

Effect of Liquidity on Financial Performance of Deposit Money Banks in Nigeria

ONYEKWELU, Uche Lucy, PhD

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

CHUKWUANI, Victoria Nnenna

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

ONYEKA, Virginia Nnenna

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

Abstract

This study appraised effect of liquidity on financial performance of deposit money banks in Nigeria. A sample of five (5) banks was used for the study. Secondary data were collected from the firms for ten years period, 2007 - 2016. The data were analyzed using multiple regression analysis. Results show that Liquidity has positive and significant effect on banks' profitability ratios and that liquidity also has positive and significant effect on Return on Capital Employed. The study recommends that there is need to replace being practiced in the advance economies of the world. Investing on human capital may be beyond just employees but also frequently creating an interactive forum where bank clients could be sensitized on a variety of activities they indulge in that are capable of hindering effective liquidity management, need to invest on human capital by banks as it offers the highest returns in terms of increasing performance and it also enhances the level of competence of the employee and that the regulatory authorities should put in place appropriate policy with compliance measures to check high volume cash transaction and cash hoarding prevalent in the economy. The Central Bank of Nigeria must critically review and follow-up or monitor the effectiveness of liquidity policy tools in banks and where necessary, appropriate sanctions placed on erring banks to ensure effective implementation of these policy tools in an attempt to achieve desired liquidity level.

Keywords: Liquidity, Financial Performance, Profitability, Return on Assets, Banks, Nigeria.

1.1 Introduction

Corporate liquidity connotes firms' ability wither the storm when the need arises for it posses the cash and near cash equivalents that could meet up with its challenges especially the short term obligations. To this extent, liquidity is very critical for the survival of any organization especially the financial institution whose primary assignment entails keeping the deposit Agbada and Osuji (2013), as uncertainty led funding sources to evaporate, many banks quickly found themselves short on cash to cover their obligations as they came due. In extreme cases, banks in some countries failed or were forced into mergers. As a result, in the interest of broader financial stability, substantial amounts of liquidity were provided by authorities in many countries. Graham and Bordeleau (2010) added that during the early "liquidity phase" of the financial crisis that began in 2007, many banks – despite adequate capital levels – still experienced difficulties because they did not manage their liquidity in a prudent manner. The crisis drove home the importance of liquidity to the proper functioning of financial markets and the banking sector.

Banks' liquidity as simply the ability of the bank to maintain sufficient funds to pay for its maturing obligations. It is the bank's ability to immediately meet cash, cheques, other withdrawals obligations and legitimate new loan demand while abiding by existing reserve requirements. According to Elijah, Jaya and Jacklinne, (2017), liquidity management therefore involves the strategic supply or withdrawal from the market or circulation the amount of liquidity consistent with a desired level of short-term reserve money without distorting the profit making ability and operations of the bank. It relies on the daily assessment of the liquidity conditions in the banking system, so as to determine its liquidity needs and thus the volume of liquidity to allot or withdraw from the market.

In the light of this, Aburime (2009) noted that the purpose of business organization like bank is to maximize profit. Striking a balance between liquidity and bank return is of utmost importance. Many approaches have evolved over the years to measure bank performance such as the use of accounting ratio and econometric approaches. Most commonly approach is accounting ratio like return on investment, return on assets, and net interest margin among others.

Raza, Farhan and Akram (2011) aver that banking performance over the years has been measured in terms

of three major indicators or variables namely Profitability, Return on Asset (ROA) and Return on Capital Employed (ROCE). Profitability is the potential of a venture to be financially successful, the ability of an investment to make profit or the state or condition of yielding a financial profit or gain. Brealey, Myers and Marcus (2014) affirmed that manager often measure the performance of a firm by the ratio of net income to total assets, otherwise referred to as Return on Asset (ROA). Return on Capital Employed (ROCE) in Accountancy is a common method of measuring and judging the size of the return which has been made on the funds invested in a business. Omorukpe (2013) posits that ROCE is the ratio of an accounting entity for a period to capital employed in the accounting entity during that period usually expressed as a percentage. Various measures of profit and of capital employed may be used in calculating this ratio.

Hence, so many scholars have written much on the relationship between liquidity management and banks performance. Lamberg and Valming (2009) findings suggested that the adaptation of liquidity strategies do not have a significant impact on ROA. Only increased use of liquidity forecasting and short-term financing during financial crisis had a positive impact on ROA. Moreover, it was found that the importance of key ratios, which monitors companies liquidity have not changed between the studied time points. Li (2007) found that the result for liquidity on profitability is mixed and not significant, indicates that conclusion about the impact of liquidity remains questionable and further research is needed.

