

## Liquidity Management And Its Impacts On Islamic And Conventional Bank's Profitability In Nigeria: A Comparative Study

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**Abstract:** The study investigates the impact of liquidity management on Islamic and conventional banks profitability in Nigeria for the period 2012-2019. First bank plc and Jaiz bank were both used to represent the conventional and Islamic banks in Nigeria respectively. Time series data were sourced from the quarterly bulletin of selected banks used for the study. Time series data were first subjected to preliminary analysis (descriptive statistics, unit root test & co-integration test) so as to ascertain the background characteristics of dataset. The ordinary least square estimation technique was used to capture the relationship between liquidity and profitability. Liquidity was measured by the liquid asset to total asset ratio (LATA), current ratio and cash ratio while bank size was used as a control variable. Profitability was measured using the return on asset. Empirical result indicated that profitability and liquidity have an inverse relationship in both conventional and Islamic banks; hence it was found to follow the risk return trade off. However, Islamic bank profitability was found to respond more significantly to changes in liquidity level than in conventional banks. The study concluded that liquidity and profitability relationship follows the risk return theory, although liquidity was found to be more significant in the Islamic banks. The study therefore recommended that banks keeps liquidity as needed to meet up defined liabilities and not needlessly keeping too much liquidity as it erodes banks profits.

**Keywords:** Liquidity, Profitability, Islamic Bank, Jaiz Bank, First Bank.

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Date of Submission: 18-06-2020

Date of Acceptance: 04-07-2020

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### I. Introduction

Islamic banking and finance have become a debatable topic as a result of immerse growth in non-interest banking According to the central bank of Nigeria (CBN), a non-interest bank is a bank which follows the core principles of Islamic jurisprudence when carrying out banking activities, making investments as well as when providing financial services for individuals and others in need of banking product and services. Countries with large Muslims population are searching for earnest ways to be include all into the financial system. Non-interest banking has become very important to feel this need especially as the Muslims population continues to increase. According to Haron (2004) a quarter of the world encompasses the Muslim population and only 14% of them have a formal bank account. Non-interest banking continues to rock the center stage as the Muslim population continues to grow especially with the younger generations aiming to save for their future. The inability of Muslims individuals to be captured in the financial sector stems from the fact that conventional banks do not adhere to the Islamic faith. Therefore, the inclusion of Muslims into the financial sector is expected to be made possible with the introduction of Islamic banking.

The Term "Islamic banking" can be used to refer to a banking system which is compliant with the core principles of Shariah. Islamic banking is aimed to provide alternative ways of banking other than the conventional methods, to equitably distribute wealth as well as foster economic growth (Islam, Alam & Hossain, 2014). It is imperative to note that banks operating non-interest banking system are not automatically qualified as an Islamic bank as a bank can only qualify if it operates in the framework of principles laid down in the Shariah (Aburine & Alo, 2010). As an example, any investment in company carrying out trades non-compliant to Shariah principles (alcohol, gambling, speculation et.c.) disqualifies the bank as being an Islamic bank. Currently, Nigeria has two institutions providing Islamic finance services in the country. These banks includes Stanbic IBTC and Jaiz bank in which the later was given the license to carry out full fledged Islamic operations while the former operates a window of Islamic banking (CBN Fact book, 2014). The establishment of these banks is expected to capture Muslims into the financial sector in Nigeria.

Like every other conventional bank, Islamic banks also yearn for profit/return and thus are not exempted from challenges faced by conventional banks. One of such challenge would include liquidity problems as liquidity is perceived to be negatively related to banks profitability. Liquidity is used to refer to the

ability of banks or any financial institution to pay up its short-term liabilities and this would imply that banks must be able to meet demands made by its creditors as at when called upon to do so. In the opinion of Eljelly (2004), when deposit money banks are able to meet up its short term obligations to its creditors at large, then that bank is said to be liquid. Managing liquidity should be of major concern to banks as problems arising in the banking industry can be attributive to failure in managing the liquidity and profitability tradeoff. Islamic banks are thus faced with the challenge of keeping required liquidity level as they also have in their position deposits from customers and other short term liabilities.

On the other hand while Islamic banks struggle in keeping adequate liquidity, they also yearn to maximum return from operations. In fact any bank unable to maintain adequate liquidity and declare reasonable profit for its shareholders can never see the light of the next day. Thus, in another word banks must make profit if at all they intend to continue in the line of business. Banks must also make profit to encourage existing shareholders and future investors. While banks must make profit, it must also ensure adequate cash or near cash, this therefore means that banks must be liquid at all times. Olanguju, Adeyanju, and Olabode (2011) made it clear that profitability and liquidity are two key contrasting objectives that a bank seeks to achieve. A bank with sufficient liquidity has better chance of meeting the cash needs of all its customers and this overcomes the risk of illiquidity. However, adequate liquidity means that the bank is tying down assets in cash that do yield any income. Hence the cost of adequate liquidity to a bank is the opportunity cost of lost income that the bank would have earned if such liquid assets were invested in high interest yielding investment.

