SSR Journal of Economics, Business and Management (SSRJEBM)

Homepage: https://ssrpublisher.com/ssrjebm/

Volume 3, Issue 4, 2026 ISSN: 3049-0405

Effect of Liquidity Management on Profitability of Listed Agricultural Firms in Nigeria

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Received: 01.12.2025 | **Accepted:** 11.12.2025 | **Published:** 04.04.2026

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DOI: *10.5281/zenodo.19421093*

Abstract **Original Research Article**

Liquidity management is a critical component of any organizational environment that necessitates careful consideration, planning, and management because it influences the level of trust among stakeholders. However, many studies have been conducted on the effect of liquidity management on firm profitability both in Nigeria and in foreign countries, though they recorded mixed results. However, the studies used different measures for liquidity management, and most of the studies conducted in Nigeria focused on the relationship between liquidity management and the profitability of organizations. An ex post facto research design in which this assessment commences after the fact has occurred without interference from researcher was adopted, secondary source of data was employed and the information was gathered from relevant journals, textbooks, annual report of eight (8) listed agricultural firms in Nigeria Data shall be analyzed using E-view 09 Panel Pool Analysis (Ordinary Least Square) and test the relationship between the variables. A study discovered that both the current ratio and operating cash flow ratio have a significant impact on the profitability of listed agricultural firms at 5% while day sales outstanding has no significant effect on the profitability of listed agricultural firms in Nigeria. Based on the F-statistic result, it was therefore concluded that liquidity management has a significant influence on the profitability of listed agricultural firms in Nigeria. It recommended Firms should focus on generating strong and consistent cash flows from their operations. This can be achieved through better cost management, improving operational efficiency, and optimizing pricing strategies. Strong operating cash flows not only enhance liquidity but also provide a buffer against market volatility, contributing to sustained profitability.

Keywords: Cash Ratio, Liquidity Management, Efficiency Ratio Profitability.

INTRODUCTION

Liquidity refers to the ability of firms to pay back their short-term liabilities. It plays an important role in smoothening all operations of a firm. Studying liquidity is very helpful for both external and internal analysts due to its impact of firms' day to day operations (Elangkumaran & Karthika, 2018). The importance of liquidity to the performance of a company might determine the level of profitability of a company (Zygmunt, 2019). Liquidity is a prerequisite for a firm as it shows its ability for meeting its short-term

obligations. Quick ratio and current ratio are considered to be the common measures of liquidity position of a company. Current ratio sets the association between short term assets and short term liabilities. Generally, when current ratio is high it can be said that the firm's ability to pay back its short term obligations is good, whereas quick ratio sets the correlation between current liabilities and current assets. When assets are liquid it means that they can be converted into cash quickly without loss. Low current ratio means that a company cannot pay its obligations on time to payables, services and goods suppliers (Owolabi, Obiakor, & Okwu, 2017).

According to Adam and Gordon (2021), liquidity refers to the efficiency or ease with which an asset or security can be converted into ready cash without affecting its market price. Financial liquidity refers to how easily assets can be converted into cash. Assets like short term solvent are very liquid since they can be converted to cash within days. However, large assets such as property, plant, and equipment are not as easily converted to cash. For example, your checking account is liquid, but if you owned land and needed to sell it, it may take weeks or months to liquidate it, making it less liquid. Liquidity means how quickly you can get your hands on your cash. In simpler terms, liquidity is to get your money whenever you need it and this might be your emergency savings account or the cash lying with you that you can access in case of any unforeseen circumstances or any financial drawback.

Agricultural firms in Nigeria face significant challenges in managing liquidity, which has a profound impact on their profitability. Liquidity management is crucial for these firms to meet short-term obligations and invest in growth opportunities. Key metrics such as the current ratio, operating cash flow ratio, and days sales outstanding (DSO) provide insights into the liquidity position of these firms and highlight the critical nature of effective liquidity management (Adeniyi & Ojo, 2015). Liquidity management is critical for the financial health and sustainability of agricultural firms in Nigeria. These firms operate in an environment characterized by seasonal production cycles, price volatility, and long cash conversion cycles, all of which complicate liquidity management. Inefficient liquidity management can lead to financial distress, reduced profitability, and, in extreme cases, insolvency. The challenge is to balance liquidity and profitability to ensure the long-term viability of these firms (Adeyemi & Oladele, 2014). An organization who failed to meet up its short and long term liabilities is said to be insolvent and therefore be liquidated (Raheman & Nasr, 2017). However, it is utmost to see that an organization should be able to meet up its immediate obligation and this could be measured through operating margin, current ratio, acid test ratio and or net operating cash flow otherwise cash ratio therefore, current asset is part of an asset. Asset therefore, is a resource held by an entity as a result of past events, that is measurable and reliable through which its economic benefits could be flown down to the entity and return on asset is an obligation an entity incurred as a result of past event that is of the interest of the business in generating revenue through which its economic benefit could be out flown from the entity.