A study in Canada by Graham and Bordeleau (2010) suggest that a nonlinear relationship exists, whereby profitability is improved for banks that hold some liquid assets, however, there is a point beyond which holding further liquid assets diminishes a banks' profitability, all else equal. At the same time, estimation results provided some evidence that the relationship between liquid assets and profitability depends on the bank's business model and the risk of funding market difficulties. Adopting a more traditional, deposit and loan-based business model allows a bank to optimize profits with a lower level of liquid assets. If the liquidity of banks'

It is in line with the above submissions that this study appraised the effect of liquidity on the financial performance of banks in Nigeria.

1.2 Statement of the Problem

The issue of liquidity for organizations is very vital to the existence of any organization especially the deposit money banks. However, illiquidity of firms especially the banks can lead to loss of businesses thereby reducing the potentials of earnings and profitability. This is because high liquidity position of firm helps it to meet up with obligations of which some lead to funding of loans and advances that could aid the bank to earn income in form of interests and loans.

In the light of this, scholars have argued for and against liquidity as being critical in firms' life and profitability. Some scholars such as Duru and Ekwe(2013), argue found out that firms that maintain high liquidity earn high profitability. However, other authors argue that liquidity does not positively affect profitability. In other words for sustainable intermediation function, banks need to be profitable. Beyond the intermediation function, the financial performance of banks has critical implications for economic growth of countries. Good financial performance rewards the shareholders for their investment. This, in turn, encourages additional investment and brings about economic growth. On the other hand, poor banking performance can lead to banking failure and crisis which have negative repercussions on the economic growth, Ongore and Kusa (2013).

Liquidity problems may adversely affect the financial performance of a bank as well as its solvency. Some studies have shown a significant positive relationship between bank profits and liquidity while others have shown a weak positive relationship. Deposits money bank in Nigeria registered strong performance in 2013, exceeding the overall country economic growth. The banking sector in Nigeria was rated strong in 2013 using the capital adequacy, asset quality, management quality, earnings and liquidity rating system (Banking Supervision Report, 2013).

Although, studies have it that lack of adequate liquidity in a bank is often characterized by the inability to meet daily financial obligations. At time it may have the risk of losing deposits which erodes its supply of cash and thus forces the institution into disposal of its more liquid assets. As opined by Pandey (2015), managing monies of a firm in order to maximized cash availability and interest income on any idle cash is a function of liquidity management. However, the problems of weak corporate governance, poor capital base, illiquidity and insolvency, poor asset quality and low earnings are some of the constraints faced by the banking sector in Nigeria.

Some worked by Johnson(2008) examined the differences in financial ratio averages between industries. The results showed that liquidity management has no effect on the firm's profitability. Moreover, Kweri (2011) examined the same problem among manufacturing firms. There is no study done so far on the effect of liquidity management on the performance of commercial banks in Nigeria. It is the light of this, that this study has evaluated the effect of liquidity management on the financial performance of deposit money banks in Nigeria.

1.3 Objectives of the Study

This study evaluated the effect of liquidity asset on the financial performance of banks in Nigeria. The specific objectives include:

1. To ascertain the effect of liquidity on banks' profitability.
2. To appraise the effect of liquidity and Return on Capital Employed.

1.4 Research Questions

The following research questions will assist in the realization of the objectives of this study:

1. What is the relationship between banks' liquidity and profitability ratios?
2. How does efficient banks' liquidity and Return on Capital Employed?

1.5 Statement of the Hypotheses

1. Liquidity has no significant effect on banks' profitability.
2. Liquidity has no significant effect on banks' Return on Capital Employed.

REVIEW OF RELATED LITERATURE

2.1 Conceptual Framework

2.1.1 Liquidity

Liquidity the ability to settle obligations with immediacy". The management of liquidity is essential for financial and non-financial firms (Drehmann and Nikolaou, 2013). This is a responsibility of the bank to pay the financial obligations; the financial obligations contain long and short-term debts and other financial expenses. Liquidity is a way which is used by the bank or banking sector to transform assets into the shape of cash to made payment in cash (Diamond and Rajan, 2005). Jagongo and Makori (2013) opined that, this is a responsibility of all banks to encounter their fiscal duties, banks convert their current assets into the shape of cash to pay the due obligations. The banks having less amount in current assets will face difficulties in ongoing its processes and if the amount of currents assets is too high, this displays that the return on investment for the bank is not in the unspoiled state.

