

## Effect of Liquidity Management On the Financial Performance of Nigerian Oil and Gas Firms

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**ABSTRACT:** *The Nigerian Oil and Gas industry, as a result of the COVID-19 pandemic, continues to be plagued with numerous economic challenges that affect its liquidity position and hinders it from delivering on its core mandate of profitability. Hence, the purpose of this research was to look into the effect of liquidity management on the financial performance of Nigerian oil and gas firms. Current Ratio (CUR), Quick Ratio (QUR), Cash Ratio (CAR), and Return on Capital Employed (ROCE) were explored as proxy variables for liquidity management and financial performance, respectively, using an ex-post facto research approach. The study used a purposive sampling approach to collect secondary data, which was based on the availability of data at the time of the investigation. These figures were collected from five Nigerian oil and gas firms' annual financial reports, which spanned the years 2012 through 2021. The data was analyzed using descriptive statistics and regression analysis. Results from the analysis revealed that Quick Ratio and Cash Ratio has a positive insignificant impact on Return on Capital Employed while Current Ratio has a negative significant impact on Return on Capital Employed. Based on the findings, managers of oil and gas firms should adopt effective liquidity management policies that guarantee an optimal level of liquidity that improves its profitability and enables them operate with a reasonable margin of safety.*

**KEYWORDS:** current ratio, quick ratio, cash ratio, and return on capital employed.

### INTRODUCTION

The phenomenon of liquidity management is one that is receiving increasing amounts of attention on a worldwide scale. It is impossible to overstate the significance of this management function given how it influences efficient operations, business sustainability, and profitability in the wake of the current economic issues facing the world. One of the cardinal principles of business survival is that a company must have enough liquidity and be consistently profitable in order to expand and

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build wealth. For businesses to ensure their long-term profitability and prevent bankruptcy, liquidity management has become increasingly crucial, particularly in an environment where financial institutions are becoming less willing to issue credit facilities due to an increase in non-performing loans and high interest rates (Alhassan & Islam, 2021). According to Owolabi and Obida (2020), business managers and owners all over the world are more concerned with devising a strategy of managing their day-to-day operations in order to meet their obligations as they come and deliver on their core mandate of profitability and maximizing shareholders wealth. Businesses must handle the trade-off between liquidity and profitability effectively and efficiently if they are to operate sustainably. In order to ensure its long-term performance, a company must seek an optimal balance of liquidity and profitability and keep its position around that level (Dadepo & Afolabi, 2020).

Knowing the optimal amount of liquidity to hold is a constant challenge that differs between industries. Regarding the oil and gas industry, the operating capacity of its businesses is quite large and difficult, requiring significant capital expenditure that calls for knowledge and practical management. The 1990s saw a steady rise in local enterprises' involvement in Nigeria's oil and gas industry, which had previously been predominately dominated by international corporations. These firms have contributed significantly to the expansion and development of the economy up until this point. It is undeniable that the oil and gas industry is one of the cornerstones of the Nigerian economy. Klynveld Peat Marwick Goerdeler (KPMG, 2020) reports that the oil and gas sector continue to play a significant role in the Nigerian economy, accounting for 88% of the nation's foreign exchange profits and 65% of government revenue. Businesses in this sector are more vulnerable to external economic shocks that may make it more difficult for them to accomplish their goals. Because of this, it is crucial that businesses in this sector keep performing at their peak levels in order to guarantee the economy's long-term growth and development. The only way to accomplish this goal is by using effective liquidity management techniques.

Since the oil boom in the 1980s, Nigeria's oil and gas sector has consistently been the largest contributor to the growth and development of the economy, earning the highest percentage of income and acting as a crucial source of foreign money for the nation. As a result, it is crucial that businesses in this sector keep performing at their peak levels in order to maintain the development and expansion of the economy.

However, since the outbreak of the COVID-19 pandemic in 2020, the industry continues to be plagued with numerous economic challenges that affect its liquidity position. Addeh (2022) in an article for This Day Newspaper, highlighted that firms in the industry are struggling with liquidity and cash shortage due to the crude oil price crash in April 2020, which has also led to a reduction in capital expenditure spending. Additionally, there has been a rise in non-performing loans, which makes banks reluctant to offer credit to businesses in the sector. Regrettably, the industry also faces the ongoing issue of oil theft with negatively impacts on its ability to meet its production quota. Nigerian Upstream Petroleum Regulatory Commission (2022) indicated that the sector is

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falling short of its quota of 1.7 million barrels per day, with production now at 1.396 million barrels per day, resulting in an anticipated loss of \$300 million.

