

# Liquidity Management and Banks Performance in Nigerian Banking Industry

Odutola, AkanbiOluyemi

Department of Accounting, Faculty of Financial Management, Ogun State Institute of Technology, Igbesa, Ogun State

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## Abstract

The primary objective of this research work is to evaluate the impact of liquidity management on banks performance in Nigerian Deposit Money Banks, The research is conducted on five Deposit Money Banks in Nigeria which include UBA, ACCESS, ZENITH, ECO and FIRST Bank. The sample size is forty questionnaires were distributed to each deposit banks having 8 questionnaires each, the result from first hypothesis shows that the p-value (0.743) is greater than (0.05) ( $p\text{-value} > 0.05$ ). We accept  $H_1$ , The result from second hypothesis shows that the p value (0.72) is greater than (0.05) ( $p\text{ value} > 0.05$ ). We accept  $H_1$ , also, that of third hypothesis shows that the p-value (0.214) is greater than (0.05) ( $p\text{-value} > 0.05$ ). We accept  $H_1$ . Based on the critical evaluation of the findings, made in this study, we hereby make the following recommendations with the sincere conviction that they will help to reduce if not totally eradicate the problems associated with liquidity management and profitability in deposit money banks in Nigeria, and concludes that relevance of liquidity management in the Nigeria banking sector cannot be over-emphasized, as it became more pronounced after the sector's recent re-capitalization

**Key Words:** Liquidity, Management, Bank Performance,

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## I. Introduction

Banks are important institutions in the financial system that contribute significantly toward the development of any economy and they are treated as essential service firms in modern world due to their intermediating roles between the surplus and deficit sectors of the economy. Nowadays, the function of banks is not limited to the geographical boundaries of any country as a result of the globalization of trade and investment. The banking institution had contributed significantly to the effectiveness of the entire financial system as they offer an efficient institutional mechanism through which resources can be mobilized and directed from less essential uses to more productive investments (Wilner, 2019). Such financial intermediating roles of banks is not without problems since the deposits from the fund saver which have been invested by the banks for profit maximization, can be recalled or demanded when the latter is not in position to meet their financial obligations. Besides, the intensity of competition in the Nigerian banking sector due to the emergence of new mega banks after the consolidation and recapitalization programme, every Deposit Money Bank (DMB) strives to ensure that it operates on profit and at the same time meets the demands of its depositors and other financial obligations by maintaining adequate liquidity at all time (Olagunju, Adeyanju&Olabode, 2018).

Banking System is the heart beat of every economy system and many factors affect and determine its performance.

- Liquidity as one of these determinants performs a crucial function in the successful operation of a business firm and it is mostly important to make it known that a bank is liquid when it has the ability to settle obligations instantly. The problem of this performance parameter may be because of the profit intensity of the banks by them which affect the liquidity (Smith 2017).
- Liquidity management and bank performance are key factors in determining the development, survival, sustainability, growth and performance of a banking system and the ability to handle the trade-off between the two is a source of concern for bank managers. For instance, banks make loans that cannot be sold quickly at a high price and also issue demand deposits that allow depositors to withdraw any time. Such a mismatch of liquidity, in which a bank's liabilities are more liquid than its assets, causes problems for banks when too many depositors attempt to withdraw at once as it affects bank liquidity position. Many banks have investment in safe and high yielding illiquid assets but are tied up in loans.

### **Research Objectives**

The broad objective of study is to examine the impact of liquidity management on bank performance of deposit bank in Nigeria between 2015-2020. The specific objectives are;

- (i) To determine the nature and extent of relationship between liquidity and profitability
- (ii) To determine the impact of loan to deposit ratio and asset quality on the net interest margin of banks.
- (iii) To assess the impact of liquidity ratio on the net interest margin of commercial banks

### **Research Questions**

- To what extent is the relationship between liquidity and profitability?
- What is the impact of loan deposit ratio and asset quality on the net interest margin of banks?
- What is the impact of liquidity ratio on the net interest margin of banks?

### **Research Hypothesis**

Based on the research question above, the following hypothesis was formulated analyzed.