2.1.2 Financial Performance

Bank performance is the terms used in relation to its capacity to generate sustainable profitability. For a bank to be successful in its operations, managers must weigh complex trade-offs between growths, return and risk, favouring the adoption of risk-adjusted metrics (Bassey, Tobi, Bassey and Ekwere, 2016). Bank's performance measure can be classified into traditional, economic and market-based. For example Stern and Stewart developed a model called Economic Value Added (EVA) which takes into account the opportunity cost for stockholders to hold equity in a bank, measuring whether a company generates an economic rate of return higher than the cost of invested capital in order to increase the market value of the company (Raza, Farhan and Akram, 2011). There have been a large number of empirical studies on bank performance around the world especially commercial banks but, very little on bank performance has been done in Nigeria.

From the extant literature, researchers have applied several surrogates as metric measures of financial performance of banks. Such metrics according to Buba (2010) include a combination of financial ratios analysis, benchmarking and measuring of performance against budget. Others include return on assets, returns on equity, net interest margin, and a host of others. However, the European Central Bank (ECB, 2010) cautioned that a good performance measurement framework should encompass more aspects of the performance than just profitability embedded in pure market-oriented indicators and should be less prone to the manipulation from the markets. Taken this caveat, this study employed Return on Assets (ROA) as a metric of financial performance. ROA is a key proxy measure frequently used in the literature of bank financial performance. It shows the profit earned per naira of assets and most importantly reflects the management's ability and efficiency to utilize banks' financial and real investment resources to generate profits (Hassan & Bashir, 2003). The ROA depends on the bank's policy decisions as well as on uncontrollable factors relating to the economy and government regulations. Rivard and Thomas (1997) asserted that bank profitability is best measured by ROA because high equity multipliers do not distort it. Guven and Onur (2009) corroborated this view by submitting that researchers focus on and make use of ROA to measure bank profitability to guard against most of the limitations associated with the use of other accounting financial performance proxies.

Studying determinants of profitability of commercial banks in Qatar, Elsayed (2013) employed ROA as a proxy measure of bank financial performance the same manner Miko (2010) did in his study of the impact of consolidation on the profitability of banks in Nigeria. Both studies measured ROA as profit before tax over the total assets. Pandey (2009) explained that the appropriate measure of profit is profit before tax because it shows earnings arising directly from the commercial operations of the business without the effect of financing. Given this backdrop, this study measured ROA as the profit before tax divided by total assets and follow Elsayed (2013) and Miko (2010) in employing ROA as a proxy measure of bank profitability.

2.1.3 Profitability

The profitability of banking sector is important with the aim to estimate the constancy and reliability of the financial and banking sector (Albertazzi and Gambacorta, 2009). Another author described profitability as the variation between expenses and revenues through a fixed period of time, generally fixed period is consisting of one financial year (Heibati, Seid, and Dadkhah, 2009). This is essential of banks for to generate sufficient amount of income endure that will lead on the way additional growth and expansion.

Agbada and Osuji (2013) assert foremost a challenging part on the administration of the bank because numerous factors are involved in the decision. The profit planning and management is more complex in the highly challenging economic environment.

The profitability is represented by three alternative variables. First, most important profitability ratio is the return on asset (ROA), ROA shows the ability of bank asset to produce the profit. Another ratio is the return on equity (ROE), this ratio mentions the returns to shareholders on their equity. The next one is the return on Investment (ROI), it measures the bank's efficiency by using invested capital. Scholar stated that Earnings per share (EPS) serve as a pointer of a bank's profitability. Another scholar stated that Net profit margin (NPM) and Tobin Q as bank's profitability factor.

2.1.5 Return on Assets

Net income gives an idea of how well a bank is doing, but it suffers from one major drawback: It does not adjust for the bank's size, thereby making it difficult to compare how well one bank is doing relative to another. A basic measure of bank performance (profitability) that corrects for the size of the bank is the return on assets (ROA). It is calculated by dividing net income of the bank by the value of its assets. That is, profit before tax / total assets. ROA is a useful measure of how well a bank manager is doing on the job because it indicates how well a bank's assets are being used to generate profits. Brealey, Myers and Marcus affirmed that manager often measure the performance of a firm by the ratio of net income to total assets, otherwise referred to as Return on Asset [13]. Although ROA provides useful information about bank profitability, it is not the most important to equity holders.