The sector's long-term expansion and viability continue to be imperiled by the multiple difficulties mentioned above. In order to develop and maintain a healthy liquidity position that can ensure its long-term existence, it is crucial that businesses in this sector continue to adopt proactive, effective, and efficient measures in terms of managing and utilizing their assets. The economy runs the risk of entering a recession if businesses in this sector do not perform at their best. This could have a serious negative impact on the long-term growth of the nation. Hence, there is a need for this study to be conducted in order to offer a possible solution to these existing challenges. The main objective of the study is to examine the effect of liquidity management on the financial performance of oil and gas firms in Nigeria. Other specific objectives are to:

- i. Examine the effect of current ratio on return on capital employed of oil and gas firms in Nigeria.
- ii. Examine the effect of quick ratio on return on capital employed of oil and gas firms in Nigeria.
- iii. Examine the effect of cash ratio on return on capital employed of oil and gas firms in Nigeria.

The hypotheses for this study is therefore formulated on the basis of the objectives of the research work in null form as follows:

H0<sub>1</sub>: Current ratio does not have a significant effect on return on capital employed of oil and gas firms in Nigeria.

H0<sub>2</sub>: Quick ratio does not have a significant effect on return on capital employed of oil and gas firms in Nigeria.

H0<sub>3</sub>: Cash ratio does not have a significant effect on return on capital employed of oil and gas firms in Nigeria.

The literature review, methodology, results and discussion of findings, and conclusion and suggestions follow this section.

## **LITERATURE REVIEW**

This section contains the conceptual review, theoretical review, and empirical review relating to liquidity management and financial performance.

### **Conceptual Review**

#### **Liquidity Management**

Liquidity management is the preservation of an adequate cash position and its corresponding balances to meet a firm's financial commitments at any given time (Ajose & Solape, 2021). Liquidity management, according to Ware (2015), includes all managerial choices and activities

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that affect the volume and efficiency of liquidity. Corporate liquidity is a company's ability to weather a storm when it has to have the cash and close-by cash equivalents to handle its issues (Onyekwelu et.al, 2019). It places a strong emphasis on managing current assets, current obligations, and the connections between them. Planning and managing current assets and current liabilities in a way that completely removes the danger of being unable to fulfill short-term obligations is the impact of liquidity management.

According to Eze and Agu (2020), a company's liquidity management is said to be at its best if it is founded on the premise of collecting cash from debtors as soon as feasible and minimizing the cash payments of current liabilities or short-term obligations. In order to pay off its short-term debts, a company may be obliged to turn to external financing if it is unable to maintain a strong liquidity position. Adegbe and Adesanmi (2020) assert that the primary objective of liquidity control is to give businesses a safety net in the case of a cash shortage as well as a resource for upcoming acquisitions or capital expenditures. This is accomplished by making sure they have a sufficient supply of liquid assets on hand or access to borrowing resources to meet the company's urgent financial needs. Assets that can be swiftly and readily changed into cash are known as liquid assets. Cash, cash equivalents, and marketable securities like stocks and bonds are some examples of these. According to Ugwu et al. (2020), implementing good liquidity management practices can boost a company's reputation with investors by demonstrating that they are resilient enough to handle any potential kinds of hardship.

The concept of liquidity management has been extensively reviewed by various scholars. (Akinleye & Ogunleye, 2019; Li et al., 2020, Adegbe & Adesanmi, 2020; Ajose & Solape 2020) identified current ratio, quick ratio, cash ratio, cash conversion cycle, receivables collection period, capital adequacy ratio, loan to deposit ratio, cash reserve ratio and deposit rate as some of the proxies casually connected to actualize the change in the financial performance of an organization. However, this study decided to adopt current ratio, quick ratio, cash ratio, and operating cash flow ratio because they are the relevant liquidity ratios that critically measure the liquidity position of capital intensive firms such as those in the oil and gas industry.