The risk-return theory opines that higher risk should lead to higher return. This therefore follows that risk and return have a positive relationship, one increase as the other increases. Over time the liquidity – profitability relationship has been seen by some researchers to follow the risk-return theory. The risk return theory states that high risk should be met with an equally high return, Conversely low risk would also in effect yield a low return. Thus, as banks increase's their liquidity position the banks seeks to reduce risk and thus lower return. The other way is also true, as banks operate on low liquidity; they absorb a very high risk in which high return is expected.

Various schools of thoughts stipulate that excessive liquidity erodes firms profit making ability. Ehiedu (2004) is of the opinion that when firms cling to excessive liquidity it results in accumulating investable and loan able funds. Ehiedu (2004) went further to argue that if banks decides to adjust liquidity in such a way that it becomes very low, such bank would be operating on a keg of gun powder which can explode at any given point in time. It therefore follows that banks must balance these two conflicting objectives. The issue of liquidity management is unique to Islamic banking since they have limited instruments to hold on to their liquidity. Conventional banks employ various money market instruments to hold on to adequate liquidity position and such instruments usually comes with interest and becomes non-compliant with Shariah principles. Little or no Shariah complaint instruments limit sound liquidity management practices in Islamic banks. This therefore necessitates addressing the liquidity challenges of Islamic banks.

Liquidity and profitability nexus in conventional banks have been up for debate in the finance literature. An inverse relationship between liquidity and profitability has been recorded by most empirical studies (Abulaila & Alhathool, 2016; Opoku, 2015; Radhe & Deepa, 2015; Agbad & Osuji, 2013). In recent studies, empirical studies on Islamic finance have taken the center stage in research, hence lots of study has been undertaken to examine the determinants of profitability in Islamic banks (Hassan & Bashier, 2005; Abduh, 2013; Noman, 2015). Among other bank specific characteristics, bank liquidity level was a common factor found to significantly determine profitability in both conventional and Islamic banks. In the light of this, other research works have been carried out to investigate the linkage between liquidity and Islamic banks profitability (Maqbool, 2014; Noman, 2015; Anwar, 2020; Rasul, 2013). Empirical result has been found to be mixed and this might be as a result of the different liquidity measures used in the study. Most empirical studies conducted to link liquidity to profitability in Islamic banks have majorly been done outside the Nigeria scope, hence the establishment of an Islamic bank in Nigeria necessitates the need to carry out an empirical study on the impact of liquidity on Islamic banks in Nigeria.

Most empirical studies carried out have established a nexus between liquidity and profitability in conventional banks. The risk-return theory has been found to hold true in the conventional sector of the Nigeria banks. Could this also be said of the Islamic banks? This study intends to make a comparison between the Islamic and conventional banks in Nigeria.

## **II. Literature Review**

Liquidity in its utmost sense is the ability of any financial institution to meet its short term obligations, either by liquidating its current asset, borrowing or by means of its external reserve. The concept of liquidity has been interpreted by so many authors and practitioners to be the ability of banks to meet obligations when required to do so. Bank liquidity can be seen as the capacity of banks to finance increasing asset and meet unexpected and expected cash obligations without incurring unacceptable losses (GARP, 2013). Liquidity not

only entails ability to pay up short term obligations but capital that is available for investment (Olawaju & Adeyemi, 2015).

Where bank liquidity exists, illiquidity follows very closely if banks fails to adopt an efficient liquidity policy. While liquidity refers to banks ability banks to honor maturing debts, illiquidity is the inability to honor maturing obligations. A bank is said to be liquid when it easily and rapidly converts its assets at a very low cost. Liquidity being the life wire of every financial organization must be managed efficiently and effectively. Managing inventories, accounts receivables and accounts payable, customers deposits are current assets that must be managed to keep the bank liquid. Banks must balance its current assets and liabilities in such a way that liabilities are easily covered by its assets while avoiding excess liquidity at the same time (Eljelly, 2004).

In the words of Andabai and Bingilar (2015) "Liquidity management refers to all management decisions and actions that influence the size and effectiveness of liquidity". This therefore means that organizations can make decisions on the level of liquidity it needs, but at the same time abide by the general liquidity level stipulated by regulatory bodies. Managing liquidity entails balancing deposits with loan demands, so as to earn a return and operate at a safe margin. Banks can manage its liquidity level by holding highly marketable short termed financial instruments (treasury bills and certificates), accessing short term accommodation with the central bank and holding large amount of deposits (Agbada & Osuji, 2013).

### **2.1 Islamic Banking in Nigeria**

The Nigeria banking system have officially embraced Islamic financing model only in recent times, although at the time of independence the Muslim Bank of West Africa was already operational in Lagos. However, the bank met its end after the order of closure given by the then minister of finance in 1962. In 1992, two banks were given provisional license to operate as an Islamic bank but these banks closed immediately as a result of low success recorded. The year 1996 saw the birth of the Habib bank, which was licensed to operate an Islamic banking window in Lagos. However, since a workable non-interest framework was not yet in place, Habib bank met its end as a result of poor information and workability (Adebayo, 2010).