2.2 Theoretical Framework

Below are the relevant theories to this study:

2.2.1 Shiftability Theory

The liquidity management theory focuses on the liability side of bank balance sheet. This theory contends that supplementary liquidity could be derived from the liabilities of a bank. According to Nwankwo (1991) the theory argues that since banks can buy all the funds they need, there is no need to store liquidity on the asset side (liquidity asset) of the balance sheet. Liquidity theory has been subjected to critical review by various authors. The general consensus is that during the period of distress, a bank may find it difficult to obtain the desired liquidity since the confidence of the market may have seriously affected and credit worthiness would invariably be lacking. However, for a healthy bank, the liabilities (deposits, market funds and other creditors) constitute an important source of liquidity.

This theory posits that a bank's liquidity is maintained if it holds assets that could be shifted or sold to other lenders or investors for cash. This point of view contends that a bank's liquidity could be enhanced if it always has assets to sell and provided the Central Bank and the discount Market stands ready to purchase the asset offered for discount. Thus this theory recognizes and contends that shiftability, marketability or transferability of a bank's assets is a basis for ensuring liquidity. This theory further contends that highly marketable security held by a bank is an excellent source of liquidity. Dodds (1982) contends that to ensure convertibility without delay and appreciable loss, such assets must meet three requisites. Liability Management Theory Liquidity management theory according to Dodds (1982) consists of the activities involved in obtaining funds from depositors and other creditors (from the market especially) and determining the appropriate mix of funds for a particularly bank. This point of view contends that liability management must seek to answer the following questions on how do we obtain funds from depositors, how do we obtain funds from other creditors?, What is the appropriate mix of the funds for any bank? Management examines the activities involved in supplementing the liquidity needs of the bank through the use of borrowed funds.

2.2.2 Liquidity Preference Theory

Bibow (2005) Keynes describes liquidity preference theory saying that people value money for both "the transaction of current business and its use as a store of wealth. Thus, they will sacrifice the ability to earn interest on money that they want to spend in the present, and that they want to have it on hand as a precaution. On the other hand, when interest rates increase, they become willing to hold less money for these purposes in order to secure a profit.

Elgar (1999) One needs money because one has expenditure plans to finance, or is speculating on the future path of the interest rate, or, finally, because one is uncertain about what the future may have in store so it is advisable to hold some fraction of one's resources in the form of pure purchasing power. These motives became

known as transactions-, speculative and precautionary motives to demand money. The banks' liquidity preference approach suggests that banks pursue active balance sheet policies instead of passively accommodating the demand for credit.

2.3 Empirical Literature

The following are some empirical studies done so far.

2.3.1 Effect of Liquidity on Profitability

Raheman and Nasr (2007) revealed a negative relationship between liquidity and profitability as well as a significant negative relationship between debts used by the firms and its profitability in a study which had average collection period, inventory turnover in days, average payment period, cash conversion cycle, current ratio, size of firm, and financial assets to total assets ratio as independent variables and net operating profit as the dependent.

Benjamin and Kamalavali (2006) had current ratio, quick ratio, inventory turnover ratio, working capital turnover ratio, debtor's turnover ratio, ratio of current asset to total asset, ratio of current asset to operating income, comprehensive liquidity index, net liquid balance independent variables while the dependent variable was return on investment (ROI) in an investigation that revealed a negative association between ROI and current ratio, cash turnover ratio, current asset to operating income and leverage. There was a positive association between ROI and quick ratio, debtor's turnover ratio, current asset to total asset and growth rate.

Konadu (2009) did a study on liquidity and profitability: empirical evidence from listed banks in Ghana. The objective of the study is to determine the liquidity trend of selected banks, to ascertain the profitability trend of the selected banks and to establish and analyze the relationship between the banks liquidity and profitability levels from 2002 to 2006. The researcher considered only banks listed on the Ghanaian stock exchange. The banks randomly selected were Standard Chartered Bank Ghana Ltd, Cal Bank Ltd and SG-SSB Ltd. The study the researcher considered current ratio, quick ratio, cash ratio, net operating cash flow ratio under liquidity ratios. Profitability ratios comprise of net profit margin, return on equity, return on assets and net asset turnover ratios. The researcher employed trend analysis to achieve the set objectives. The researcher found no positive relationship between liquidity trend and profitability. The research paper concluded that there is a negative relationship between liquidity and profitability in the Ghana banking sector.