**Current Ratio:** This ratio is thought to be among the simplest and easiest ways to gauge a firm's liquidity condition. Additionally called the working capital ratio. It is a liquidity ratio that assesses a company's capacity to settle short-term debt or debt with a one-year maturity. According to Lalithchandra et al. (2021), it is a gauge of how effectively a business pays off its short-term obligations. The ratio, offers the strongest single signal of whether or not short-term creditors' claims are guaranteed by assets that are anticipated to be turned into cash within a time frame roughly matching to the claims' maturity (Raveesh, 2011). The weight of total current assets compared to total current liabilities is taken into account in the ratio. It shows how a company's finances are doing and how it can use its current assets' maximum liquidity to pay off debt and other obligations. It can be calculated by dividing current assets by current liabilities.

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**Quick Ratio:** This ratio also evaluates a company's liquidity condition. It is also referred to as the "acid test ratio" and is used to determine whether a company has sufficient liquid assets that can be quickly turned into cash to pay its short-term obligations. Only the most liquid current assets and liabilities are included in this ratio (Durrah, 2016). Cash, cash equivalents, and marketable securities like stocks and bonds are examples of liquid assets. The quick ratio, according to Warrad (2014), is a more stringent indicator of liquidity since it excludes inventory and other assets, such as prepaid expenses, which may not be very liquid. The value is also obtained from a firm's statement of financial position. A quick current ratio greater than 1 means that a firm has a strong liquidity position. It can be calculated by subtracting inventory from total current assets and dividing the value by current liabilities.

**Cash Ratio:** This liquidity indicator evaluates a company's capacity to meet its immediate obligations entirely from its cash and cash equivalents. It is a reliable sign of a company's capacity to pay off its short-term debt using cash or resources that can be converted into cash quickly, like marketable securities. When deciding how much money to lend to struggling companies, creditors give this metric a lot of consideration. This is due to the uncertainty about the availability of existing assets such as inventory and receivables when it comes to time to pay off debt. Since inventory and receivables may take longer to sell and collect, respectively, cash is always available to creditors. A cash ratio greater than 1 normally indicates a healthy cash position for the firm. However, it may also show that the firm isn't using its funds effectively or investing in worthwhile ventures for expansion. This can be calculated by dividing the cash and cash equivalents by current liabilities.

### **Financial Performance**

Assessing and measuring financial performance is one of the most controversial issues discussed in financial management. A number of definitions of financial performance have been put forward by various management scholars that have been influenced by their perspectives seen to be financial or operational in nature. Richard et.al (2009) asserted that firm performance is a multidimensional concept that covers various areas such as operational effectiveness, corporate reputation, and organizational survival. Didin et al. (2018) simply describe it as a measurement of a firm's capacity to produce profit or revenue. It is the extent to which financial goals have been met. Financial performance is viewed as the outcome of an enterprise's capital mobilization, use, and management (Dinh & Pham, 2020). It consists of instruments used to assess a company's total financial standing over time. These instruments can be compared between enterprises in the same industry or between aggregated industries or sectors.

In existing literature, financial performance has been measured using different proxies. According to Dinh and Pahn (2020), financial performance can be measured through accounting tools such as Return on Assets (R.O.A), Return on Equity (R.O.E), Return on Sales (R.O.S), e.t.c. and economic models such as Maris co-efficient and Tobin's Q. (Akinleye and Ogunleye, 2019; Alhassan and Islam 2021; Babatunde 2020) have also utilized other measures such as Profit after