$H_0$ =Liquidity has no casual effect on bank profitability,  $H_0$ = Loan deposit ratio and Asset quality has no casual effect on net interest margin banks,  $H_0$ = Liquidity ratio has no casual effect on net interest margin of bank performance. The justification for this research work are;It will help management of various commercial banks to effectively apply financial management and control techniques, the study will expose managers to modern techniques of liquidity management policies, which will improve their profits, they will also have a greater insight into the investment of working capital requirements, the study will provide better understanding to financial managers on the potential impact of liquidity management policies on profitability, the findings will guide the investment behaviors of shareholders, investors etc. Such categories of people would be better informed about the financial operations of profit-seeking organizations.

### **Conceptual Framework**

Liquidity is the rapidity and ease at which assets and be turned into cash without loss of interest and capital to meet financial obligations. Examples include: cash reserves, government debts securities etc. Liquidity is an important factor in order to meet everyday withdrawal demands at all times (*Francis 2017*). Banks should have sufficient number of profitable assets in order to pay dividends to their shareholders and still be able to transfer to reserve. (*Samiksha 2017*) noted that it is important in order to meet everyday withdrawal demands at all times. Therefore, for any bank to survive successfully and subsequently maintain the public trust and confidence in banking operations, it has to adopt liquidity management measures that shall put in place an adequate liquidity so that the various demands of customers shall always be met. If a bank refuses to maintain adequate liquid assets in their banking management, it stands the risk of endangering its existence by losing its various customers and public confidence in its operations. Profitability is the basic objective of any business and that is why share-holders always ask for returns on their investments (ROIs). The opportunity cost of remaining liquid is returns foregone by not investing in assets with higher rate of return.

Profitability is the primary goal of all business ventures. Without profitability, the business will not survive in the long run. So measuring current and past profitability and projecting future profitability is very important. Profitability is measured with income and expenses. Income is money generated from the activities of the business. The conflict between the need for banks to remain liquid and the need to pursue profitability work in different directions to resolve this conflict, the bank management should be able to satisfy the demands of the opposing group which are shareholders whom are concerned with profitability and depositors whom are concerned with liquidity.

### **Concept of Profitability in Banks**

Bank profitability means its ability to generate revenues that outweigh the cost, and this is regarding the basis of the bank's capital, where the banking sector is sound and profitable, this sector will be more-able to withstand negative shocks and contribute to the stability of the financial system.

Profitability in general is a relationship between the profits generated by the enterprise and investments that contributed to the achievement of these profits, and profitability is considered as a goal of the institution and a barometer for judging on its adequacy. The profitability measured by, either the relationship between profits and sales, or by the relationship between the profits and the investments that contributed in achieving it.

According to *Aburime (2018)* profit means the difference between the revenue generated from the sale of output and the full opportunity cost of factor used in the production of that output. Included within costs are the premium charged for risk taking and the costs of using the owners' capital. These are not included as cost in the accountant's measure of project which therefore does not correspond to this economic definition of profit. However, profit could either be normal or supernormal. Normal profit is that minimum amount of profit which a firm must acquire in order to induce the firm to remain in operation.

### **Assessment the Bank's Profitability**

In order to determine the extent of the bank ability to make profits from its invested money, there are different financial ratios related to both the owners and depositors. The following ratios are the most important earnings ratios used in assessing the bank profitability *Taha (2019)*.

#### **1). Return on assets (ROA)**

This ratio measures the profitability achieved by the bank by investing its assets in various activities, and is calculated by dividing net income (net profit after tax) on total assets, as follows: Return on assets (ROA) = (Net income/ Total Assets) × 100.

#### **2). Return on Equity (ROE)**

This ratio measures the management efficiency in utilizing the bank funds in achieving a profit, and is calculated by dividing net income (net profit after tax) on the owed capital, as follows: Return on equity (ROE) = (Net income/ Capital) × 100.

#### **3). Return on deposits (ROD)**

Measures the rate of return on deposits over the bank's ability to generate profits from deposits, which succeeded in getting it. Return on deposits = (Net income/ Total deposits) × 100

### **Profitability Measurement**

*Anyanwu (2015)* defined profit as the excess of total revenues over total costs or excess of receipts over expenses. The measure of success in a business has been profit. It is this measure that distinguishes a business from all other forms of social organizations such as government, the armed forces, nonprofit-making organizations etc. *Boderhorn (2016)* in *Egai&Ajie (2015)* defined profit in connection with a particular time and period, and reflects some of the activities of the firm during the period.