Adebayo, Nworji and David(2011) examined liquidity management and commercial banks' profitability in Nigeria. Findings of this study indicate that there is significant relationship between liquidity and profitability. That means profitability in commercial banks is significantly influenced by liquidity and vice versa.

Saleem and Rehman (2011) sought to reveal the relationship between liquidity and profitability. The main results of the study demonstrate that each ratio (variable) has a significant effect on the financial positions of enterprises with differing amounts and that along with the liquidity ratios in the first place. Profitability ratios also play an important role in the financial positions of enterprises.

Agbada and Osuji(2013) examined empirically the effect of efficient liquidity management on banking performance in Nigeria. Findings from the empirical analysis were quite robust and clearly indicate that there is significant relationship between efficient liquidity management and banking performance and that efficient liquidity management enhances the soundness of bank.

Al-Tamimi and Obeidien (2013) identified the most important variables which affect the Capital Adequacy of Commercial Banks of Jordan in Amman Stock Exchange for the period from 2000 –2008. The study shows that there is a statistically significant positive correlation between the degree of capital adequacy in commercial banks and the factors of liquidity risk, and the return on assets, and there is an inverse relationship not statistically significant between the degree of capital adequacy in commercial banks and factors of the capital risk, credit risk, and the rate of force- revenue.

Ibe (2013) examined the effect of liquidity management on the profitability of banks in Nigeria. He found that liquidity management is indeed a critical issue in the banking sector of Nigeria. Lartey, Antwi, Boadi (2013) sought to find out the relationship between the liquidity and the profitability of banks listed on the Ghana Stock Exchange. It was found that for the period 2005-2010, both the liquidity and the profitability of the listed banks were declining. Again, it was also found that there was a very weak positive relationship between the liquidity and the profitability of the listed banks in Ghana.

Moein Addin (2013) investigated the relationship between modern liquidity indices and stock return in companies listed on Tehran Stock Exchange. Results indicated that there was a positive and significant relationship between comprehensive liquidity index and stock returns while there was no significant relationship between the index of cash conversion cycle as well as net liquidity balance and sock returns.

Almazari (2014) investigated the internal factors that have an effect on profitability in Saudi and Jordanian banks. He found that there is a positive correlation between profitability measured by ROA of Saudi and Jordanian banks with some liquidity indicators, as well as there is a negative correlation with other liquidity indicators between profitability measured by ROA of Saudi and Jordanian banks.

2.3.2 Effect of Liquidity on Return on Capital

Nimer, Warrad and Omari (2013) did a study on the impact of Jordanian Banks profitability through their return on assets. Bank profitability is the ability of a bank to generate revenue in excess of cost, in relation to the bank's capital base. This study sought to find out whether liquidity through quick ratio has significant impact on Jordanian banks profitability through return on asset (ROA). The study noted that a profitable banking sector is better able to resist negative impact and share in to the stability of the financial system. The study used the 2005-2011 financial reports of 15 Jordanian banks listed at Amman Stock Exchange (ASE). The return on assets (ROA) compares income with total assets (equivalently, total liabilities and equity capital). The independent variable in this was the quick ratio i.e. Cash +Short-term marketable investments +Receivables divided by current liabilities. A simple regression was done to examine the study hypotheses. The study revealed that there is significant impact of independent variable quick ratio on dependent variable return on asset (ROA). That means profitability through return on assets (ROA) in Jordanian banks is significantly influenced by liquidity through quick ratio.

Ibe (2013) studies the impact of liquidity management on profitability on banks in Nigeria. The work was necessitated by the need to find solution to liquidity management problem in Nigerian banking industry. Three banks were randomly selected to represent the entire banking industry in Nigeria. The proxies for liquidity management include cash and short term fund, bank balances and treasury bills and certificates, while profit after tax was the proxy for profitability. Elliot Rothenberg Stock (ERS) stationary test model was used to test the run association of the variables under study while regression analysis was used to test the hypothesis. The result of this study has shown that liquidity management is indeed a crucial problem in the Nigerian banking industry.

Emami , Ahmadi and Tabari(2013) studied the effect of liquidity risk on the performance of commercial banks in Iran. This study attempts to examine the effect of liquidity risk on the performance of commercial banks using of panel data related to commercial banks of Iran during the years 2003 to 2010. In the estimated research model, two groups of bank-specific variables and macroeconomic variables are used. In this research, the performance of fifteen Iranian banks is examined during an eight-year period from 2003 to 2010 using of panel data. The required data is drawn from the studied banks and the data related to macroeconomic variables including the growth of gross domestic product, consumer price index are drawn from central bank's site in order to calculate the inflation ratio. To determine the kind of estimation method in panel data, different tests are used. To select between common effects and the fixed effects, Limner's F-test was used and to select one of the model for the fixed effects against the random effects, Haussmann test was used. The study found that liquidity risk has a significantly negative effect on both criteria of the performance i.e. return on asset and return on equity. It means that liquidity risk will cause to weaken the performance of bank.