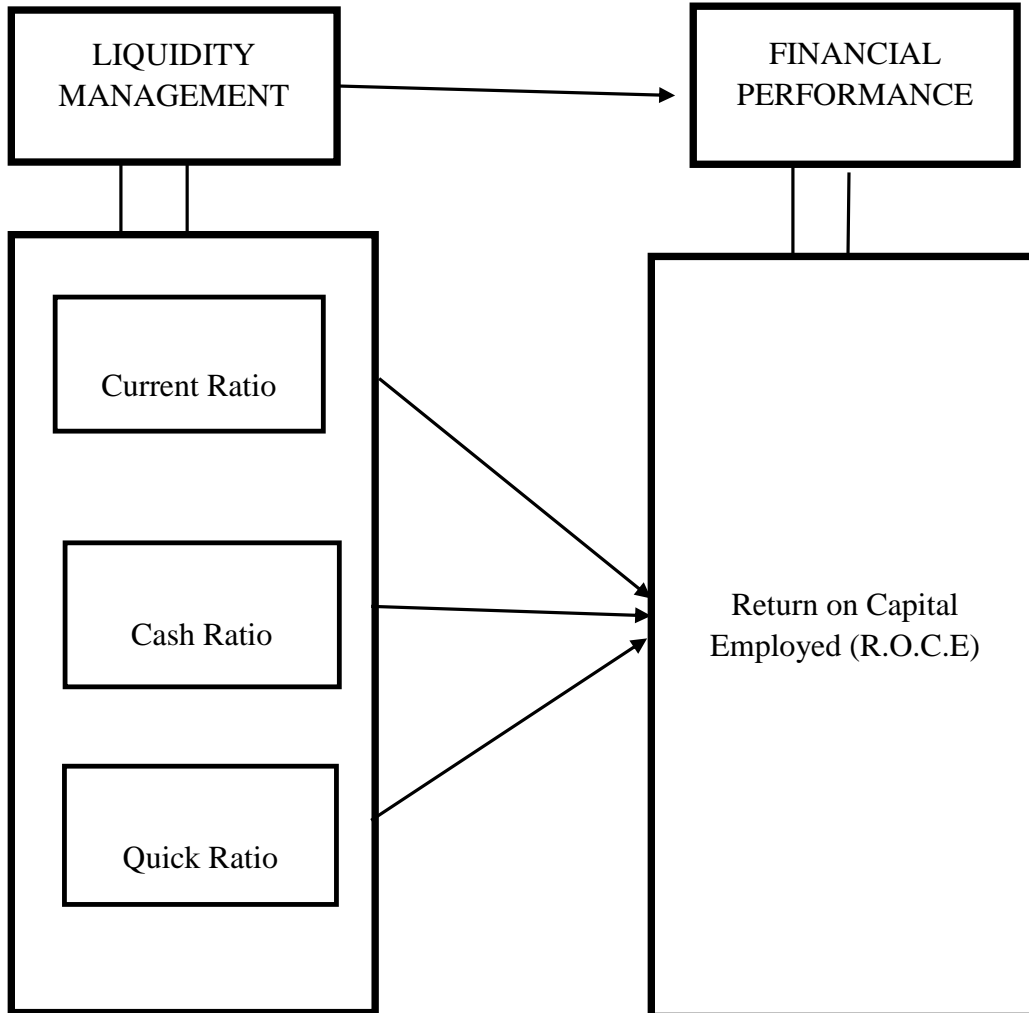
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Tax (P.A.T), Operating Profit Margin (O.P.M), Net Interest Margin (N.I.M). However, the study decided to adopt Return on Capital Employed (R.O.C.E) as a measure of financial performance due to the fact that researchers have not primarily focused on the performance metric, considering its importance when assessing the performance of firms in capital intensive sectors such as the oil and gas sector.

**Return on Capital Employed:** This profitability ratio gauges the effectiveness and profitability of a company's capital investments. It shows how effectively a business is turning a profit from the capital it uses. It is one of the finest profitability measures, and investors frequently use it to decide whether or not it makes sense to invest in a specific company. A figure of 20% is typically regarded as a good standard. However, different industries use different benchmarks to evaluate a company's performance. As a result, using the ratio to compare the performance of different firms, companies in the same industry should be used as the industry average. The value can be derived by dividing the operating profit by the capital invested.

**Conceptual Framework**

This comprises of the link between the independent variable (liquidity management) and the dependent variable (financial performance). Financial performance is proxied by return on capital employed, while liquidity management is proxied by current ratio, quick ratio, and cash ratio.



**Figure 1: Showing the link between liquidity management and financial performance**

Source: Author (2023)

### **Theoretical Review**

Various theories associated with liquidity management have been advanced by different scholars in the field of corporate finance. These theories try to explain how firms determine an optimal level of liquidity that can enhance their profitability. Some of these include the trade-off theory of liquidity and profitability and the liquidity preference theory. The trade-off theory of liquidity and profitability, which was adopted from the Kraus and Litzenberger's 1977 trade-off theory of capital structure, simply states that there is an inverse relationship between liquidity and profitability. This means that if firms are to achieve a high level of profitability, they must operate with low levels

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of liquidity and vice versa. A company's management must concentrate on determining an ideal and advantageous level of profitability by striking an equilibrium between advantages and disadvantages of cash holdings. Ideally, firms should maintain an adequate level of liquidity that will not portend their going concern status, and yet allow them to make reasonable returns on investments.

