WELLSPRING UNIVERSITY JOURNAL OF SOCIAL AND MANAGEMENT SCIENCES
(WUJSMS)
VOL. 5 NO. 2 ISSN: 2616-1296 JUNE 2026

LIQUIDITY AND FINANCIAL PERFORMANCE OF CONSUMER GOODS FIRMS IN NIGERIA

NWANKWO, PETER EMEKA
Department of Accountancy, Faculty of Management Sciences
Enugu State University of Science and Technology
Enugu State, Nigeria
Email: peter.nwankwo@esut.edu.ng; sirpeee001@gmail.com
ORCID: 0009-0002-2073-5445

EZEOKEKE ANTHONIA
Department of Accountancy, Faculty of Management Sciences
Enugu State University of Science and Technology
Enugu State, Nigeria

&

NWABUEZE, CALISTER
Department of Accountancy, Faculty of Management Sciences
Enugu State University of Science and Technology
Enugu State, Nigeria

Abstract
This study examines the relationship between liquidity management, cash flow efficiency, and firm profitability using multivariate statistical techniques. The study employed an expo facto research design and collected secondary data from the sampled firm`s annual reports and accounts for 10 years. Drawing on a sample of 55 firm-year observations, the study evaluates the effects of the operating cash flow ratio (OCFR), current ratio (CURR), and cash asset ratio (CASR) on return on assets (ROA). Descriptive statistics indicate moderate profitability and liquidity across the sampled firms, with ROA averaging 1.75 and liquidity ratios exhibiting noticeable dispersion. Skewness and kurtosis measures fall within acceptable thresholds, supporting the suitability of the data for parametric analysis. Pearson correlation results reveal exceptionally strong and statistically significant positive associations between ROA and OCFR (r = 0.992), CURR (r = 0.985), and CASR (r = 0.990), all at the 1% significance level. Multiple regression analysis further demonstrates that the model possesses very high explanatory power (R^2 = 0.994), indicating that liquidity and cash-flow variables jointly explain approximately 99.4% of the variation in ROA. The operating cash flow ratio and current ratio exert positive and statistically significant effects on profitability, while the cash asset ratio becomes insignificant in the multivariate model due to severe multicollinearity. Multivariate tests (Pillai's Trace, Wilks' Lambda, Hotelling's Trace, and Roy's Largest Root) confirm that ROA has a highly significant multivariate effect, with partial eta squared values approaching unity. Overall, the findings underscore the critical role of operating cash flow efficiency and short-term liquidity management in enhancing asset-based profitability. The study provides robust empirical evidence that effective liquidity and cash-flow management are central determinants of firm performance, with important implications for management accounting practice and financial decision-making.
Keywords: *Liquidity Management, Firms, Profitability, Nigeria.*

Introduction

Liquidity is a vital financial indicator in ensuring financial stability and growth within consumer goods sector whether developed or developing economy. It plays an important role in the effective and efficient operations of a business, creating opportunities for resource

allocations and making -wise investment decisions (Abdullahi & Opeyemi 2020). Liquidity serves as a major yardstick or criterion for assessing firms credit worthiness, value creation, and future sustainability. Globally, the relationship between liquidity and financial performance has been a subject of extensive research, essentially in the wake of 2008-2009 financial crisis. According to the studies by Albert & Viriany (2022) firms with higher liquidity levels are well positioned to meet short-term debts, capitalize on investment opportunities, absorb shocks and optimize profitability. Similarly, strong liquidity suggests good financial health and stability, which enables firms to off-set immediate financial commitments, increase credit ratings, value creation and reduced costs (Li et al,2020; Ugwu et al,2020). Liquidity theory refers to retaining sufficient cash or near cash assets that can be converted into cash within a year. Importantly, liquidity management remains crucial for enhancing financial performance and stability of firms. Liquidity management is the strategic, but continuous mechanism to ensure that firm maintain adequate liquid assets to meet all cashflow (Udeinya,2023). Implementing good liquidity management can boost a firm's reputation with investors by demonstrating that they are resilient enough to weather potential business storms in order to ensure its long-term performance (Eze & Agu, 2020).

Statement of the Problem

Previous literatures have argued in favor of adequate liquidity and consider liquidity management as good for improving firms' performance. However, this is not true. Some firms have suffered illiquidity, hence affecting their performance adversely as well as investors' confidence, therefore resulting to total collapse and even lead to closures (Akpan et al, 2021). There have been consistent results of some researchers on liquidity and financial performance of firms (Li et al. 2020; Godwin et al. 2023). High level of liquidity suggests stability and good financial health, an assurance for meeting short-term financial obligations as they arise, if properly utilized. Insufficient cash or near -cash -assets can lead to financial distress, or bankruptcy and have adverse effect on performance of firms, if not properly managed (Adegboyegun & Igbekoyi 2022). Understanding how liquidity, derived from factors like current ratio, cash ratio and operating cash flow ratio, impact on firm financial performance.is imperative. These developments in conjunction with the lack of universal consensus on empirical findings, triggered the need for this study. The study focused on four key components of liquidity management characteristics; thus; Current ratio, Cash ratio and Operating cashflow ratio, proxy for the independent variable, while the dependent variable is proxy by return on assets.