**Liquidity:** As it is clear by now, liquidity is one of the most important goals of working capital management and central task of cash management. Several authors have expressed their definition of liquidity but in general "a firm is liquid when it can pay bills on time without undue cost" *Maness & Zietlow (2015)*. Liquidity can also mean the extent to how quickly assets can be converted into money *Howells & Bain, (2015)* but in this study when referred to liquidity, the former definition applies. Solvency and liquidity are two concepts that are closely related (sometimes used interchangeable?) and reflect upon the actions of company's working capital policy. As *Maness and Zietlow* have defined; "a firm is considered solvent when its assets exceed its liabilities" (*Maness & Zietlow 2015*). *Kim et al. 2018* have cited *Brealey and Meyers* claiming that value of liquidity is among the ten unsolved problems in finance. Why do firms need liquidity and how much liquidity is enough then? Costs and benefits for holding liquid assets have to be carefully weighed against the opportunity costs for holding more productive but less liquid assets. Optimal amount of liquidity is determined by a trade-off between the low return earned on liquid assets and the benefit of minimizing the need for external finance (*Chang-Soo Kim, David S. Mauer, and Ann E. Sherman, 2019*).

The main counter-argument for holding cash is usually connected with the low return it can offer. However, there are advantages for having liquidity reserves and three widely used motives for holding cash can be found in the literature:

- **Transaction Motive:** Companies hold cash for their daily expenses i.e. paying salaries, materials and taxes etc. Cash acts as a buffer for the mismatch between cash inflows and outflows. **Precautionary Motive:** Future cash flows are uncertain and excess cash is hold to meet unexpected costs. **Speculative Motive:** Cash is kept easily available for profitable future opportunities that need to be undertaken immediately (*Arnold, 2018*).

### **Instruments for Liquidity Management**

**Current Ratio;** One of the most common and also the oldest measure of corporate liquidity is current ratio. It was developed at the end of the 19th century in order to evaluate the credit-worthiness of the companies *William H. Beaver, (2016)*. In its simplicity it expresses the liquid resources available when current liabilities are met and is calculated as follows.

Current Ratio = Current Assets/ Current Liabilities

*Maness & Zietlow (2015)* has expressed that historically a current ratio of 2.0 has been a norm, meaning that company has approximately twice as much current assets as coverage for short term creditors. As the critique towards this measure often goes, it simplifies the protection available for short-term creditors as not all the current assets are easily liquidated but can be tied in the inventory. (*Maness & Zietlow, 2005:25*)

**Quick Ratio;** Quick ratio or acid-test ratio is very similar to current ratio and solves the liquidation issues mentioned above by excluding inventories from calculation:

Quick ratio = Current assets – Inventories /Current liabilities

Usefulness of current and quick ratios for measuring working capital has been questioned because of their static nature. As a Statement of Financial Position is often a historic statement of inventory instead of current or futuristic values, with the result that ratios calculated from the Statement of Financial Position and available Inventory levels are stock measures at a certain point in time. (*Penman, 2017*) *Shin and Soenen (2018)* have

studied alternative tools for measuring the effectiveness of working capital and they suggested Cash Conversion Cycle, which was presented earlier in this paper. (Shin & Soenen, 2018).

### **The Need for Liquidity**

According to *Anyanwu (2018)* liquidity simply means the ability to convert an asset to cash with minimum delay and minimum loss/cost. In the portfolio of commercial banks, liquidity assets play a very crucial role because banks operate largely with the funds borrowed from depositors in form of demand and time deposits. These liquid assets are the essential statement of financial position items which have the capacity to maintain the confidence of depositors which is the most valuable intangible asset of the commercial banking business (*Spindt, 2017*). According to (*Nwankwo, 2017*), adequate liquidity enables a bank to meet three risks.