The liquidity preference theory postulated by John Maynard Keynes in 1936, posits because investors like cash or other highly liquid investments over assets with extended maturities and higher risk, they should demand a higher interest rate or premium. He claimed that cash is the most liquid asset and that an asset is more liquid if it can be converted to cash fast. According to the theory, three incentives of transaction, precaution, and speculation drive the demand for liquidity. The idea that people want to maintain a strong liquidity position in order to meet daily obligations or expenses is known as the "transactionary motive." The need to prepare for unknown events and costs leads to a precautionary need for money. While speculative demand is the desire to profit from potential changes in interest rates or bond prices in the future. This is highly relevant to businesses as it tries to explain the motives behind firms' demand for liquidity.

### **Theoretical Framework**

The trade-off theory of liquidity and profitability has been chosen for this study to adopt out of the theories discussed since it is appropriate and highly pertinent for this research. The cardinal point in the trade-off theory is the suggestion that corporate firms determines the optimum level of their cash by determining the degree of their final cost importance and final profits from keeping cash (Yusuf et al., 2019). The theory is of great significance as it accurately depicts the relationship between both financial objectives, and shows the dilemma that firms face in terms of achieving an optimal level of liquidity and how it may affect the financial performance of firms such as those in the oil and gas sector of Nigeria.

### **Empirical Review**

Ugwu et al. (2020) examined the effect of liquidity management on the performance of deposit money banks in Nigeria, using annual financial statements from the period 2011-2017. Multiple regression method was used to test the relationship between liquidity management, proxied by capital adequacy ratio, asset quality, and liquidity ratio and financial performance proxied by return on equity (ROE) and return on asset (ROA). The study's findings found that liquidity management and financial performance have a positive significant association, with the study proposing that banks should place strong emphasis on liquidity management so as to minimize potential default risks. Also, Owolabi and Obida (2012) investigated the impact of liquidity management on corporate profitability of twelve listed manufacturing firms in Nigeria, using annual financial statements from the period 2005-2009. Descriptive analysis was used to test the extent to which liquidity management, proxied by debtors collection period (DCP), creditors payment period (CCP), and cash conversion cycle (CCC), affects corporate profitability, proxied by return on assets (ROA) and return on equity (ROE). It was concluded that liquidity management



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has a significant impact on corporate profitability and recommended that managers can increase profitability by putting in place good credit policies, short cash conversion cycle and effective cash flow management procedures.

The effect of liquidity management on the financial performance of deposit money banks in Nigeria was researched by Onyekwelu et al. (2018). The panel data was gathered from the annual reports of 5 sampled banks for the period 2007-2016, and the study employed generalized least square multiple regression to analyze it. Findings revealed that liquid asset to total assets ratio, liquid asset to total deposit ratio and asset quality has a positive significant influence on business performance. It was also suggested that regulatory authorities should put in place appropriate policies with compliance measures to check high volume cash transaction and cash hoarding prevalent in the economy. Furthermore, Adegbe and Adesanmi (2020) explored the relationship between liquidity management and corporate sustainability of listed oil and gas firms in Nigeria. A sample of 10 firms were purposively selected, from which data from its financial statements were analyzed using regression technique. Liquidity management was measured by cash ratio, quick ratio, cash conversion cycle, receivables collection period, and payables payment period 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 and recommended that shareholders, managers and policy makers, financial regulators and market participants should be mindful of companies' liquidity management and time lag between credit sales and collection of receivables. Terseer et al. (2020) studied the effect of liquidity management on the performance of five commercial banks in Nigeria for the period 2010-2018. Liquidity management was measured by liquidity ratio, cash reserve ratio, loan to deposit ratio, and deposit ratio while performance was measured by return on asset, return on equity, and net interest margin. Secondary data extracted from the annual reports were analyzed using panel regression technique. The study concluded that all proxies has a positive significant effect on financial performance.