Numerous non-interest banking products were launched after Sanusi Lamido assumed office in 2009. The then Zamfara state government attempted to adopt the Islamic banking model so as to achieve its goal of including Muslims into the financial system. However, such idea could not be birth, although it later gave support to Jaiz international bank which was a private bank to become a full fledge Islamic bank (Ahmed, 2003). Since independence, Muslims in Nigeria have been financially excluded. Therefore, their desire to be financially included was finally giving hope when Nigeria became a member of the Islamic Development Bank (IDB) in 2005. In January 2009, the federal government through the CBN finally became a member of the International Financial Services Board (IFSB). The IFSB is an international organization aimed at setting standards for the financial service industry.

In August 2010, the CBN released the new banking model which the non-interest banking was named among specialized banks in Nigeria and were also allowed to operate at the national or regional level. The capital requirement for Islamic bank was placed at N10b for national banks while N6b was placed for those that wished to operate at the regional level. Later in September 2010, the NDIC rolled its exposure draft on non-interest deposit insurance scheme for stakeholders. In 2012, Jaiz bank became the first bank to be licensed to operate as a full fledge Islamic banking in the country. As at 2018 Jaiz banks already has about 32 bank branches as compared with only one branch recorded in 2013.

### **2.2. Liquidity management instruments under Islamic banking**

The commodity Murabahah have become a major instrument used to hold liquidity in Islamic banks. However, the technique, while providing Islamic Financial Institutions (IFI's) with a window to invest their short term funds, it leads to an inefficient use of funds due to its low returns. In the conventional banking system with a well-developed interbank market, there are a variety of instruments available to the banks. Access to interbank money markets for short-term borrowings gives considerable flexibility to a bank to adjust its short-term cash flow. Secondary markets in financial instruments have also become an important source for liquidity management, which banks can rely upon to manage their liquidity. However, for Islamic banks, the instrument has to be asset based; therefore, it is more closely related to the debt (bond) capital markets.

Effective liquidity management under Islamic banking has been hampered as a results of (i) small number of participants; (ii) slow development of Islamic financial instruments; (iii) lack of generally acceptable inter-bank market for Islamic banking; (iv) absence of a liquid Islamic secondary market; (v) lack of lender of last resort facilities and (iv) differences in Shari.,ah interpretations on Islamic banking (Norman, 2015). Islamic banking products can be readily categorized into short and long term. The deposit liabilities of most Islamic banks are short-term based and they include;

**a. Murabaha:** A popular instrument used by the Islamic bank is the Murabaha since it is mostly used in trade and financing assets. In Murabaha, goods are purchased by the banks and delivered to customers, but

payment is deferred to an agreed date. In this contract, the expected return is usually synchronized with interest payment on conventional loans. The commodity Murabaha is found to have a similarity with asset backed loans. One notable feature of the murabaha is its certainty of capital and returns. According to Bintube (2003), the murabaha is the most used Islamic products used for meeting maturing obligations in Islamic banks. Like asset backed securities, metals are bought with depositor's fund, making depositors co-owners of these metals. These metals are then sold on spot delivery but with deferred payment. The deposit taking institution at most times acts as agents to depositors by initiating the purchase and sales of the metal on their behalf. A markup is added to the cost of the metal which becomes the return on customer deposits.

**b. Wakala/Mudaraba:** In the Wakala arrangement, the depositor acts as the principal (Muwakkil) while the deposit taking institution becomes the agent (Wakil). The agent is trusted with the responsibility of investing deposits made by the principals (depositors) in various financial instruments compliant with Shariah. Any profit made by the agent (deposit taking institution) is shared with the principal (Muwakkil). However, any loss arising from trade or investment is borne only by the principal in as much as there was no negligence on the part of the agent

**c. Wadiah:** The *Wadiah* mirrors the conventional banks mutual fund scheme. The *Wadiah* is mostly used as a short-term retail deposit product. The deposit taking institution (Mouda Ladayhi) collects deposits from customers (Mouda) on the agreement that the full amount of deposit would be collected at maturity. Like the mutual fund, the Mouda Ladayhi pools deposits of various depositors and make an investment with them. However, unlike the wakala/mudaraba were loss is borne by the depositor, loss is borne entirely by the Mouda Ladayhi (deposit taking institution) in the *Wadiah*. (Amed, 2003).

### 2.3 *Theoretical Review*

Many theories have been postulated over time as regards the management of Banks liquidity, one of such theories includes *The Real bill Doctrine or Commercial Loan Theory*. The Real bill Doctrine or Commercial Loan Theory states that deposit money banks should offer only short-term self-liquidating loan to customers. Loans are said to be self liquidating when proceeds/return from the use of such loans are used to offset the original loan. For example, a Bank may advance a loan to a customer for the purchase of automobiles. The theory therefore stipulates that such a loan is self-liquidating when such automobiles are eventually sold off and the proceeds used for the repayment of such loans. The central bank is expected to only lend to banks on the basis of the security of short term loans advanced by the bank. This would enable bank keep proper liquidity and regulate general money supply. The strength of this theory lies on the fact that such loans are less likely to become bad debts since they have short maturities and have productive purposes. This theory is not without limitations and one of such limitation is the fact that if a bank is to advance fresh loans only after repayment of previous loans, borrowers would be disappointed and would be forced to reduce production. Reduction in production would mean even lower return and eventually such loan would risk becoming doubtful. Should all banks follow the same principle, money supply would be adversely affected making it even more difficult for debtors to repay existing loans. Another limitation to this theory lies on the assumption that loans are self-liquidating wish is not always the case. For a loan to be self liquating, a third party is required to make a purchase of whatever was produced and where this is not the case, such loans risk becoming a bad debt.