Maaka (2013) studied the relationship between liquidity risk and performance of commercial banks in Kenya. The objective of the study was to investigate liquidity risks faced by commercial banks in Kenya and establish the relationship between liquidity risk and the performance of banks in Kenya. The study adopted correlation research design where data was retrieved from the balance sheets, income statements and notes of 33 Kenyan banks during 2008-2012. Multiple regressions were applied to assess the impact of liquidity risk on banks' profitability. Data was collected from annual reports submitted to the NSE and Capital Markets Authority. The F- test was used to determine the significance of the regression while the coefficient of determination, R², was used to determine how much variation in Y is explained by X. The findings of the study were that profitability of the commercial bank in Kenya is negatively affected due to increase in the liquidity gap and leverage.

Kurawa and Abubakar (2014) examined the impact of liquidity on banks' profitability in Nigeria. The systematic random sampling method was adopted to select five banks over the period 2003 – 2012. The linear regression analysis was used to reveal the absence of a significant impact between liquidity and profitability among banks in Nigeria.

METHODOLOGY

3.1 Research Design: This study adopted the ex-post facto research design as the data utilized there in is historical. Data was sourced from the financial statements of banks studied.

3.2 Sources of Data

This study relied extensively on secondary data which were sourced from the annual report and statement of accounts of selected deposit money banks in Nigerian.

3.3 Sampling Size Determination

Out of the population of fifteen banks, five deposit money banks in Nigeria, the study adopted the random sampling.

3.4 Method of Data Analysis

Multiple regressions were applied in running the analysis.

3.4.1 Analytical Model

Financial performance ratios were computed as follows:

The model specification adopted from Ibe (2013) took the form below:

$$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e.$$

Where:

Y is a measure of financial performance through return on assets.

Return on Assets=Profit after Tax/Average Assets

b_0, b_1, b_2, b_3 ; are regression coefficients or parameters;

X_1, X_2, X_3 ; are independent variables;

X_1 = Liquid assets to total assets = (Cash in hand + Balances with Central Bank + Treasury bills and bonds + Balances with other banks – Balances due to other banks)/ Total Assets

X_2 = Liquid assets to total deposits = (Cash in hand + Balances with Central Bank + Treasury bills and bonds + Balances with other banks – Balances due to other banks)/ Total Deposits

X_3 = Balances due to other banks/ Total Assets

X_4 = Asset Quality = Non Performing loans/Gross Loans and Advances

Liquid assets consist of Cash in hand, balances with central bank, treasury bills and bonds less balances due to banks. Short term funding consists of balances due to other banks.

4.0 DATA ANALYSIS

4.2 Descriptive Statistics

Table 4.1: Descriptive Statistics

	R	O	A	L A / T A	L A / T D	B T D / T A	Asset Quality
M e a n	0.022473	0.331441	0.445763	0.061527	0.080820	0.034750	0.054700
M e d i a n	0.023800	0.309000	0.427400	0.034750	0.054700	0.0995615	0.0720339
Std. Deviation	0.0260908	0.1478031	0.4020199	0.0995615	0.0720339	0.000000	0.010000
M i n i m u m	-0.0930	-0.4610	-4.0680	0.000000	0.010000	0.000000	0.010000
M a x i m u m	0.0726	0.7086	1.3208	0.7792	0.4041	0.000000	0.4041

The descriptive statistics in the table above indicates that the mean of Return on Assets, was 0.022473 for the period of study with a standard deviation of 0.0260908 implying that the variability of the ROA values was low across time as indicated by the low standard deviation. The minimum and maximum values for ROA were -0.0930 and 0.0726 respectively whereas the median value was 0.0238.

The mean value of liquid assets to total assets (LA/TA) was 0.331441 and its median was 0.309. The standard deviation of the liquid assets to total assets was 0.1478031 which also implies low variability in its values over time and had a maximum of 0.7086 and a minimum of -0.4610.