Objectives of the Study

The core objective of this study is to evaluate the effect of liquidity on return on assets of listed consumer goods firms in Nigeria. They specific objective are to;

i. Assess the effect of operating cash flow ratio (OCFR) on return on assets of listed consumer goods firms in Nigeria
ii. Determine the effect of current ratio (CURR) on return on assets of listed consumer goods firms in Nigeria
iii. Investigate the effect of cash ratio (CASR) on return on assets of listed consumer goods firms in Nigeria

Test of Hypotheses

The following hypotheses were tested in Null form for this study:

H_{01}: Operating Cash ratio (CURR) has no significant correlation with return on assets
H_{02}: Current ratio (CURR) has no significant correlation with return on assets.
H_{03}: Cash ratio (CASR) has no significant correlation with return on assets

Literature Review and Hypotheses Development

Conceptual Review

Liquidity

Liquidity theory simply refers to firm capacity and resilience to meet persistent internal and external financial demands, within a short-term period, through most liquid assets or cash, mitigate risks and maintain stability and growth. Adeyemi & Faseyi (2023) see liquidity as the ability of a firm to convert assets into cash to meet short-term obligations, which underscores the importance of maintaining operational stability, growth and reduction in financial distresses. According to Foster & Young, (2021), common liquidity ratios include the current ratio, cash ratio, and operating cash flow ratio, which collectively provide insights into a company's solvency and risk profile.

Current Ratio

The current ratio is a widely used liquidity measure that evaluates a firm's ability to meet its short-term financial obligations, particularly liabilities that mature within one operating cycle or one year. It reflects the extent to which a firm's short-term assets are sufficient to cover its short-term liabilities, thereby providing insight into the firm's immediate financial solvency. According to Lalithchandra et al. (2021)**,** the current ratio serves as an indicator of how effectively a firm can settle its short-term obligations using internally generated resources, without relying on external financing. The ratio signals whether short-term creditors' claims are adequately backed by liquid assets that are expected to be converted into cash within a specified maturity period (Ross et al. 2022). Conceptually, the current ratio is computed by comparing current assets such as cash, accounts receivable, and inventories to current liabilities, including short-term debt and other obligations due within a year. A higher current ratio generally indicates stronger liquidity, financial stability, and a lower risk of default, suggesting that the firm is well positioned to absorb short-term shocks. Conversely, a low current ratio may signal liquidity constraints, potential difficulties in meeting short-term commitments, and increased financial risk.

Cash Ratio

The cash ratio is one of the most conservative liquidity measures used in financial analysis. It assesses a firm's ability to meet its very near-term obligations solely with the most liquid assets specifically cash and cash equivalents without relying on inventories, receivables, or external financing. Unlike broader liquidity metrics, such as the current or quick ratio, the cash ratio focuses strictly on resources that are immediately available to satisfy obligations that fall due within a short time horizon, typically 12 months or less. Since it excludes less liquid current assets, this ratio is generally regarded as the most conservative indicator of liquidity and financial resilience (Mensah & Frimpong, 2022). A cash ratio greater than 1.0 suggests that a company holds more cash and equivalents than its total current liabilities, implying a robust liquidity position and a reduced risk of short-term financial distress. Conversely, a cash ratio below 1.0 may indicate that a firm could face difficulty covering its immediate debt obligations without converting other assets or accessing external capital. Because of its conservative nature, the cash ratio is particularly valuable in periods of economic uncertainty, market volatility, or recession.

Lenders and creditors often give significant weight to this ratio when evaluating creditworthiness, as a strong cash balance improves a firm's capacity to service debt without depending on future cash inflows or asset sales (Owolabi & Makinde, 2019; Adeyemi & Faseyi, 2023). High cash reserves can also provide strategic flexibility, allowing firms to withstand disruptions, fund critical operations, or pursue investment opportunities even when credit markets tighten. In addition, empirical research suggests that firms with higher cash ratios tend to demonstrate greater operational stability and resilience during downturns,

contributing to stronger long-term performance outcomes (Karanja & Mwaura, 2024; Zhang & Lee, 2025). However, excessively high cash holdings may also raise concerns about under-utilization of assets, as cash typically generates lower returns compared to productive investments. Therefore, while a higher cash ratio reflects stronger liquidity, it must be interpreted in the context of a firm's broader financial strategy and industry norms.

Operating Cashflow Ratio

The operating cash flow ratio is a liquidity and efficiency metric that evaluates a firm's ability to meet its short-term obligations using cash generated from normal operations rather than relying on external financing or asset disposals. In accordance with International Accounting Standard (IAS) 7, operating cash flows comprise cash receipts from customers and cash payments to suppliers, employees, governments (taxes), and other expenditures directly related to day-to-day operations, excluding transactions arising from investing and financing activities, providing a clear picture of the firm's underlying operational performance and liquidity position (IASB, 2023). One aspect of operating cash flow heating the debate is that firms with strong operating cash flow are less dependent on external borrowing, which reduces financing costs and financial risk (Abdul & Raj 2020). From an accounting perspective, operating cash flows may be reported using either the direct method **or** the indirect method. The direct method presents gross cash inflows and outflows from operating activities, thereby offering greater transparency and usefulness for decision-making. However, due to the widespread availability of accrual-based accounting data and the relative simplicity of reconciliation, the indirect method remains more commonly adopted in practice (IASB, 2023). Despite differences in presentation, both methods aim to convey the firm's ability to generate cash from its core operations. Akpan et al. (2024) find that firms operating in cash-intensive sectors exhibit stronger profitability and financial stability when operating cash flows are robust. Overall, the operating cash flow ratio serves as a critical indicator of financial health, reflecting both liquidity strength and operational efficiency and healthy condition.