Li et.al (2020) tried to establish the nexus between liquidity and performance of non-financial firms in Ghana. The study employed the use of generalized least squares regression to analyze the data extracted from 15 firms for the period 2008-2017. Control variables such as size, efficiency, growth and tangibility were utilized Findings revealed that liquidity, measured by current ratio and cash ratio has significant negative effect on return on equity. The study therefore recommended the deployment of effective internal control systems that could strengthen the liquidity fundamentals of the firm and seek professional guidance toward the adoption of asset-liability management policies. Also, Alhassan and Islam (2021) made an attempt to figure out the link between liquidity and profitability by examining the annual financial reports of ten Nigerian oil and gas companies from 2011-2020. Liquidity variables such as equity, debt, sales and profitability measures such as return on assets, return on equity and profit after tax. Fixed panel regression method was used for analysis and findings revealed that debt has a significant negative impact on companies' profitability while equity has a positive influence on profitability. The study therefore

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recommended that oil and gas firms should boost their equity capital and retained earnings to enable them generate more wealth for shareholders.

Dadepo and Afolabi (2020) examined the impact of liquidity management on financial performance of selected manufacturing firms in the Nigeria. Descriptive, correlation and multiple regression techniques were used to examine panel data acquired from annual reports of 10 representative enterprises for 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 proxied by return on assets while cash ratio and quick ratio had a positive but insignificant effect. Salami et al. (2019) used unbalanced panel data from 2010 to 2016 to investigate the association between working capital management and financial returns of nine publicly traded public oil and gas companies in Nigeria. Ex-post facto design was employed for the study. Analysis was done through panel data regression technique. Findings revealed that average collection period and inventory turnover period, and average payment period had a significant negative impact on the two measures of financial returns. Finally, Akinleye and Ogunleye (2019) examined the effect of liquidity on performance of manufacturing firms in Nigeria between 2007 and 2016. Liquidity was measured by quick ratio, current ratio, and cash ratio while performance was measured by profit after tax. The study utilized panel data estimators, panel co-integration and pooled granger causality tests as analytical tools. The results showed that quick ratio and current ratio has a negative and significant impact on firm performance while cash ratio established a significant positive impact and recommended that firms should try to reduce their receivables in order to improve profitability.

## **METHODOLOGY**

The ex post facto research design was used in this study. The fact that the data required for analysis in the study was gathered from the yearly financial reports of the selected companies necessitated the selection of the design. Hence, analysis relies on historical data already in existence which is obtainable from the financial reports. The population of this study consists of 9 oil and gas firms listed on the Nigerian Stock Exchange as at 31<sup>st</sup> December 2021. To get at the sample for this study, purposive sampling was used, with 5 firms selected for the study whose data was accessible for the study period, while those lacking complete data were not considered. The data for this study was gathered entirely from secondary sources, with essential cross-sectional data pulled from five oil and gas companies' annual financial reports during a ten-year period, from 2012 to 2021. The data gathered for this investigation was quantitative. The panel data received from the companies' financial annual reports was analyzed using descriptive and inferential statistical approaches. Panel multiple regression was conducted to determine the significance of the impact of the independent variables (current ratio, quick ratio, and cash ratio) on the dependent variable (return on capital employed). This study adopted Yahaya (2020) model on the impact of liquidity management on profitability of manufacturing firms in Nigeria. The functional model specification for the study is stated as:

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$$ROCE = f(CUR, QUR, CAR) \dots \dots \dots (1)$$

Hence, the econometrical form of the equation is;

$$ROCE_{i,t} = \beta_0 + \beta_1 CUR_{i,t} + \beta_2 QUR_{i,t} + \beta_3 CAR_{i,t} + \mu_0 \dots \dots \dots (2)$$

Where: ROCE = Return on Capital Employed; CUR= Current Ratio; QUR= Quick Ratio; CAR= Cash Ratio;  $\beta_1$ - $\beta_3$ = Beta coefficient that measures the sensitivity of variable X to change in variable Y(ROCE);  $\beta_0$  = constant;  $\mu_0$  = error term

## RESULTS AND FINDINGS

### Pre-Test Analysis

#### Unit Root Test

It has long been claimed that macroeconomic and financial data are characterized by a stochastic trend, which, if left unchecked, influences the statistical behavior of estimators. As a result, before looking into the relationship between liquidity management and financial performance of Nigerian oil and gas companies, this research looks into the stochastic features of the series in the model by looking at their order of integration using a series of unit root tests. In general, the unit root tests for non-stationarity (that is, the Levin, Lin, and Chu t and PP-Fisher Chi-square tests) reject the null hypothesis of non-stationarity at the 5% level for all variables in 1<sup>st</sup> difference terms, as shown in Table 1 below. At a 5% level of significance, the unit root tests reveal that Return on Capital Employed (ROCE) and Cash Ratio (CAR) are stationary and non-integrated I(0), while Current Ratio (CUR) and Quick Ratio (QUR) are stationary and integrated of order one I(1), for all periods.