H.G Moulton propounded the shiftability theory which is aimed at managing banks liquidity. This theory asserts that banks do not necessarily need to rely on maturities. Rather banks can simply hold assets that can be easily shifted to other banks when liquidity needs arises. Such asset should be able to retain its value even after it has been shifted to a third party. Example of shift able assets includes money market instruments such as treasury bills, certificate of deposits and other bills of exchange that can be easily sold without capital loss. Banks are also expected to hold assets that can be shifted to the central bank especially during general liquidity crisis as no banks would be able to accept assets from other banks. The weakness of this theory is that mere shift-ability of assets does not guarantee liquidity in the entire banking system as banking system liquidity depends on economic conditions.

H.V Prochanow postulated the Anticipated Income Theory of liquidity management. This theory states that the anticipated income of the borrower is the primary bases for advancing loans regardless of the borrower's nature and character. *This* would imply that the bank would consider not only the security for the loan but the anticipated earnings of the borrower since the loan is to be repaid from his earnings. Thus, instead of in a lump sum at the maturity of the loan, a loan by the bank gets repaid out of the future income of the borrower in installments.

### 2.4 *Empirical Review*

#### 2.4.1 *Liquidity management and Conventional Banks Profitability*

Over the years, different scholars and researchers have examined the relationship between liquidity and profitability. Fifteen (15) quoted banks in Nigeria were investigated in the study of Olarewaju and Adeyemi

(2015) to ascertain the casual relationship between liquidity and profitability. The result from the granger causality test indicated no causal relationship for majority of the banks, although four (4) banks were found to record a uni-directional causality running from liquidity to profitability. The study of Comfort and Bassey (2015) investigated the relationship between liquidity and profitability in Fifteen (15) Nigeria banks. The study found an inverse relationship between liquidity and profitability when return on equity was used as profitability measure. However, no significant relationship was found between liquidity and profitability when return on asset was used as profitability measure.

Takson and Atseye (2015) examined forty six (46) firms quoted on the Nigeria stock exchange so as to ascertain the relationship between working capital management and banks profitability. Working capital management was measured using cash conversion cycle (CCC), size, growth of firm, liquid ratio, account receivable and inventory. The study was conducted under the least square framework and empirical result indicated that all working capital variables had a significant negative relationship with profitability.

The study of Muhammad and Aisha (2016) found that the relationship between liquidity and profitability is not straight forward as empirical result is a function of the measure of profitability measure used. For example, when return on asset was used as a measure for profitability, current ratio was found to be negative while liquid and quick ratio recorded a positive relationship. On the other hand, no significant relationship was found when return on equity was used as a measure of profitability. This was also the case when liquidity variable were regressed against return on investment. The study of Ehiedu (2004) saw no significant relationship between liquidity and profitability in the Nigeria industrial companies. Specifically, only current ratio was found to have an insignificant positive relationship with profitability, while other liquidity variables were found to have a negative relationship with profitability.

Ikeora and Werigbelagha (2016) included macro-economic variables to check for the relationship between liquidity and banks profitability. Specifically, money supply and aggregate bank deposit were found to have a positive relationship with profitability. The Nigeria government was then advised to formulate policies directed towards manipulating money supply so as to facilitate economic growth. In a similar study, Akmal, Ali and Muhammad (2016) investigated the impact of liquidity management on profitability in Pakistani banks. All liquidity variables used for the study were found to have a positive relationship with profitability. Ibe (2013) investigated the impact of liquidity management on banks profitability in Nigeria. Liquidity variables (cash and short term funds, bank balance and treasury bills) were found to have no significant relationship with profitability.

Irawan and Faturohmwan (2015) investigated the Indonesian capital market to examine the liquidity and profitability nexus during 2005-2013. An inverse relationship was found between liquidity and profitability both in the agricultural and consumer goods sector of the capital market. Umobong (2015) examined the influence of liquidity and profitability level on profit growth in Nigeria pharmaceutical firms. A positive relationship was found between liquidity and profitability variables on profit growth. Although an inverse relationship was found between equity and profit growth.