2. LITERATURE REVIEW

Liquidity refers to the readily available funds to meet debts or for investment purposes, reflecting how easily financial assets or securities can be converted into cash without significant loss of value (Hussain, 2020). Adequate liquidity is crucial; too much leads to idle cash that doesn't generate profit, while too little hampers the firm's trading, earning potential, and creditworthiness (Alhassan & Anwarul Islam, 2021). Some authors suggest that manageable negative liquidity can be beneficial for a company (Yilmaz & Acar, 2019). Therefore, Padachi (2016) in Agubata (2021) stresses those managers should balance maintaining liquidity and generating profit.

Liquidity is categorized into market liquidity and accounting liquidity. Market liquidity refers to how quickly an asset can be converted into cash without affecting its price, with high market liquidity indicating a high supply and demand for the asset. Liquid assets often trade at a premium, while illiquid assets may trade at a discount in

emergencies (Kimberly & Robert. 2020). Cash is the most liquid asset, with bonds and inventory also considered liquid as they can be converted into cash within 1-2 working days. Accounting liquidity is a company's ability to meet its financial obligations. Ruozi and Ferrari (2012) as cited in Agubata (2021) define it as the firm's capacity to meet cash and collateral obligations without incurring unacceptable losses. Companies use liquidity ratios to measure their financial health, including the current ratio (current assets minus current liabilities), quick ratio (most liquid assets compared to current liabilities), and cash ratio (cash on hand relative to current liabilities).

Current Ratio:

The current ratio is a key financial metric used in liquidity management to assess a company's ability to pay off its short-term liabilities with its short-term assets. The current ratio is defined as a liquidity ratio that measures a company's ability to pay off its current liabilities with its current assets (Charles & Walter, 2019). It is calculated as:

$$\textbf{Current Ratio} = \frac{\text{Current Asset}}{\text{Current Liability}}$$

The current ratio is described as a primary liquidity ratio that indicates a firm's short-term financial health. A higher ratio suggests that the company is more capable of covering its short-term obligations **(Eugene & Michael, 2018).** Jerry, Paul and Donald, (2018) explained current ratio as a measure of liquidity that evaluates whether a company has enough resources to meet its short-term obligations. It is a key indicator of financial stability in the short term.

Operating Cash Flow Ratio

The Operating Cash Flow Ratio is an important financial metric in liquidity management, assessing a company's ability to cover its short-term liabilities using cash generated from its operations. The Operating Cash Flow Ratio is defined as a liquidity ratio that measures a company's ability to pay off its current liabilities with cash generated from operations (Horngren, Sundem & Elliott, 2019).

Effect of Liquidity on Profitability

According to current ratio is a comparison between the amount of current assets and current debt. Hausman (2017) argued that the indication of a good working capital management is the efficiency of working capital as seen from the working capital turnover. That is, how much working capital swirling for a period or a period (Kashmir, 2017). According to Ogbada, (2021), working capital is the capital used to finance or refinance daily business or plans to come, where money or funds released was expected to be back in a short time through the sale of goods or production, then money or the funds will be constantly spinning in each period during the life of the company. This ratio shows that the value of current assets (which can be immediately made into money) has many times short-term debt (Munawir, 2017). Demirgunes (2018), states that liquidity affects profitability.

Theoretical Framework

Numerous theories have been postulated to explain the relationship between liquidity management and profitability of organizations. Thus, the following theories will be considered this study:

Contingency Theory

This theory was propounded by Joan (1956), and is considered very important in risk management. The theory has its foundation on the practical difficulties involved in total risk eradication which shows that in all standing residual risk is inevitable. Hence, certain provisions should be made to carter for exigency as events unfold. In most cases, "putting together a contrary event may collaborate to circumvent good information security techniques that would enhance confidentiality, honesty, and availability of information concerning assets" (Hawaldar, 2017). They see "loan to assets as a leverage ratio that defines the percentage of total assets financed by liabilities or debts.

Additionally, this theory deals with hypothetical and mathematical measurements used in regulating investment decision patterns, time value of money, fund anticipation, capital formation strategies, and financial risk management. The concept of finance theory deals with understanding the different ways in which companies and persons acquire money, allocate the money to projects with the ultimate consideration of related risk factors (Fama & miller, 1972). Conversely, despite the fact that the theory is applicable to enterprise risk management, a deeper analysis of the theory is not within the scope of this study.