**Table 1: Showing the Unit Root Test**

VARIABLES	LEVEL		1 <sup>ST</sup> DIFFERENCE		ORDER OF INTEGRATION
	Levin, Lin & Chu t**	PP-Fisher Chi-square **	Levin, Lin & Chu t**	PP-Fisher Chi-square **	
<b>ROCE</b>	0.0011	0.0002	0.0007	0.0000	1(0)
<b>CUR</b>	0.9664	0.4722	0.0008	0.0005	1(1)
<b>QUR</b>	0.7629	0.6194	0.0119	0.0042	1(1)
<b>CAR</b>	0.0259	0.0024	0.0020	0.0000	1(0)

Source: Author’s Computation using Eviews 9.0 (2023)

**Descriptive Statistics****Table 2: Showing Descriptive Statistics**

Descriptive Statistics	ROCE	CUR	QUR	CAR
Mean	0.187880	1.275400	1.070600	0.215759
Std. Dev.	0.207962	0.423895	0.447599	0.319211
Skewness	1.269265	2.271206	1.880044	2.430683
Kurtosis	4.639807	7.952726	6.792455	13.20028
Probability	0.000074	0.000000	0.000000	0.000000
Observations	50	50	50	50

Source: Author's Computation using Eviews 9.0 (2023)

Table 2 above provides an overview of the statistics used in this empirical study. Return on Capital Employed has the lowest mean value of 0.187880, while Current Ratio (CUR) has the highest mean value of 1.275400, while Cash Ratio (CAR) and Quick Ratio (QUR) have mean values of 0.215759 and 1.070600, respectively. Because the standard deviation reflects how concentrated the data are around the mean, it can be seen in table 2 that Quick Ratio is the highest while Short Return on Capital Employed is the lowest, implying that the operational data values are on averages further from the mean. The skewness of a distribution is a measure of how asymmetric it might be. All variables were positively skewed, indicating that the majority of the distribution is concentrated on the right (that is, left-skewed). Kurtosis measures the tailedness of a distribution. Results shows that all of the variables utilized have a positive kurtosis value greater than 3, indicating that the distribution is leptokurtic (too tall).

**Table 3: Results of Panel Data Regression Analysis**

Variable	Pooled OLS			Fixed Effects Model			Random Effects Model		
	Coef.	Std. Error	P-Value	Coef.	Std. Error	P-Value	Coef.	Std. Error	P-Value
<b>C</b>	0.287692	0.126975	0.0282	0.365044	0.112205	0.0778	0.364910	0.124408	0.0052
<b>CUR</b>	0.119948	0.338239	0.7245	-0.498491	0.311116	0.0465	-0.365004	0.300544	0.2308
<b>QUR</b>	-0.234043	0.320058	0.4683	0.419171	0.319406	0.1965	0.264135	0.301379	0.3854
<b>CAR</b>	-0.010321	0.114482	0.9286	0.045639	0.098294	0.6648	0.026479	0.096288	0.7845
<b>R-Square</b>	0.377254			0.462575			0.338742		
<b>Adj R-Square</b>	0.334856			0.373005			0.294046		
<b>Prob (F-Stat)</b>	0.289290			0.000268			0.446139		
<b>Durbin Watson</b>	2.008529			2.047759			1.986345		

Source: Author's Computation using Eviews 9.0, (2023)

**Table 4: Hausman Test**

Test Summary	Poolability Test	Test Statistics/P-Value	Hausman Test
F-Statistics	1.252995(0.2829**)	Chi Square statistics	3.972822(0.0158**)

Source: Author's computation using Eviews 9.0 (2023)

## DISCUSSION

From the analysis in Table 3, the pooled OLS result shows that Quick Ratio and Cash Ratio have a negative insignificant effect on Return on Capital Employed as depicted by the negative coefficients and probability values of -0.234043(0.4683) and -0.010321(0.9286) respectively. However, Current Ratio has a positive insignificant effect on Return on Capital Employed as depicted by the positive coefficient and probability value, 0.119948(0.7245) at 5% significance level. The  $R^2$  and adjusted  $R^2$  stand at 0.377254 and 0.334856 respectively which indicates that approximately 38% and 33% variation in return on capital employed is being jointly explained by the explanatory variables (Current Ratio, Quick Ratio, and Cash Ratio). The remaining percentage of variation are explained by other predictor variables which are not captured in this model. The insignificance of the parameter estimations in the regression at 5% is confirmed by the F-statistics probability of 0.289290. In addition, the Durbin Watson value of 2.008529 suggests that the data series has no autocorrelation.