#### **2.4.2 Liquidity management and Islamic Banks Profitability**

There have been a growing number of researches done to investigate the impact of liquidity management on Islamic bank profitability. Olaoye and Dabri (2013) analyzed Islamic banking operations in Nigeria so as to identify possible challenges and prospects of operations. The study found that some of the challenges include lack of awareness, manpower, legal framework, and cash requirements. While Islamic banking was expected to foster economic growth and attract investors. Hassan and Bashir (2005) investigated the determinants of Islamic banking profitability for the period 1994-2001. Internal factors such as capital ratio and loan to asset ratio were found to be positively related to profitability. External Factors viz a viz taxation was found to have a negative impact on profitability. However, favorable macroeconomic fundamentals were found to enhance Islamic bank profitability.

Noma (2015) conducted an empirical investigation of profitability of Islamic banks in Bangladesh for the period 2003-2013. The GMM framework was utilized to capture the relationship between dependent and independent variables. Credit risk, loan ratio, cost efficiency and capitalization were found to have a negative relationship with profitability. Bank size was found to have a positive impact on Islamic bank profitability. Abduh (2013) examined the determinants of Islamic profitability in Malaysia for the period 2006-2010. Empirical results indicated that bank size was significant in explaining variations in profitability. Financial market development and market concentration were found to have a significant positive impact on Islamic banks profitability.

Maqbool (2014) investigated the impact of liquidity on Islamic bank profitability in Pakistan. Liquidity was found to have an inverse relationship with profitability. This study was confirmed by the later submission of Khasharmeh (2018) were liquidity was found to be a significant driver of profitability. The study of Rana et al (2016) compared the performance of Islamic and conventional banks in Bangladesh for the period 2013-2014.

Higher profitability was found in Islamic banks as compared to conventional banks, thus Islamic banks were found to be superior to conventional banks in terms of profitability, solvency and liquidity.

The study of Chowdhury and Ahmed (2009) found that Islamic banks had higher deposits than conventional banks in Bangladesh. This finding was later confirmed in the study of Saifullah (2010) where Islamic banks were found to perform better than conventional banks in terms of profitability. Shahchera (2012) investigated the impact of liquid asset on Islamic bank profitability in Iran under the framework of generalized method of moments (GMM) for the period 2002-2009. Empirical findings indicated that there is a significant relationship between liquidity and banks profit in Islamic banks.

### III. Methodology

This study would employ the ext-post factor research design. This is necessary as the design examines just how a set of independent variables affect a dependent variable. The Nigeria Banking sector would serve as the study population while Jaiz and first bank plc would be drawn as the study sample. Jaiz bank is being used as a sample for this study as it is the only full fledge Islamic bank in the country. First bank plc is chosen as it represents one of the largest and oldest conventional banks in Nigeria. Quarterly data would be collected from the annual financial reports published by the banks. Quarterly data covering the period 2012 Q1-2019Q4 would be used for accessing the relationship between liquidity and profitability variables.

#### 3.1. Model Specification

In an attempt to capture the liquidity profitability nexus, the study would be specifying two models to test independently the nexus between liquidity and profitability variables. The functional model for the study is shown below;

$$ROA = f(LATA, CR, CHR, BSIZE)$$

*Model 1 for First Bank*

$$ROA = f(LATA, CR, CHR, BSIZE)$$

*Model 2 For Jaiz Bank*

Model 1 and 2 cannot be empirically tested, thus we re-specify them in an econometric form, and this is stated below

$$ROA = \alpha_0 + \alpha_1 LATA + \alpha_2 CR + \alpha_3 CHR + \alpha_4 BSIZE + \varepsilon_t$$

*Model 1*

$$ROE = \alpha_0 + \alpha_1 LATA + \alpha_2 CR + \alpha_3 CHR + \alpha_4 BSIZE + \varepsilon_t$$

*Model 2*

Where;

ROA = Return on Assets

ROE = Return on Equity

LATA = Liquid Asset to Total Asset

CR = Current Ratio

CHR = Cash Ratio

Bsize = Bank size.

$\varepsilon_t$  = stochastic or Error term

$\alpha_0$  = Regression Constant

$\alpha_1 - \alpha_3$  = Beta Coefficient

We therefore make the following mathematical Apriori expectations

$$\alpha_1 - \alpha_2 < 0, \alpha_3 > 0$$

*Model 1*

$$\alpha_1 - \alpha_2 < 0, \alpha_3 > 0$$

*Model 2*

#### 3.2. Description of Variables

a. **Return on Asset (ROA):** Radhe and Deepa (2015) defines as a financial ratio that shows the percentage of profits earned by firms in relation to its total assets. In other word, ROA implies how much profit a bank has earned as a result of the accumulation of various assets. This ratio measures the net income earned by total assets of the company during a financial year. This therefore follows that ROA quantify how efficiently the total asset of a firm has been put to use. ROA can be obtained by dividing the net income by total asset. High ROA ratio indicates that a company is effectively managing its asset so as to earn high amount of income. A positive ROA indicates an upward profit trend.

b. **Cash ratio:** Cash ratio measures cash and cash equivalents in relation to its current liabilities. Cash ratio measures to what extent banks or financial organizations can cover up its current liabilities with just the cash and cash equivalents at its disposal. In determining the cash ratio, other liquid assets like inventory and accounts receivables are excluded from the current asset. Banks can determine its cash ratio by dividing its cash and equivalents by its current liabilities

c. **Bank Size:** this ratio is used to measure the amount of asset owned by the bank. Larger banks are better able to offer financial services at low cost.