The results further indicate that, Balances due to other banks to total Assets (BTB/TA) had a mean of 0.061527 and a median of 0.034750. The standard deviation in this case being 0.0995615 which is also an indication of the low variability in the values of Balances due to other banks to total Assets. The minimum and maximum value of Balances due to other banks to total Assets was 0.0000 and 0.7792 respectively.

Finally, the results indicate that Asset Quality had a median of 0.054700 and a mean of 0.08082. Its standard deviation was 0.0720339 with minimum and maximum values of 0.0100 and 0.4041 respectively.

Table 4.2: Test for Normality

	L A / T A	L A / T D	B T B / T A	Asset Quality	R	O	A
Kolmogorov-Smirnov Z	1.3613	0.6213	1.972	0.782	1.54	0.000	0.000
Asymp. Sig. (2-tailed)	0.049	0.000	0.000	0.000	0.000	0.000	0.000

Kolmogorov -Smirnov test of normality was used in the study. The null hypothesis under this test is that the variables are not significantly different from a normal distribution. The table below shows the Kolmogorov-Smirnov test of normality for the variables. Residual was established to be normally distributed (p-value = 0.055) and this meets the criterion required for linear regression analysis.

4.3 Regression Analysis

Table 4.3: Model Summary

M o d e l	R	R S q u a r e	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.0684	0.6450	0.228	0.020832	1.831

The model summary table above outlines the overall fit of the model. R Square value indicates the amount of variance in the dependent variable; return on assets by the predictor variables; Liquid assets to total asset, Liquid assets to total deposits, ratio of balances due to other banks to total Assets and the asset quality. 64.5% of the variance in the independent Variable (ROA) is jointly accounted by the variations in the predictor variables. The Durbin-Watson statistic of 1.831 indicates that the residuals in the model are not serially correlated as the Durbin-Watson statistic is approximately 2.

Table 4.4: Analysis of Variance (ANOVA)

	Sum of Squares	D	f	Mean Square	F	Sig
Regression	0.194	0	1	0.194	11.017	0.000
Residual	0.571	5	7	0.164		
Total	0.765	7	6	0.168		

ANOVA consists of calculations that provide information about levels of variability within a regression model and form a basis for the test of significance. The ANOVA table above indicates that the model is jointly significant (p-value<0.05) and thus the model is a good fit.

Table 4.3: Coefficients

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.0684	.645	.228	0.020832	1.831

The following regression equation was established

$$Y = 0.054 - 0.010X_1 - 0.022X_2 - 0.142X_3 - 0.124X_4$$

The table below presents the regression results where the predicted variable, Return on Assets is regressed against the predictor variables Liquid assets to total assets (LA/TA), Liquid assets to total deposits (LA/TD), Balances due to other banks to total Assets (BTB/TA), and Asset Quality. The results indicate that Liquid assets to total assets (LA/TA) is negative ($\beta = -0.010$) and insignificant (p-value = 0.555).

The results also show that Liquid assets to total deposits (LA/TD) is negative ($\beta = -0.022$) and significant (p-value<0.05). This implies that an increase in the ratio of liquid assets to total deposits decreases the return on assets.

The results further show that, Balances due to other banks to total Assets (BTB/TA) is negative ($\beta = -0.142$) and significant (p-value<0.05) at 5%. This implies that an increase in the ratio balances due to other banks to the total assets would lead to a decline in the return on assets. Lastly, the regression results show that Asset Quality had a negative ($\beta = -0.124$) and significant (p-value<0.05) relationship at 5%. This implies that an increase in the ratio of non-performing loans to Gross Loans and Advances would result to a decline in the return on assets of the bank.

4.5 Discussion of Results

From the findings of R square value indicates that there is variation in return on assets as a result of changes in liquid assets to total assets ratio, liquid assets to total deposits ratio, ratio of balances due to other banks to total assets and the asset quality. The resultant equation is as indicated below shows that commercial banks financial performance is impacted negatively by increase in liquidity measures.

$$Y = 0.054 - 0.010x_1 - 0.022x_2 - 0.142x_3 - 0.124x_4$$

Borrowing from Banks (X3) had the highest impact on liquidity at 14.2% which was largely similar to the control variable i.e. asset quality (X4) which had an impact of 12.4%. This implies that borrowing from Banks negatively impacted financial performance by 14.2% while asset quality negatively affected financial performance by 12.4%. A unit increase in borrowing from banks resulted in 14.2% reduction in Return on Assets. A unit increase in the proportion of non-performing loan in gross loans resulted in 12.4% reduction in Return on Assets. This is consistent with (Dang, 2011) found that the loan portfolio quality had a direct bearing on a bank's profitability. Banks with higher ratio of non-performing to performing loan book had lower returns. Li (2007) also found that banks with a higher loan loss ratio had lower returns.