Fixed effect (FE) and random effect (RE) regressions were utilized due to the dataset's panel form. The fixed effect model results from table above shows that Quick ratio and Cash ratio have a positive insignificant effect on Return on Capital Employed while Current ratio has a negative significant effect on Return on Asset at 5% significance level. This result is in line with the trade-off theory and is consistent with the findings of Dadebo and Afolabi (2020). The  $R^2$  and adjusted  $R^2$  are 0.462575 and 0.373005 respectively, indicating that the explanatory variables jointly explain about 46% and 37% of the variation in return on capital employed. The remaining percentage of variation are explained by other factors which are not captured in this model. The F-statistics probability of 0.000268 also confirms the significance of the parameter estimates in the regression at 5%. The Durbin Watson value of 2.047759 suggests that the data series has no autocorrelation.

Also, from the results of the random effect model, Current Ratio has a negative insignificant effect on return on capital employed as depicted by the negative coefficient and probability value of -0.365004(0.2308) However, Quick Ratio and Cash Ratio had a positive insignificant effect on Return on Capital Employed as depicted by the positive coefficient and probability values 0.264135(0.3854) and 0.026479(0.7845) at 5% significance level. The  $R^2$  and adjusted  $R^2$  values of 0.338742 and 0.294046 still confirms that 34% and 29% variation in Return on Asset was explained by the predictor variables and the remaining percentage are explained by other variables not captured in this model. The Durbin Watson value of 1.986345 also demonstrates that the data

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series has no autocorrelation. In order to confirm which model is best suitable for the study, the Hausman test was conducted and results from Table 4 shows that the fixed effects model was preferred to the random effects model. This is due to the probability value of 0.0158 which indicates that the null hypothesis that the preferred model is random effects is rejected.

## **CONCLUSION AND RECOMMENDATIONS**

This study examined the impact of liquidity management on the financial performance of five listed oil and gas firms in Nigeria. Return on Capital Employed (ROCE) was regressed on three measures of capital structure (Current Ratio (CUR), Quick Ratio (QUR), and Cash Ratio (CAR)), using three panel estimators over the period 2012-2021. According to the findings, the current ratio is the measure of liquidity management that has a significant inverse relationship with the financial performance of Nigerian oil and gas companies while quick ratio and cash ratio have a positive but insignificant effect.

Based on the foregoing, the study recommends that oil and gas firms operating with high current ratios isn't necessarily beneficial in the long run. Therefore, these firms should be willing to take on more short term-loans and channel these funds into profitable investments that ensure that the company remains profitable in the long run. They can also offer more dividend payments to shareholders which will help attract and retain more investors. Potential investors should also not be wary of investing in oil and gas firms operating with lower current ratios. However, assessments should be made in line with the industry average. Generally, these firms need to monitor their current ratio to ensure an optimal liquidity position that helps in ensuring efficient and effective utilization of the company resources and at the same time, operate with a reasonable margin of safety. Secondly, firms should improve their quick ratios by increasing inventory turnover and improving sales that will generate cash in hand for the company. These firms need to incorporate an effective inventory system that will help ensure that the optimal amount of stock is held in order to ensure quick turnover and avoid unnecessary holding costs. Lastly, managers should ensure that majority of their cash isn't tied up in receivables by ensuring faster collection of its cash from debtors. This can be done by implementing an efficient credit policy that guarantees faster recovery of its cash to settle its short-term obligations. Selling unproductive assets which may are not generating income for the firm can be another means of generating cash that can be utilized effectively to generate profitable returns for the firm.

In summary, liquidity management has become increasingly important in today's challenging economy. Organizations must strive to formulate and implement an efficient set of liquidity management policies and procedures that will improve profits, reduce the risk of corporate failure and significantly improve its chances of survival.

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