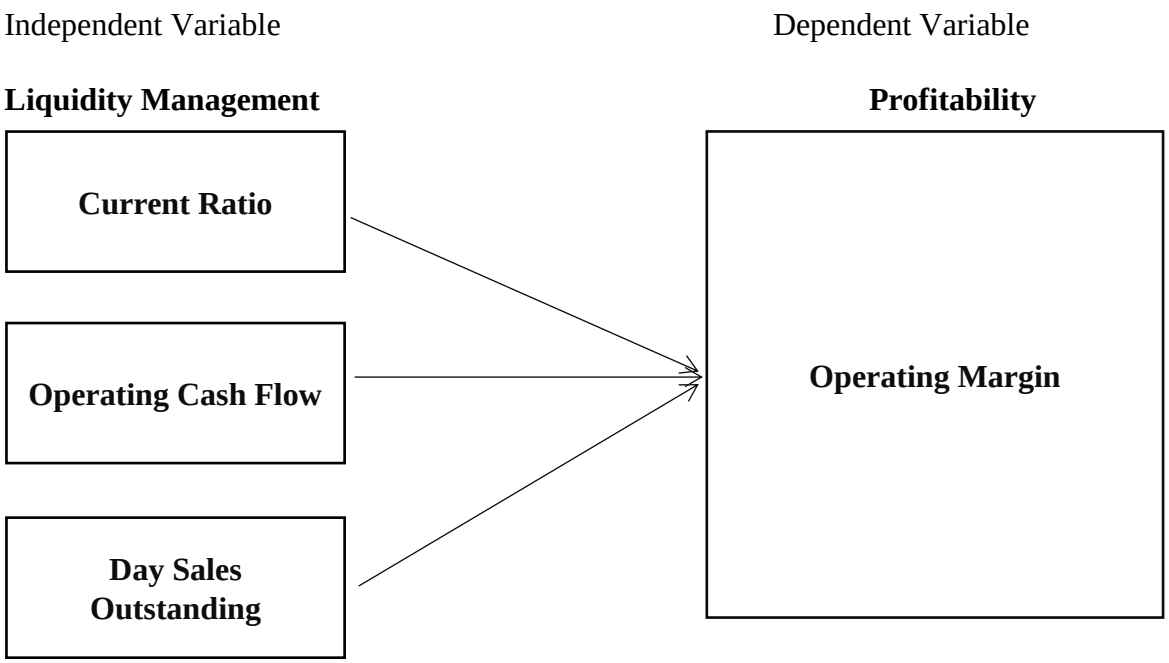
Walker's Three Proposition Theory

This theory was developed by Walker (1964) as a theory relating to liquidity management; it was tested empirically and three (3) propositions were derived. He studied the effect of change as regards with working capital in terms of returns using nine (9) industries. A negative relationship was found and from his observations, the three (3) propositions were stated. The first proposition stated that if an amount of working capital is to be fixed capital, then the amount partaking risk which the firm assumes varies and ways for gain or loss will increase. If a company wishes to have a lower risk, equity for financing should be applied. By this, the company will reduce its high returns on equity. The second proposition is that the type of equity and debt capital used in finance affects the volume of risk the company assumes directly. He stated that the debt maturity periods and debt equity ratio do affects risk return on trade off. Based on that, the third proposition was derived and it states that the greater the difference between the company's flow generated internal funds and maturity of debt, the greater the risk. From his study, he tried to build up a theory that affects liquidity management.

Empirical Review

Nworie and Ofoje (2022) assessed liquidity as an antecedent to the financial performance of listed foods and beverages firms in Nigeria. The study also focused on the effect of liquidity on the financial performance of listed foods and beverages firms in Nigeria from 2012 to 2021. The study adopted secondary data sourced from the annual reports of the sampled firm. To provide a clearer picture, the collected data were analyzed using random effects model of panel least square regression. Hence, the study discovered that Inventory conversion period has a significant negative effect on the return on asset of listed food and beverage firms in Nigeria ($\beta 1 = -0.000797$, pvalue= 0.0302). Also, the study recommended that managers should agree shorter term payments, invoice and investigate credit rating on a regular basis. On this basis, the study concluded that liquidity management ensures that corporate entities have sufficient, regular and consistent cash flow to fund their activities.

Conceptual Model



Source: Researcher Design, 2025

METHODOLOGY

This study employs an ex post facto research design in which this assessment commences after the fact has occurred without interference from researcher**.** Therefore, historical facts about the variables of the study were obtained through the use of secondary data.

The population of the study consists of all 8 listed agricultural firms in Nigeria listed on the Nigeria Exchange Group.

Data was analyzed using E-view 09 Panel Pool Analysis (Ordinary Least Square) and test the relationship between the variables. The analysis test includes descriptive statistics, fixed test, random test and Housman test analysis.

The variables considered for this study include; current ratio, operating cash flow and day sales outstanding represented the independent variables while operating margin was the proxy used for dependent variable.