Liquidity Management

Liquidity management refers to the strategic and continuous process through which a firm ensures that it maintains sufficient liquid resources to meet its short-term financial obligations as they fall due, while simultaneously optimizing the utilization of those resources to support operational efficiency and profitability. At its core, liquidity management involves balancing cash inflows and outflows, maintaining an appropriate level of working capital, and minimizing the risk of financial distress, insolvency, or business failure (Rodriguez & Fernandes, 2019). More specifically, liquidity management entails preserving an adequate cash position and maintaining optimal balances of liquid assets to enable the firm to honor its financial commitments at predetermined times (Ajose & Solape, 2021). This process is not static; rather, it is a dynamic managerial function shaped by organizational policies, internal controls, and oversight mechanisms. Firms adopt liquidity management strategies based on their risk tolerance, operational structure, and industry characteristics, making liquidity management a relative and policy-driven concept rather than a one-size-fits-all approach. The main objective of liquidity management is to ensure that the firm remains solvent in the short run while avoiding excessive idle cash that could otherwise be invested in value-generating activities. Eze & Agu (2020) observed that optimal liquidity management is often achieved through timely cash collection from debtors, effective credit policies, and strategic timing of payments for short-term liabilities. Studies by Ugwu et al. (2020) & Li et al. (2020) demonstrate that firms with sound liquidity policies are better equipped to withstand economic shocks and operational disruptions. Similarly**, (**Adegbie & Adesanmi 2020; Ajose & Solape 2020) find that effective liquidity management improves investor confidence, strengthens corporate reputation, and supports sustainable profitability.

Financial Performance

Financial performance refers to the extent to which a firm successfully utilizes its available resources to generate profits, sustain operations, and create value for shareholders and other stakeholders. It is a broad measure that captures how effectively a company converts inputs such as capital, labor, and technology into desirable outputs, particularly revenue and profits (Adegboyegun & Igbekoyi 2022: Ghazali et al., 2022). This concept is central to financial analysis because it reflects a firm's operational efficiency, competitive position, and long-term viability. According **to** Kemton (2021), financial performance is a subjective assessment of how well a firm uses assets derived from its core business activities to produce revenue. Financial performance is typically assessed using a diverse set of quantitative indicators that collectively portray the economic well-being of a firm. Key measures include profitability ratios (such as return on assets and return on equity), liquidity ratios (such as current and quick ratios), solvency indicators (like debt-to-equity), and operational efficiency metrics (such as asset turnover). Together, these metrics provide stakeholders with a comprehensive understanding of how well a company manages its financial resources and obligations (Ramirez & Torres, 2020).

Return on Assets

Return on Assets (ROA) is a widely used profitability ratio that measures how efficiently a firm uses its total asset base to generate net earnings. It reflects the ability of a company to convert investment in assets into profitable output, providing insights into managerial effectiveness and operational efficiency. As a comprehensive performance indicator, ROA combines profitability with asset utilization, making it particularly useful for comparing firms across industries and time periods. According to Nwankwo et al. (2019)**,** ROA captures the relationship between net profit after tax and the total value of the firm's assets. By relating earnings to the resources available to the firm, ROA highlights the capacity of assets to generate returns that not only deliver shareholder value but also support asset maintenance and replacement at the end of their useful lives. In this sense, ROA provides a forward-looking view of both performance and sustainability.

The calculation of ROA is straight forward: {ROA} = {Profit After Tax}}/{Total Assets}]

This ratio expresses, in percentage terms, how much profit is generated for every unit of asset employed. A higher ROA indicates that a firm is more effective in deploying its assets to produce earnings, whereas a lower ROA may signal inefficiency, underutilized assets, or structural challenges within the business operations. Empirical research consistently demonstrates the robustness of ROA as a performance metric. Jelilov and Abubakar (2022) found that ROA significantly influences investor perceptions and stock market valuations, particularly in capital-intensive industries where asset management is critical. Similarly, Tsegaye & Kassa (2023) argue that ROA serves as a key performance indicator in comparative studies, enabling analysts to benchmark firms against peers or industry averages. Obi & Uche (2021) emphasized that ROA accounts for the entire asset base, offering a more holistic assessment of financial performance, unlike other profitability metric measure like EPS or ROE.

Theoretical Review

Trade-Off Theory of Liquidity

This study is anchored on the Trade-Off Theory; trade-off theory can be traced to Kraus & Litzenberger (1977). Trade-off theory has to do with the cost benefit analysis performed in business operations. The theory stated that the trade -off between the benefits the debts costs is the optimal capital structure. According to Tsegaye (2023), the trade-off theory connotes firms choice of leverage between the benefits and cost of debts and the trade -off of costs and benefits of borrowing while holding firm's asset constant as a determinant of a firm's optimal

debt ratio. The trade-off summarized the balance of diverse benefits and costs as it concerns debt for optimal capital structure.

Empirical Review

Godwin et al. (2023) examine the effect of liquidity on financial performance of listed consumer goods firms in Nigeria covering the period 2015 to 2021.Using the multiple regression method, data were quantitatively evaluated. The study used ROA, an accounting-based measure of financial success as dependent variable, while liquidity proxies are the independent variables including; cash ratio, current ratio and Quick ratio. According to the study, there is a positive relationship between the Quick ratio and financial performance of Nigeria listed Deposit Money Banks. This supports the trade-off theory, which maintained that strong liquidity positions enhance financial performance, since they lead to lower transaction costs when getting funds. Faisal et al. (2024) made attempt to explore the effect of liquidity management on the financial performance of Nigerian Oil and Gas firms spanning from the year 2012 through 2021. Current ratio, Quick ratio and cash ratio and return on capital employed (ROCE) were used as proxy variables for liquidity management and financial performance respectively. The study adopts ex-post-facto research design and purposive sampling approach for sample selection, which was based on the availability of data and full implementation of International Financial Reporting Standard (IFRS). A sample of five (5) firms offered the data used, analyzed using descriptive statistics and regression analysis. Results, show that Quick ratio and cash ratio has a positive insignificant impact on ROCE, while current ratio has a negative significant impact on ROCE. In their study, Li et al. (2020) analysis the relationship between liquidity management and corporate sustainability of listed Oil and Gas firms in Nigeria. A sample of 10 firms were purposively selected and data analyzed using regression technique. Liquidity management was proxy by cash ratio, Quick ratio, cash conversion cycle, receivables collection period, and payables, while sustainability was measured by asset growth, profitability and economic value Added. Findings revealed that liquidity management had a positive significant effect on the three measures of corporate sustainability.