d. **Liquid Asset to Total Asset Ratio:** This ratio indicates the overall liquidity of the bank. It looks at how much of liquid assets makes up the total asset. Examples of liquid asset are cash in hand, bank balance with CBN and money at call. This ratio is derived by dividing total liquid asset by total asset.

e. **Current ratio:** this is an indicator that indicates to what extent a bank or any financial institution can meet up its short term obligations. The current ratio measures the ability of banks to cover its maturing short term obligations using its current assets. Current ratio is obtained by dividing banks current assets with its current liability. Banks with high current ratio indicates that the bank is meeting up its short term liability.

### 3.3 Method of Data Analysis

The empirical work would begin by subjecting the variables to descriptive statistics in order to determine the normality of the distribution table. The mean, standard Deviation and Jaque Berra would be given proper attention as they give a quick overview of the normality of variables. If the data are observed to be normally distributed, the data would then be subjected to various preliminary tests to determine the time series characteristics.

Secondly, since most macroeconomic time series are trended and in most cases non stationary, using a non stationary time series would result in spurious regression leading to incorrect conclusions. Therefore, to determine the stationarity of the series the data would be subjected to a unit root test to determine the presence or absence of unit root. The series is said to have a unit root when it exhibits white noise, thus one would need to difference the series to make it a stationary one (free from unit root). The Augmented Dickey Fuller (ADF) test for unit root would be employed in this study. Following closely would be the determination of long run relationship between variables of study. The Johansen Julius test for co-integration would be employed and finally the Ordinary least square estimation technique would be used to determine the level of relationship existing between the dependent and independent variable. The ordinary least square method is chosen as a result of its simplicity and applicability in estimating linear models. The OLS is also accredited with its ability to fit a function with the data by minimizing the sum of squares errors from the data. The OLS has also been found to be the best linear unbiased estimator since it provides minimum variance mean estimation when the errors have finite variance.

## IV. Results

### 4.1 Descriptive Statistics

The descriptive statistics show the characteristics of the data set. It informs the researcher as to whether the data set maintains a normal distribution curve.

**Table 4.1a Summary Statistics (First Bank)**

Variables	Mean	Std.Dev	Skewness	Kurtosis	P.Value(J.Berra)
ROA	0.013	0.008	0.621	2.881	0.353
LATA	0.751	0.082	0.683	2.732	0.274
CR	1.090	0.166	0.241	2.775	0.827
CAR	0.243	0.088	-0.930	2.688	0.093
BS	12.592	0.136	0.124	1.706	0.314

  

Jaiz Bank					
Variables	Mean	Std.Dev	Skewness	Kurtosis	P.Value(J.Berra)
ROA	0.009	0.005	0.507	2.028	0.268
LATA	0.449	0.201	-0.159	1.861	0.393
CR	1.098	0.360	0.010	2.059	0.554
CAR	1.212	0.890	1.542	4.148	0.000
BS	7.697	0.272	-0.957	3.622	0.066

Source: Authors Compilation from Eviews 9.0

The summary statistics of the dataset is presented in the table above. Table 4.1a&b shows clearly the basic characteristics of dataset for Jaiz and First bank respectively. The mean result indicates that during the period of study, FBN had more return on its asset than its counterpart (0.01 > 0.009). Result also shows that Jaiz bank holds an acceptable liquidity positin as indicated by the mean value of its liquidity indicators (LATA (0.44), CR (1.09), CAR (1.21)). This result beats our expectation as the Islamic section of the banking industry is expected to hold little liquidity as a result of scarce liquidity instruments. On the other hand, the conventional section (FBN) is found to have an adequate liquidity level but compares lower to that of its counterpart. The Islamic section is found to have more of its asset on long term and tangible assets and less on liquid assets. This again emphasizes the need of development of short term instrument compliant to Shariah principles. On the

other hand, FBN is found to be have higher liquid assets, implying that FBN has more of highly liquid asset in its portfolio of assets. Jaiz bank is found to have higher cash ratio, implying that it keeps more idle cash which could be invested in highly liquid instruments. This could explains the low level of profit recorded by jaiz bank during the period of study. The Jaque Bera test statistics indicates that all variables in the dataset form a normal distribution table. This is so as their p-values are found to be greater than 0.05%, making the rejection of the null hypothesis statistically impossible.