The models that will be formulated include;

$OPM = f(CUR, OCF, DSO)$

$OPM = \beta_0 + \beta_1 CUR + \beta_2 OCF + \beta_3 DSO + \mu$

Where:

OPM = Operating Margin

CUR = Current Ratio

OCF = Operating Cash Flow

DSO = Day Sales Outstanding

β_0 = constant term

β_1- β_3 = Coefficient of Independent Variables

μ = Error term.

RESULTS AND DISCUSSION

This aspect unveils data analysis of the data that was collected to investigate the effect of liquidity management on the profitability of listed agricultural firms in Nigeria. Various test like descriptive statistics, panel unit root graph, normality test, fixed effect result, random effect result and Haussmann test were carried out to examine the relationship that exist between liquidity management and profitability in Nigeria.

Table 4.1 Descriptive Analysis

	OPM	CUR	OCR	DSO
Mean	0.238316	1.384594	0.210578	108.5125
Median	0.103700	1.001800	0.112000	61.00000
Maximum	2.468500	13.51550	1.437500	864.0000
Minimum	0.003500	0.215200	0.004000	6.000000
Std. Dev.	0.446649	1.937319	0.257139	128.6011
Skewness	3.294779	5.476333	2.326916	2.901192
Kurtosis	14.34723	33.08408	9.336576	16.07058
Jarque-Bera	573.9394	3416.709	206.0345	681.6923
Probability	0.000000	0.000000	0.000000	0.000000
Sum	19.06530	110.7675	16.84620	8681.000
Sum Sq. Dev.	15.76012	296.5031	5.223498	1306522.
Observations	80	80	80	80

Source: E-View Output, (2025)

Table 4.1.1 reports the descriptive statistic of the variables employed, it was shown that operating margin has an average mean of 0.238316 with standard deviation of 0.446649; current ratio with an average mean of 1.384594 with standard deviation of 1.937319; operating cash flow ratio has an average mean of 0.210578 with the standard deviation of 0.257139. Lastly, day sales outstanding have an average mean of 108.5125 with the standard deviation of 128.6011. The JarqueBera normality test indicates that operating margin, current ratio, operating cash flow ratio and day sales outstanding are normally distributed.

Hausman Test

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.263027	3	0.9668

Cross-section random effects test comparisons:

Source: E view Output, 2025

In this analysis, Hausman Test was performed to determine the model that is more efficient. The results of Hausman test are 0.9668 which is greater than 5%. This implies that Fixed Effect (FE) is more efficient than Random Effect (RE). These two methods differ mostly on inferential aspect. With fixed-effects model, a researcher can only make inference about a group of measurements while inference can be made about the population through sample drawn when using fixed effect.

Interpretation of Results

The result of fixed test shows the constant value stands at 0.151254 which equally mean that while all other variables remain constant, operating margin will increase by the same amount. Coefficient of current ratio with 0.008396 reveals that for every unit increase in current ratio, there will be same amount increase in operating margin. The coefficient of operating cash flow ratio stands at 0.456664 which mean that for every unit increase in operating cash flow ratio, there will be the same amount increase in operating margin. Lastly, day sales outstanding with the coefficient value of -0.000191 means that for every unit increase in day sales outstanding, there will be the amount decrease on operating margin.

The fixed test table also reveals the significance of the variable; it was found that current ratio and operating cash flow ratio has significant impact on operating margin of listed agricultural firms in Nigeria while day sales outstanding has no significant impact on operating margin of listed agricultural firms in Nigeria.

The coefficient of determination R^2 with value of 0.771641 implies that 77% of the variation of operating margin is influenced by the explanatory variables while the remaining 23% is being explained by other variables outside the model but captured by the error term. Also, the adjusted R^2 explain fitness of the regression is high by 74% after adjusting for the degree of freedom. The Durbin Watson statistics in the model is 2.169068, this shows that there is presence of autocorrelation among the variables.

Conclusion

The study assessed the effect of liquidity management on profitability of listed agricultural firms in Nigeria. The specific objectives were to determine the effect of current ratio, operating cash flow ratio and day sales outstanding on operating margin of listed agricultural firms in Nigeria. Agricultural firms in Nigeria face significant challenges in managing liquidity, which has a profound impact on their profitability. Liquidity management is crucial for these firms to meet short-term obligations and invest in growth opportunities.

Based on the findings made in the course of this study, it is therefore recommended that

Agricultural firms should aim to maintain an optimal current ratio that balances liquidity with asset efficiency. Regular monitoring and adjusting of current assets and liabilities will help ensure that firms do not tie up too much capital in non-productive assets, which could otherwise be used for profitable investments and Firms should focus on generating strong and consistent cash flows from their operations.

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