Similarly, Dadepo & Afolabi (2020) investigated the impact of liquidity management on financial performance of selected manufacturing firms in Nigeria. Descriptive, correlation and multiple regression techniques were used to examine panel data acquired from annual reports of 10 representative enterprises from the period 2012-2016.Findings revealed that liquidity management proxied by current ratio, cash ratio and Quick ratio have a significant negative impact on financial performance proxy by ROA, while cash ratio and Quick ratio had a positive, but insignificant effect. Udeniya (2023) examined the impact of liquidity and leverage on the financial performance of Nigerian listed consumer goods. firms through multiple regression analysis. The findings revealed that liquidity ratios, including current and quick ratios, positively correlate with profitability, whereas leverage showed a negative effect, indicating that firms must carefully balance liquidity and debt to maximize returns. Soje et al. (2022) studied the relationship between liquidity indicators—specifically the current ratio and cash conversion cycle—and financial performance. Their results showed an insignificant effect of these liquidity measures on financial performance, suggesting that the impact of liquidity management may vary depending on firm-specific operational factors.

Methodology and Research Design

This study adopts an *ex-post-facto* research design because it relies on historical financial data of selected consumer goods firms. The study is carried out in Nigeria spanning period from 2014 to 2024. The choice of base year, 2014, is because it corresponds timing for the full implementation of the International Financial Reporting Standard (IFRS) in Nigeria, an assurance for data reliability, and comparability. Out of the population of twenty-six (26)

firms listed in Nigeria Exchange Group as 31st December,2024, a sample of five (5) firms were selected via purposive sampling technique for the study. Criterion for sample selection are based on data set visibility, active in operation within the period and full implementation of International Financial Reporting Standard (IFRS). Regression model is adopted, especially the Panel least square analysis would be used to estimate the effect of independent on the dependent variable. The model for this study is specified as follows:

$ROA_{it} = f(CURR_{it}, CASR_{it}, OCFR_{it})$

Econometric form of the model:

$ROA_{it} = \beta 0 + \beta_1 CURR_{it} + \beta_2 CASR_{it} + \beta_3 OCFR_{it} + ci + \epsilon_{it}$

Where:

ROA_{it}	=	Return on Assets for selected firm *i* in year *t*
$CURR_{it}$	=	Current Ratio for selected firm *i* in year *t*
$CASR_{it}$	=	Cash Ratio for selected firm *i* in year *t*
$OCFR_{it}$	=	Operating Cash Flow Ratio for selected firm *i* in year *t*
β_0	=	Intercept term
β1,β2,β3	=	Regression coefficients to be estimated
c_i	=	Unobserved individual effect specific to firm *i*
ϵ_{it}	=	Error term

Data Analysis

Descriptive Statistics

Descriptive Statistics Results

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
ROA	55	1.08	2.70	1.7549	.48702	.491	.322	-.775	.634
CURR	55	.16	.84	.4089	.20041	.931	.322	-.304	.634
CASR	55	.35	1.15	.6805	.23003	.420	.322	-.865	.634
OCFR	55	.06	.21	.1260	.04486	.290	.322	-1.038	.634
Valid N (listwise)	55								

The descriptive statistics summarize the central tendency, dispersion, and distributional properties of the variables used in the study, based on a total of 55 valid observations. Return on Assets (ROA) shows values ranging from 1.08 to 2.70, with an average of 1.7549 and a standard deviation of 0.4870. This indicates a moderate level of profitability among the sampled firms, with some variation across observations. The positive skewness value (0.491) suggests a slight rightward skew, implying that a small number of firms recorded relatively higher ROA values compared to the rest. The negative kurtosis (−0.775) indicates a platykurtic distribution, meaning the ROA values are more evenly spread around the mean and less peaked than a normal distribution. The Current Ratio (CURR) ranges from 0.16 to 0.84, with a mean of 0.4089 and a standard deviation of 0.2004. These figures suggest that, on average, firms' exhibit relatively low short-term liquidity, though there is noticeable variation across firms. The skewness value of 0.931 indicates a moderately right-skewed distribution, implying that most firms cluster at lower liquidity levels, while a few firms report comparatively higher current ratios. The kurtosis value (−0.304) is slightly negative, suggesting a relatively flat distribution with fewer extreme values. For the Cash Asset Ratio (CASR), the minimum and maximum values are 0.35 and 1.15, respectively, with a mean of 0.6805 and a standard deviation of 0.2300. This reflects a moderate level of cash holdings relative to current liabilities among the firms. The skewness statistic (0.420) shows mild positive skewness, indicating a small tendency toward higher cash ratios for a limited number of firms. The negative kurtosis (−0.865) implies a flatter distribution, suggesting limited concentration around the mean.

The Operating Cash Flow Ratio (OCFR) records values between 0.06 and 0.21, with an average of 0.1260 and a standard deviation of 0.0449. This indicates that firms generate operating cash flows that cover only a modest proportion of their current liabilities, with relatively low variability across observations. The positive skewness (0.290) suggests a slight right skew, while the kurtosis value (−1.038) indicates a notably platykurtic distribution, reflecting a wide dispersion of values and the absence of extreme outliers. Overall, the skewness and kurtosis statistics for all variables fall within acceptable thresholds (±2), suggesting that the data are approximately normally distributed. This supports the suitability of the variables for subsequent parametric analyses, such as regression or multivariate techniques.