#### 4.2 Unit Root Test

**Table 4.2 Unit Root Test Result**

First Bank				Jaiz Bank			
Variable	Levels	1st Diff	2 <sup>nd</sup> Diff	Variable	Levels	1st Diff	2 <sup>nd</sup> Diff
ROA	-1.655 (0.44)	-2.432 (0.14)	-5.743 (0.00)	ROA	0.695 (0.831)	-5.322 (0.002)	-4.78 (0.00)
LATA	-2.689 (0.08)	-2.629 (0.09)	-6.732 (0.00)	LATA	-1.077 (0.711)	-2.55 (0.113)	-6.61 (0.00)
CR	-1.969 (0.298)	-2.703 (0.08)	-6.716 (0.00)	CR	-2.72 (0.256)	-2.92 (0.05)	-3.55 (0.01)
CAR	-2.402 (0.149)	-2.57 (0.10)	-6.712 (0.00)	CAR	-4.302 (0.00)	-1.690 (0.42)	-4.36 (0.00)
BS	-0.506 (0.871)	-2.04 (0.26)	-4.922 (0.00)	BS	-0.255 (0.92)	-0.199 (0.92)	-5.83 (0.00)

Source: Authors compilation from Eviews 9.0 output.

The table above shows the stationarity of variables in the dataset. The variables were first checked at their levels to ascertain their level of stationarity. All variables were found to be non-stationary at their levels, with exception to CAR in the case of Jaiz bank. Variables that were found to be non-stationary at levels were subjected to their first difference so as to bring them to stationarity. But all variables were found to attain full stationarity after their second difference in both cases ( FBN, Jaiz bank).

#### 4.3 Co-integration Test

**Table 4.3 Co-integration Test Result**

First Bank Plc			Jaiz Bank Plc		
Null Hypotheses	Trace statistics	Critical Value	Null Hypotheses	Trace statistics	Critical Value
r = 0*	89.51672	69.81889	r = 0*	80.61475	69.81889
r < 1*	60.99641	47.85613	r < 1*	53.06221	47.85613
r < 2*	37.37646	29.79707	r < 2	28.66157	29.79707
r < 3*	19.50339	15.49471	r < 3	12.37604	15.49471
r < 4*	5.672998	3.841466	r < 4	0.142996	3.841466

Source: Authors computation using E-views 9.0 output

The Johansen test for co-integration was used to test for the long properties of the variables for both banks. For First bank, all variables are found to have a long run relationship as indicated by the number of co-integrating equations. Result showed that the null hypothesis of no co integration was rejected till the last equation, making five (5) co-integrating equations. Similarly, result from Jaiz bank also indicates the presence of a long run relationship between its variables. Of the five (5) variables tested, two variables were found to be co-integrated. The null hypothesis of no co-integration could not be rejected for all ranks. It is against this background that this study establishes a long run relationship between variables of the study for both study samples.

#### 4.4 Regression Analysis

**Table 4.4a Regression Summary (First Bank Plc)**

Variables	Coefficient	t-statistics	p-value
LATA	-0.026	1.316	0.19
CR	-0.006	-0.600	0.55
CAR	-0.084	4.780	0.00
BS	-0.067	-4.031	0.00
C	0.831	4.008	0.00
R <sup>2</sup>	0.63		
Adj.R <sup>2</sup>	0.57		
D.W	1.63		
F.Stat	11.64		

Source: Authors Compilation from E-views 9.0 output



Table 4.4a captures the relationship between liquidity and profitability in first bank plc. The co-efficient of determination indicates that the explanatory power of the independent variables is fair (0.63). This would mean that the independent variables explain 63% variations in the dependent variable. The F-stat. indicates that the variables of the study have a linear relationship as indicated by the f-statistics (11.6). The D.watson test also shows that the entire estimation is free from autocorrelation (1.6). Therefore we can estimate and interpret the individual relationship in the model.

An interesting transmission pattern is observed between liquidity variables and profitability. An inverse relationship is found between all liquidity variables and profitability. liquid asset to total asset ratio (LATA) is found to have an inverse relationship with profitability during the period of study. A unit change in LATA is expected to lead to an inverse movement in profitability by the value of its coefficient (-0.026). This relationship is found to be statistically insignificant ( $0.199 > 0.05$ ) under the 5% level. Current ratio (CR) is seen to have a negative relationship with profitability. Higher liquidity as measured by CR would lead to dwindling bank profitability and this relationship is also not statistically significant at the 5% level ( $0.55 > 0.05$ ). Similar pattern is also observed between cash ratio and profitability level. It is observed that as banks continue to increase the amount of cash kept in the vault or other cash equivalents, the higher its opportunity cost (expected return) hence, dwindling returns. This result is found to be in line with the risk return theory, were profitability/return is found to increase with dwindling liquidity level (higher risk).

Notable is the sign of bank size in the result summary. Bank size is found to have a negative relationship with profitability. This would imply that although banks enjoy significant economies of scale as a result of size, the gains in profitability as size increases diminish. Thus, as stated earlier, First bank plc is one of the largest bank in the industry, it is therefore logical to assume that the bank has gotten to the point of diminishing return were subsequent increase in size has no significant influence on profitability. This relationship is found not to be statistically significant.