### **Theoretical Framework**

- **Liquidity Asset Theory:** This theory of bank liquidity, according to *Nzotta (2017)*, states that banks must hold large amounts of liquid assets as reserves against possible demands for payment by depositors. He further said the theory emphasizes the need for holding short-term assets as a product cushion in the face of various uncertainties in banking operations and the various needs of the bank.
- **Commercial Bills Theory:** *Jhingan (2015)* argues that the commercial bills theory is also called real bills doctrine. The theory states that a commercial bank should advance only short-term self-liquidating loans to business firms. Self-liquidating loans are those which are meant to finance the production and movement of goods through the successive stages of production, storage, transportation and distribution. Similarly, *Nzotta (2004)* said the theory deals with funds principally invested in short-term self-liquidation loans for working capital purposes.

### **Empirical Framework**

#### **International Perspective**

*Bourke (2015)* carried out a study to establish the relationship between liquid assets and bank profitability for 90 banks in Europe, North America and Australia from 2012 to 2017, the study used econometric framework presented in an equation. The dependent variable, profitability, was regressed against a non-linear expression of relative liquid asset holdings, as well as a set of control variables. Liquid assets were generally included as a control variable in this study with very limited discussion around the estimated parameter. From the study a company with low liquidity and high profitability has to increase its borrowing leading to an increase of the financial costs. This would certainly lead to increasing interest rates, since the cheaper sources are quickly exhausted. Furthermore, having increased its debt, the company raises its credit risk, causing an increase in interest rates charged by their financiers. Under these conditions, the company has to get more time from suppliers, resulting in the acquisition of raw materials at higher prices. Also it will fail to achieve financial discounts offered by the anticipation of payments and incur interest and penalties for late payments the liquidity problems would become even worse. The study emphasized that profitability and solvency are necessary condition for the healthy existence of the company and both are conditioned by the strategy adopted in the medium and long term. *Berger (2015)* analyzed the statistical relationships between bank earnings and capital for 50 U.S. banks over the period of 2013-2017 using multiple regression analysis and found that, contrary to what one might expect in situations of perfect capital markets with symmetric information there is a positive relationship between capital and return on equity. This result, according to the author, is consistent with the "expected bankruptcy cost hypothesis." More specifically, *Berger's* results suggest that banks with higher levels of capital see their funding costs decrease to such an extent that it more than offsets the cost of issuing additional capital. While *Berger* applies the concept of the "expected bankruptcy cost hypothesis" in the realm of capital, it is also conceptually applicable to the impact of liquid assets on profitability, whereby banks holding more liquid assets benefit from a superior perception in funding markets, reducing their financing costs and increasing profitability.

#### **Local Evidence**

*Ayomide (2013)* did a research on working capital management practices in Nigeria secondary schools using a case study of secondary schools. A questionnaire was used to collect data. The findings were that there was preparation of cash budgets. The major source of cash was fees and cash collections were banked daily. In receivables management, to remind students of overdue debts, letters were sent to their parents and that the school head was responsible for management of working capital. The study concluded that there seems to be lack of professionalism in some areas of management of school finances. This calls for qualified personnel to be employed in the management of school finances considering the huge expenditure involved in education. *Mogire (2015)* studied working capital management among thirty public companies listed at the Lagos Stock Exchange as at 31st December 2013. The objectives of the study were to determine the effects of profitability to

companies, to investigate whether there is significant relationship between working capital management policy and the profitability of a company as measured by the return on equity and to establish if public companies in different sectors in Nigeria follow different working capital management policies.

## II. Methodology

The research is conducted on five Deposit Money Banks in Nigeria which include UBA, ACCESS, ZENITH, ECO and FIRST Bank. The sample size is forty questionnaires were distributed to each deposit banks having 8 questionnaires each.

### Operationalization of Variable and Model Specification

To understand approximately the connection between dependent proxies of profitability and independent proxies of liquidity variables of banks, a pooled analysis will be used. This will help us find the correlation and regression between profitability (dependent variable) and liquidity (independent variable).

### Model Specification

- **Profitability:** There are various methods used for measuring profitability of an organization. For the purpose of this study, the profitability of these banks will be determined using the return on asset and return on equity (ROA and ROE).
- **Liquidity:** The liquidity will be calculated using Quick ratio, capital ratio, net credit facilities to total assets and liquid assets ratio.