Pearson Correlation Analysis

		ROA	CURR	CASR	OCFR
Pearson Correlation	ROA	1.000	.985	.990	.992
	CURR	.985	1.000	.975	.968
	CASR	.990	.975	1.000	.994
	OCFR	.992	.968	.994	1.000
Sig. (1-tailed)	ROA	.	.000	.000	.000
	CURR	.000	.	.000	.000
	CASR	.000	.000	.	.000
	OCFR	.000	.000	.000	.
N	ROA	55	55	55	55
	CURR	55	55	55	55
	CASR	55	55	55	55
	OCFR	55	55	55	55

Correlation Analysis and Hypothesis Testing

Pearson correlation analysis was conducted to examine the strength and direction of the linear relationships between return on assets (ROA) and the selected financial ratios, namely the operating cash flow ratio (OCFR), current ratio (CURR), and cash ratio (CASR). The results provide preliminary evidence on the degree to which each liquidity- and cash-flow-related variable is associated with firm profitability.

Operating Cash Flow Ratio (OCFR) and ROA

Hypotheses

- H_{01}: Operating cash flow ratio (OCFR) has no significant correlation with return on assets (ROA).
- H_{11}: Operating cash flow ratio (OCFR) has a significant correlation with return on assets (ROA).

The Pearson correlation coefficient between OCFR and ROA is r = 0.992, with a one-tailed p-value of less than 0.001, indicating an exceptionally strong and statistically significant positive relationship. On this basis, the null hypothesis (H_{01}) is rejected in favor of the alternative hypothesis (H_{11}).

This result suggests that firms generating stronger operating cash flows relative to their obligations or asset base tend to achieve higher profitability. Efficient cash flow management enhances a firm's ability to finance day-to-day operations, service liabilities, and invest in productive assets without excessive reliance on external financing, thereby improving returns on assets.

Current Ratio (CURR) and ROA

Correlation

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B			Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound		Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	.541	.028		19.320	.000	.485	.597						
	CURR	1.011	.123	.416	8.202	.000	.763	1.258		.985	.754	.092	.049	20.509
	CASR	-.143	.245	-.068	-.583	.563	-.635	.349		.990	-.081	-.007	.009	106.994
	OCFR	7.124	1.104	.656	6.453	.000	4.908	9.341		.992	.670	.072	.012	82.471

a. Dependent Variable: ROA

Hypotheses

- H_{02}: Current ratio (CURR) has no significant correlation with return on assets (ROA).
- H_{12}: Current ratio (CURR) has a significant correlation with return on assets (ROA).

The correlation analysis reveals a very strong positive association between CURR and ROA ($r = 0.985$, $p < 0.001$). Accordingly, the null hypothesis (H_{02}) is rejected, and the alternative hypothesis (H_{12}) is accepted.

This finding indicates that firms with stronger short-term liquidity positions tend to generate higher returns on their assets. Adequate liquidity reduces the risk of operational disruptions, enables timely settlement of short-term obligations, and supports smoother business operations, all of which contribute to improved asset utilization and profitability.

Cash Ratio (CASR) and ROA

Hypotheses

- H_{03}: Cash ratio (CASR) has no significant correlation with return on assets (ROA).
- H_{13}: Cash ratio (CASR) has a significant correlation with return on assets (ROA).

The Pearson correlation coefficient between CASR and ROA is $r = 0.990$, with a p-value below 0.001, indicating a very strong, positive, and statistically significant relationship. Consequently, the null hypothesis (H_{03}) is rejected in favor of the alternative hypothesis (H_{13}).

This result suggests that firms holding higher cash balances relative to their assets tend to be more profitable. Sufficient cash reserves enhance financial flexibility, allowing firms to respond quickly to operational needs and exploit investment opportunities, which ultimately translates into higher returns on assets. Collectively, the results show that all three liquidity and cash-flow-related ratios OCFR, CURR, and CASR are very strongly and positively correlated with ROA, with correlation coefficients exceeding 0.98 and p-values well below the 1% significance level. These findings indicate that:

1. Effective operating cash flow management (OCFR) is closely associated with higher firm profitability.
2. Strong short-term liquidity (CURR) supports operational stability and efficient asset utilization.
3. Adequate cash holdings (CASR) enhance financial resilience and contribute to improved returns.

Overall, the correlation results reinforce the regression and ANOVA findings, demonstrating that the selected financial ratios are not only jointly significant but also individually exhibit strong associations with ROA. This consistency across analytical techniques provides robust evidence that liquidity management and cash flow efficiency are critical determinants of firm performance.

The study examined the effect of the operating cash flow ratio (OCFR), current ratio (CURR), and cash asset ratio (CASR) on return on assets (ROA) using multiple regression analysis. The estimated regression model demonstrated exceptionally strong explanatory capacity, with a multiple correlation coefficient of $R = 0.997$, a coefficient of determination of $R^2 = 0.994$, and an adjusted R^2 of 0.993. These results indicate that approximately 99.4% of the variation in ROA is jointly explained by the selected liquidity and cash-flow-related variables. The overall model was highly statistically significant, as evidenced by the large F-statistic ($F = 2641.379$, $p < 0.001$), confirming the appropriateness of the model for evaluating the proposed hypotheses. The ANOVA results further validated the robustness of the model. The regression sum of squares (12.726) accounted for nearly all of the total variation in ROA (total sum of squares = 12.808), while the residual sum of squares (0.082) was negligible. This dominance of explained variation over unexplained variation highlights the excellent fit of the model and reinforces the conclusion that the predictors collectively exert a strong influence on firm profitability. Pearson correlation analysis provided additional insight into the bivariate relationships between ROA and the explanatory variables. The results revealed very strong and statistically significant positive correlations between ROA and OCFR ($r = 0.992$, $p < 0.001$), CURR ($r = 0.985$, $p < 0.001$), and CASR ($r = 0.990$, $p < 0.001$).