**Table 4.4b Regression Summary (Jaiz Bank Plc)**

Variables	Coefficient	t-statistics	p-value
LATA	-0.055	-5.244	0.00
CR	0.018	3.875	0.00
CAR	-0.001	-0.735	0.46
BS	0.006	0.998	0.32
C	-0.036	-0.682	0.50
R <sup>2</sup>	0.551		
Adj.R <sup>2</sup>	0.484		
D.W	1.636		
F.Stat	8.291		

**Source: Authors computation from E-views 9.0 output**

Table 4.4b captures the relationship between liquidity and profitability in Jaiz bank. The co-efficient of determination indicates that the explanatory power of the independent variables is fair (0.55). This would mean that the independent variables explains 55% variations in the dependent variable. The F-stat. indicates that the variables of the study have a linear relationship as indicated by the f-statistics (8.2). The D.watson test also shows that the entire estimation is free from autocorrelation (1.6). Therefore we can estimate and interpret the individual relationship in the model.

The individual relationship between variables of study is also presented in table 4.4b above. The relationship between liquidity and profitability in Jaiz bank is found to be mixed. For example, a negative relationship is found between two liquidity variable and profitability while the other is found to be positive. Liquid asset to total asset ratio is found to have an inverse relationship with profitability. A unit shock in LASA would trigger a negative response from profitability level by the value of its coefficient (-0.05). This would imply that an increase in the bank liquid asset would lead to a decrease in its profitability level and this relationship is found to be statistically significant at the 1% level (0.00). This is in line with the risk return theory that observes profit declining as risk reduces. The same pattern is found between cash ratio and profitability level. A negative relationship is found between cash ratio and profitability level. A unit innovation in cash ratio is expected to lead to a response in profitability level by the value of its coefficient (-0.01). As bank continues to hold idle investable funds, it increases its opportunity cost (expected return). Therefore, the higher

the cash kept in the vault or other cash equivalent, the lower its expected profit. Current ratio (CR) is found to have a positive relationship with profitability. A movement in the CR level would lead to a positive movement in profitability by the value of its co-efficient (0.01). This would imply that the more efficiently bank covers up their current liability, the higher its profitability level. This positive linkage can stem from increased customer's confidence, the higher the customer's confidence, the higher the customer patronage. The relationship between current ratio and profitability is found to be statistically significant at the 1% level. Bank size is found to have no statistical significance with profitability level, although the relationship is found to be positive as bigger banks are expected to make larger profits.

#### **4.5 Discussion of Findings**

This study attempted to investigate the impact of liquidity management on banks profitability in both the conventional and Islamic banks of Nigeria. Empirical results indicate that within the period of study, Islamic bank had higher liquidity than the conventional bank. However, the conventional bank was found to have performed better in terms of its return on assets during the period of study. This results confirms the risk return tradeoff were higher risk is found to lead to higher expected return. In this case, the conventional banks higher profitability can be attributed to its lower liquidity position (higher risk). Interesting transmission patterns were found in empirical results. Profitability was seen to have an inverse relationship with liquidity level although with the exception of current ratio in the case of Islamic banks. Although profitability in both Islamic and conventional banks are found to respond to changes in liquidity level, careful examination indicates that profitability is found to respond less significantly to changes in liquidity level. On the contrary, Islamic bank profitability is found to respond more significantly to changes in liquidity level.

Therefore, one can posit that liquidity is not a strong determinant of conventional bank profitability. However, the reverse is observed were profitability is significantly driven by liquidity in Islamic banks. The findings of this study is in line with the submission of Ran et al (2016) were Islamic banks were found to fare better than conventional banks in terms of profitability and liquidity. The findings of this study is also found to be in line with studies of Suresh and Bardastani (2016) and Suifullah (2010) were Islamic bank liquidity were found to rank higher than conventional banks.

### **V. Conclusion And Recommendation**

This study sets out to investigate the nexus between liquidity management and profitability in both the conventional and Islamic banks in Nigeria for the period 2012-2019. The ordinary least square estimation technique was used to capture the relationship between liquidity and profitability variables. First bank plc and Jaiz bank were the center stage of the empirical analysis. Empirical result indicated an inverse relationship between liquidity and profitability in both conventional and Islamic banks. However, it was found that Islamic bank profitability responds more to variations in liquidity level. Liquidity was found not to be a strong determinant of conventional banks profitability. Islamic and conventional banks were both found to follow the risk return theory, were higher risk should lead to higher returns.

Premise on research findings, it is therefore the conclusion of this study the relationship between liquidity and profitability in both conventional and Islamic in Nigeria is negative. However, Islamic banks profitability was found to respond more to changes in liquidity level. It is therefore the recommendation of this study that this study recommend that banks in general keeps liquidity as needed to meet up defined liabilities and not needlessly keeping too much liquidity as it erodes banks profits. Islamic Bank in particular would need to create various instruments/medium of keeping liquidity that can be complaint with Islamic laws and principles. The CBN and other Islamic regulatory body is also called upon to act as a lender of last resort for these banks so they can have a way out in times of liquidity crisis. The capital base of Islamic should also be reviewed to that the bank can have a cushion to absorb shocks resulting from liquidity problems.

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Osasere Bencharles, et. al. "Liquidity Management And Its Impacts On Islamic And Conventional Bank's Profitability In Nigeria: A Comparative Study." *IOSR Journal of Economics and Finance (IOSR-JEF)*, 11(4), 2020, pp. 10-20.