### Data Presentation, Analysis and Interpretation

Forty respondents were used in the presentation and analysis. The researcher used the frequency distribution table for the presentation of the bio-data. Chi-square was used in testing the hypothesis and the basis for the evaluation of the hypothesis was the answer made by the respondents. The data was analyzed using IBM SPSS Statistics Version 21.

## CHI-SQUARE ANALYSIS

### Hypothesis 1

$H_0$  – Liquidity has no casual effect on bank profitability.

$H_1$  –Liquidity has effect on bank profitability.

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.523 <sup>a</sup>	12	.743
Likelihood Ratio	9.718	12	.641
Linear-by-Linear Association	.190	1	.663
N of Valid Cases	40		

a. 17 cells (85.0%) have expected count less than 5. The minimum expected count is .10.

### Source: SPSS version 21

The result from the table 6 above shows that the p-value (0.743) is greater than (0.05) (p-value >0.05). We accept  $H_1$ , this implies based on the response of the respondents that liquidity has effect on bank profitability.

## CHI-SQUARE ANALYSIS

### Hypothesis 2

$H_0$  – Loan deposit and asset quality has no casual effect on net interest margin banks.

$H_1$ - Loan deposit and asset quality has casual effect on net interest margin banks.

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.886 <sup>a</sup>	16	.072
Likelihood Ratio	23.700	16	.096
Linear-by-Linear Association	.770	1	.380
N of Valid Cases	40		

a. 23 cells (92.0%) have expected count less than 5. The minimum expected count is .10.

### Source: SPSS version 21

The result from the table 7 above shows that the p value (0.72) is greater than (0.05) (p value >0.05). We accept  $H_1$ , this implies that loan deposit and asset quality has casual effect on net interest margin banks.

## CHI-SQUARE ANALYSIS

### Hypothesis 3

$H_0$  – Liquidity ratio has no effect on interest margin of bank performance.

$H_1$  – Liquidity ratio has effect on interest margin of bank performance.

**Chi-Square Tests**

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	15.528 <sup>a</sup>	12	.214
Likelihood Ratio	18.571	12	.099
Linear-by-Linear Association	2.570	1	.109
N of Valid Cases	40		

a. 18 cells (90.0%) have expected count less than 5. The minimum expected count is .10.

**Source: SPSS version 21**

The result from the table 8 above shows that the p-value (0.214) is greater than (0.05) (p-value >0.05). We accept H<sub>1</sub>, this implies based on the response of the respondents that liquidity ratio has effect on interest margin of bank performance.

### III. Conclusion

The relevance of liquidity management in the Nigeria banking sector cannot be over-emphasized, as it became more pronounced after the sector’s recent re-capitalization. Nigeria is still a developing nation and the banks operating are just a little above their infant stage, thus making liquidity management critical for Deposit Money Banks in the country. This is because merging banks in Nigeria tends to be more liquid than banks operating alone without adequate number of branches. The craving to be highly liquid so as to accommodate new and promising customers makes liquidity management a key component of the bank’s continuous survival. Variables liquidity management (current ratio, cash ratio, quick ratio, capital adequacy ratio and interest coverage ratio) and performance (returns on asset, returns on equity and earnings per share) have been selected from the literature and have been made appropriate for the study. Analysis revealed that liquidity management affects the performance of Nigerian Deposit Money Banks.

### IV. Recommendations

Based on the critical evaluation of the findings, made in this study, we hereby make the following recommendations with the sincere conviction that they will help to reduce if not totally eradicate the problems associated with liquidity management and profitability in deposit money banks in Nigeria.

- The liquidity management of Nigerian banks should be more proactive than reactive as it is presently practiced. The current conservative approach of keeping to a tight liquidity management, although producing good profitability in terms of return on equity, but only produces modest profitability in terms of return on asset.
- Since the survival of deposit money banks depend on liquidity management and profitability, they should not solely concentrate on the profit maximization concept but also adopt measures that will ensure effective liquidity management. The measures will help to minimize or avoid cases of excessive and deficient liquidity as their effects are negative.
- Instead of keeping excessive liquidity as a provision for unexpected withdrawal demands of the customers, the deposit money banks should find it reasonable to adopt other measures of meeting such requirements, which can include borrowing and discounting bills. In addition, the surplus funds of the commercial banks should be seasonally invested in short-term instruments of the money market.

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