The study investigated the effects of the operating cash flow ratio (OCFR)**,** current ratio (CURR)**,** and cash asset ratio (CASR) on return on assets (ROA**)** using multiple regression analysis. The estimated model produced very high goodness-of-fit statistics, with a multiple correlation coefficient of $R = 0.997$, a coefficient of determination of $R^2 = 0.994$, and an adjusted $R^2 = 0.993$**.** These values indicate that approximately 99.4% of the variation in ROA is explained collectively by the liquidity and cash-flow measures included in the model. The overall regression model was statistically significant ($F = 2641.379$, $p < 0.001$), confirming that the explanatory variables jointly provide a meaningful explanation of variations in firm profitability. The ANOVA results further show that the regression sum of squares (12.726) accounts for nearly all of the total sum of squares (12.808)**,** while the residual sum of squares (0.082) is minimal. Although this pattern suggests a very close fit between the model and the observed data, such extremely high explanatory power should be interpreted cautiously, as it may also reflect strong inter-correlations among the predictors.

Pearson correlation analysis reveals very strong and statistically significant positive bivariate relationships between ROA and each explanatory variable**:** OCFR ($r = 0.992$, $p < 0.001$)**,** CURR ($r = 0.985$, $p < 0.001$**)**, and CASR ($r = 0.990$, $p < 0.001$**)**. These results indicate that, when considered individually, higher operating cash flows, stronger short-term liquidity, and greater cash holdings are all associated with higher profitability. He multivariate regression results, however, provide a more nuanced picture. The operating cash flow ratio (OCFR) exhibits a strong, positive, and statistically significant effect on ROA ($B = 7.124$, $\beta = 0.656$, $t = 6.453$, $p < 0.001$**),** leading to the rejection of the null hypothesis. This finding suggests that firms with stronger operating cash flow relative to liabilities are better positioned to generate returns from their asset base. Similarly, the current ratio **(**CURR) shows a positive and statistically significant relationship with ROA **(**$B = 1.011$, $\beta = 0.416$, $t = 8.202$, $p < 0.001$**),** resulting in the rejection of the null hypothesis. This implies that effective management of short-term obligations enhances firms' ability to utilize assets profitably.

In contrast, the cash asset ratio (CASR) does not have a statistically significant effect on ROA when included alongside OCFR and CURR **(**$B = -0.143$, $\beta = -0.068$, $t = -0.583$, $p = 0.563$**).** Accordingly, the null hypothesis for CASR is not rejected. Although CASR exhibits a strong positive bivariate correlation with ROA, its insignificance in the multivariate model is attributable to severe multicollinearit**y** among the explanatory variables. Collinearity diagnostics reveal extremely high variance inflation factors CASR (VIF = 106.99)**,** OCFR (VIF = 82.47)**,** and CURR (VIF = 20.51**)** indicating substantial redundancy in the information

captured by the liquidity ratios. While multicollinearity does not undermine the overall statistical significance or predictive capacity of the model, it substantially weakens the reliability and interpretability of individual coefficient estimates. Overall, the findings indicate that operating cash flow efficiency (OCFR**)** and short-term liquidity management (CURR**)** are the most influential determinants of firm profitability as measured by ROA. In contrast**,** cash holdings (CASR**)** add limited incremental explanatory power once operating cash flows and general liquidity are accounted for. These results highlight the central role of effective cash-flow generation and liquidity optimization in improving asset utilization and enhancing firm performance.

Multivariate Tests[a]

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Intercept	Pillai's Trace	1.000	269807.008[b]	3.000	7.000	.000	1.000
	Wilks' Lambda	.000	269807.008[b]	3.000	7.000	.000	1.000
	Hotelling's Trace	115631.575	269807.008[b]	3.000	7.000	.000	1.000
	Roy's Largest Root	115631.575	269807.008[b]	3.000	7.000	.000	1.000
ROA	Pillai's Trace	2.967	18.218	135.000	27.000	.000	.989
	Wilks' Lambda	.000	78.997	135.000	21.903	.000	.998
	Hotelling's Trace	10472.671	439.594	135.000	17.000	.000	1.000
	Roy's Largest Root	10109.086	2021.817[c]	45.000	9.000	.000	1.000

a. Design: Intercept + ROA
b. Exact statistic
c. The statistic is an upper bound on F that yields a lower bound on the significance level.

The multivariate tests evaluate whether return on assets (ROA) exerts a statistically significant effect on the set of dependent variables when considered jointly. This assessment is based on four widely reported multivariate test statistics: Pillai's Trace, Wilks' Lambda, Hotelling's Trace, and Roy's Largest Root. For the intercept, all four statistics produce extreme values with identical and exceptionally large F-statistics (F = 269,807.008) and p-values below 0.001. The partial eta squared of 1.000 across these tests indicates that the intercept accounts for virtually all of the multivariate variance. This outcome is expected and primarily reflects the presence of non-zero means in the dependent variables rather than a meaningful substantive effect; consequently, intercept results are not typically emphasized in interpretation.

In contrast, the multivariate effect of ROA is highly statistically significant across all four criteria. Pillai's Trace (Value = 2.967, F = 18.218, $p < 0.001$, Partial $\eta^2 = 0.989$) indicates that ROA explains a very large proportion of the shared variance among the dependent variables. Wilks' Lambda (Value ≈ 0.000, F = 78.997, $p < 0.001$, Partial $\eta^2 = 0.998$) further confirms a strong multivariate relationship, with the near-zero lambda value implying that little unexplained variance remains once ROA is taken into account. Similarly, Hotelling's Trace (Value = 10,472.671, F = 439.594, $p < 0.001$, Partial $\eta^2 = 1.000$) points to an exceptionally strong overall multivariate effect of ROA, while Roy's Largest Root (Value = 10,109.086, F = 2,021.817, $p < 0.001$, Partial $\eta^2 = 1.000$) indicates that ROA dominates the largest dimension of explained variance. Although Roy's Largest Root provides an upper bound on the test statistic and is often considered the most liberal criterion, it nonetheless strongly supports the same conclusion. Taken together, all four multivariate test statistics consistently demonstrate that ROA has an extremely strong and statistically significant multivariate effect. The very high partial eta squared values, ranging from 0.989 to 1.000, indicate that ROA accounts for nearly all of the explainable variance in the combined dependent variables. These results provide robust and convergent evidence that ROA is a powerful determinant within the specified multivariate model, and the conclusion remains stable regardless of the multivariate test statistic employed.

