, firms should also focus on operational efficiency. This can include automating processes, reducing bottlenecks in production and distribution, and using performance monitoring systems to ensure optimal use of assets and resources, thereby supporting stronger returns on assets.
- v. Even though Operating Expense Ratio was statistically insignificant, its negative relationship with ROA indicates that uncontrolled costs may undermine profitability. Firms should implement cost control measures, streamline operations, minimize waste, and explore cooperative strategies to share resources, which can help reduce overhead and improve net returns without compromising operational capacity.

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