Liquid assets to Total assets had an impact of 1% while Liquid assets to Total deposits had an impact of 2.2%. This implies that a unit increase in liquid assets to Total assets resulted in a 1% decrease in Return on Assets. Similarly, a unit increase in loans to deposits ratio resulted in 2.2% reduction in Return on Assets. Graham and Bordeleau(2010) found that profitability is improved for banks that hold some liquid assets, however, there is a point at which holding further liquid assets diminishes a banks' profitability, all else equal. Konadu (2009) found no positive relationship between liquidity trend and profitability. The research paper concluded that there is a negative relationship between liquidity and profitability in the Ghana banking sector. Olagunju, Adeyanju and Olabode (2011) found a significant relationship between liquidity and profitability of

commercial banks in Nigeria. The study concluded that for the success of operations and survival, commercial banks should not compromise efficient and effective liquidity management and that both illiquidity and excess liquidity are financial diseases that can easily erode the profit base of a bank as they affect bank's attempt to attain high profitability-level. Nimer, Warrad and Omari (2013) found that profitability through return on assets (ROA) in Jordanian banks is significantly influenced by liquidity. Ongore and Kusa (2013) on the contrary found that liquidity management was positively related to ROA, ROE and NIM but the relationship is very weak. They concluded that this may be due to the fact that liquidity management is more related with fulfilling depositors' obligation (safe-guarding depositors) than investment.

5.1 Summary of Findings

Following the analysis, the following findings have ensued:

1. Liquidity has positive and significant effect on banks' profitability ratios.
2. Liquidity has positive and significant effect on Return on Capital Employed.

5.2 Conclusion

This research study underpins or supports with evidence the fact that there exist a strong positive relationship between efficient liquidity management and banking performance in terms of Profitability and Return on Capital Employed (ROCE). Therefore the need for efficient liquidity management in the banking industry cannot be over emphasized particularly for reasons of maximizing profit levels and concurrently remaining liquid. For the banking industry in Nigeria, there is the need to emphasize 'the need to remain liquid'. The study buttresses the fact that efficient liquidity management can significantly influence returns on capital employed by a bank and as well impact positively on the bank's profitability and thus its stability.

The high number of illiquid banks in the Nigerian banking industry as seen in recent times appears to attest to the fact that most bank management in Nigeria do not either place emphasis on strategic liquidity management or are deficient in it. Even though they may be efficient, most businesses in the Nigerian economy are transacted purely on cash basis such that managing liquidity effectively becomes cumbersome. Effective liquidity management creates good public confidence in the financial system of a country and good public confidence prevents a 'run' on the banking system and consequently on the liquidity state of banks. Since economic laws and variables from this study and other related researches have attested to the fact that there is correlation between efficient liquidity management and banking performance, the poor liquidity state of Nigerian banks could be hinged on management. Therefore, there is the need to formulate policies that will enhance effective liquidity management in the banking industry in Nigeria and the public usage of cash.

5.3 Recommendations

Below are the recommendations of the study:

1. The need to replace being practiced in the advance economies of the world. Investing on human capital may be beyond just employees but also frequently creating an interactive forum where bank clients could be sensitized on a variety of activities they indulge in that are capable of hindering effective liquidity management.
2. The need to invest on human capital by banks as it offers the highest returns in terms of increasing performance and it also enhances the level of competence of the employee.
3. Regulatory authority should put in place appropriate policy with compliance measures to check high volume cash transaction and cash hoarding prevalent in the economy. This is important because liquidity management is cumbersome and may be ineffective in an economy that operate solely on large volume of cash transaction or conducts a large proportion of its transactions in cash. The Central Bank of Nigeria must critically review and follow-up or monitor the effectiveness of liquidity policy tools in banks and where necessary, appropriate sanctions placed on erring banks. This may be so in order to ensure effective implementation of these policy tools in an attempt to achieve desired liquidity level. While it may be true that CBN is effectively enacting and reviewing liquidity management tools such as the Open Market Operation, Cash Reserve Requirement, Liquidity ratios, Monetary Policy Rate among as often been stated in their Annual and Economic reports, compliance by the beneficiary banks is not guaranteed as bank returns to the regulatory authority has been reportedly falsified over times.

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