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	OCFR, CURR, CASR[b]	.	Enter

a. Dependent Variable: ROA
b. All requested variables entered.

The regression analysis incorporated the operating cash flow ratio (OCFR), current ratio (CURR), and cash asset (capital adequacy) ratio (CASR) as explanatory variables. No variables were removed during the estimation process, indicating that all predictors specified a priori were retained in the model. This confirms that the regression was estimated using the complete set of proposed independent variables to explain variations in return on assets (ROA). The absence of excluded variables suggests that all selected predictors satisfied the model entry criteria and were deemed relevant for explaining ROA. Accordingly, the reported regression results capture the combined effect of OCFR, CURR, and CASR on firm performance, without any stepwise elimination or alteration of the model specification.

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions			
				(Constant)	CURR	CASR	OCFR
1	1	3.890	1.000	.00	.00	.00	.00
	2	.106	6.064	.05	.00	.02	.00
	3	.003	34.912	.23	.01	.67	.31
	4	.001	81.506	.71	.99	.31	.69

a. Dependent Variable: ROA

Collinearity Diagnostics (Dependent Variable: ROA)

The collinearity diagnostics evaluate whether the independent variables current ratio (CURR)**,** capital adequacy or cash ratio (CASR)**,** and operating cash flow ratio (OCFR) are excessively correlated, which could distort the regression estimates for return on assets (ROA)**.** The results are based on the eigenvalues and condition indices across four dimensions. In the first dimension, the largest eigenvalue (3.890) and a condition index of 1.000 indicate a well-behaved model with no multicollinearity concerns. The second dimension shows a small eigenvalue (0.106) and a low condition index (6.064), suggesting only minor shared variance among the predictors, which is not problematic. Potential multicollinearity becomes more apparent in the third and fourth dimensions. Dimension 3 has a very small eigenvalue (0.003) and a high condition index (34.912). In this dimension, a substantial proportion of variance is shared between CASR (67%) and OCFR (31**%)**, indicating a moderate level of collinearity between these two variables. Dimension 4 further amplifies this pattern, with an extremely small eigenvalue (0.001) and a very high condition index (81.506). Here, large variance proportions are associated with the constant (99%)**,** CASR (31%)**,** and OCFR (69**%)**, reinforcing evidence that CASR and OCFR move together to a considerable extent. Although the condition indices in the higher dimensions exceed conventional thresholds (above 30), the multicollinearity appears to be concentrated mainly between CASR and OCFR**,** rather than across all explanatory variables. Importantly, CURR does not display large variance proportions in the high condition index dimensions, suggesting it is not strongly collinear with the other predictors. Consequently, while some degree of multicollinearity exists—particularly between CASR and OCFR it is not pervasive enough to invalidate the regression model. However, the results should be interpreted with caution, and robustness checks (such as variance inflation factors or alternative model specifications) may be advisable.

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.0944	2.7217	1.7549	.48546	55
Residual	-.06821	.09577	.00000	.03895	55
Std. Predicted Value	-1.361	1.991	.000	1.000	55
Std. Residual	-1.702	2.390	.000	.972	55

a. Dependent Variable: ROA

The residuals statistics provide information on how well the regression model predicts the dependent variable, in this case**,** Return on Assets (ROA**)**. The predicted values ranged from 1.0944 to 2.7217**,** with a mean of 1.7549 and a standard deviation of 0.48546**,** indicating that the model's predictions are centered on the observed average ROA and vary moderately across firms. The residuals (the differences between observed and predicted ROA values) ranged from **-**0.06821 to 0.09577, with a mean **of** 0.000, and a standard deviation of 0.03895. This shows that the model's predictions are unbiased on average and the errors are small. The standardized predicted values had a minimum of **-**1.361, a maximum of **1**.991, a mean of 0.000, and a standard deviation of 1.000, confirming that predicted ROA values were properly scaled for comparison. The standardized residuals ranged from **-**1.702 to 2.390, with a mean of 0.000 and a standard deviation of 0.972, indicating that most residuals fall within acceptable limits (roughly ±2 standard deviations), and there are no extreme outliers. These results suggest that the regression model predicting ROA is well-fitted**:** The residuals are small and centered on zero, meaning the model does not systematically overestimate or underestimate ROA. The spread of standardized residuals **is** within acceptable limits, implying no significant violations of normality or homoscedasticity assumptions. Overall, the model's predictions are accurate and reliable, with most observed values closely matching predicted values.

Conclusion

This study examined the role of liquidity and profitability indicators in explaining firm performance using multivariate analytical techniques. Descriptive statistics revealed that the sampled firms maintained moderate liquidity positions, as reflected by an average current ratio of 1.75 and a mean cash ratio of 0.41. These values suggest that, on average, firms were reasonably capable of meeting short-term obligations, although variations in skewness indicate uneven liquidity management practices across firms. The multivariate analysis further demonstrated that profitability, measured by return on assets (ROA), exerts a statistically significant and substantial influence on overall firm performance. The highly significant Pillai's Trace statistic ($F = 18.218$, $p < 0.001$) confirms the robustness of this relationship. Moreover, the large partial eta squared values indicate that financial management variables account for a considerable proportion of performance variation, underscoring their practical relevance.

In a nutshell, the multivariate results show that both the intercept and ROA effects were consistently **s**ignificant across all tests, ruling out random variation as an explanation for observed performance differences**.** These findings reinforce the central role of management accounting metrics particularly liquidity and profitability indicators in assessing, monitoring, and guiding firm financial health**.** Effective financial management therefore remains a critical determinant of sustainable organizational performance**.**

Recommendations

1. Firms should strengthen cash flow monitoring and forecasting practices to maintain optimal current and cash ratios, thereby enhancing short-term financial stability.
2. Management accounting systems should incorporate ROA-based performance indicators to support strategic planning and improve resource allocation decisions.
3. Firms are encouraged to conduct regular multivariate evaluations of key financial metrics to detect emerging risks, identify performance trends, and capitalize on improvement opportunities.

References

Abdul, R., & Raj, J. K. (2020). *Cash flow management and corporate performance: Evidence from emerging markets*. *Journal of Accounting and Finance, 20*(4), 115–132.

Abdullahi, A. A., & Opeyemi, I. (2020). Effect of working capital management on the profitability of listed consumer goods companies in Nigeria. *Research Journal of Finance and Accounting, 11*(18), 14–22. https://doi.org/10.7176/RJFA/11-18-14

Adegboyegun, F. B., & Igbekoyi, O. C. (2022). *Financial management practices and firm performance: Evidence from manufacturing firms*. *International Journal of Finance & Economics, 27*(3), 1456–1474.

Adeyemi, S. B., & Faseyi, A. O. (2023). Liquidity management and firm performance: Evidence from manufacturing firms in Nigeria. *International Journal of Financial Studies,* 11(4), 102–121.

Adegbie, F. F., & Adesanmi, D. A. (2020). Liquidity management and corporate performance: Evidence from listed firms. *Journal of Accounting and Management,* 10(2), 45–62.

Ajose, O. A., & Solape, B. I. (2021). Working capital management and liquidity sustainability of firms. *Journal of Financial Management Research, 13***(**1), 21–38.

Akpan, E. O., Essien, E. B., & Udofia, E. A. (2024). *Operating cash flows and firm performance: Evidence from cash-intensive industries*. *International Journal of Financial Research, 15*(2), 89–105.

Albert, E. H, & Viriany, V. (2022). The effect of financial ratios on profit growth among manufacturing companies. *International Journal of Application on Economics and Business Studies.*

Duarte, J., & Ribeiro, F. (2021). Liquidity and profitability trade-offs in corporate finance. *Journal of Financial Research, 44*(3), 412–429. https://doi.org/10.1111/jfir.12345

Eze, O. R., & Agu, G. A. (2020). Liquidity risk management and corporate survival. *International Journal of Financial Studies, 8*(3), 52–69.

Foster, J., & Young, M. (2021). Financial ratios and liquidity analysis: A comprehensive approach. *Accounting and Finance Review, 35*(3), 288–305. https://doi.org/10.1111/acfi.12542

International Accounting Standards Board (IASB). (2023). *IAS 7: Statement of Cash Flows*. IFRS Foundation.

Jelilov, G. A., & Abubakar, S. (2022). Asset utilization and firm performance: An empirical analysis of listed firms. *Journal of Financial Performance,* 9(1), 45–61.

Karanja, J., & Mwaura, G. (2024). Cash holdings and financial resilience: A study of listed firms in East Africa. *Journal of Corporate Finance Research, 18*(1), 56–78.

Kemton, J. (2021). Understanding financial performance measurement in emerging economies. *Journal of Economics and Business Research, 27*(4), 311–329.

Lalithchandra, D. S., Kumara, U. A., & Perera, P. R. S. (2021). Liquidity management and its impact on firm performance: Evidence from emerging economies. *Journal of Financial Management and Analysis*, 34(2), 45–60.

Li, X., Wang, Y., & Zhou, L. (2020). Liquidity management and firm resilience under economic uncertainty. *Journal of Corporate Finance, 64***,** 101658.

Mensah, Y. M., & Frimpong, S. (2022). Liquidity ratios and solvency: A comparative analysis of financial ratios in emerging markets. *Emerging Markets Finance & Trade, 58(*6), 1675–1692.

Obi, F. N., & Uche, C. I. (2021). Profitability metrics and firm valuation: Insights from financial sectors**.** *African Journal of Financial Analysis, 6*(4), 78–95.

Odeniya, E. (2023). Effect of liquidity and leverage on the financial performance of Nigerian listed consumer goods firms. *International Journal of Intellectual Discourse, 5*(1), 45–60. https://ijidjournal.org/index.php/ijid/article/view/77

Oladele, T. O., & Akinyemi, S. O. (2023). Liquidity management and financial stability in Nigerian consumer goods firms. *Journal of Financial Management Studies,* 18(2), 45-60.

Ramirez, J. A., & Torres, M. L. (2020). Financial performance indicators and strategic decision making. *Journal of Financial Analytics, 12*(2), 22–38.

Ross, S. A., Westerfield, R. W., & Jordan, B. D. (2022). Fundamentals of corporate finance (13th ed.). McGraw-Hill Education.

Soje, B., Adegboye, K. A., & Anzughul, D. T. (2022). Liquidity management and financial performance of consumer goods firms in Nigeria. *Journal of Entrepreneurship, Management, Economics, and Business Administration, 3*(2), 98–112. https://journals.jozacpublishers.com/index.php/jemeba/article/view/746

Tsegaye, H. S., & Kassa, B. K. (2023). Comparative performance measurement using ROA and ROE: Evidence from manufacturing firms. *Journal of Business and Economic Research, (*2), 132–149.

Ugwu, C. C., Okoye, E. I., & Nwoye, C. M. (2020). *Liquidity management and financial performance of firms in developing economies*. *Asian Journal of Accounting Research, 5(*2), 187–203.

Zhang, H., & Lee, T. (2025). Cash reserves, market uncertainty, and firm performance. *Journal of Financial Stability, 58, 100921*.