



EFFECT OF LIQUIDITY RISK MANAGEMENT ON BANK FINANCIAL PERFORMANCE IN NIGERIA

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Abstract

This study ascertained the effect of annual inflation rate on bank financial performance in Nigeria. Ex-Post Facto research design was adopted. Data were extracted from annual reports and accounts of the selected banks in Nigeria. The population of the study comprises of all the twenty (20) deposit money banks operating in Nigeria as at the time of this research work. According to the Nigeria Stock Exchange (NSE), twenty (20) deposit money banks operate in Nigeria as at the end of year 2019. Regression analysis was employed to test the hypothesis with SPSS 20.0. The analysis shows that the annual inflation rate does not positively influence banks' financial performance. Based on the result, the researcher recommended that banks should be able to anticipate inflation rate periodically to adjust their interest rate in order to make profit.

Keywords: Liquidity, Annual inflation rate, and financial performance

Introduction

In reality, good performance of banking sector is determined by its ability to meet liquidity needs of its customers and also maximize profitability to the owners. Liquidity and profitability are inversely related to each other in the sense that when liquidity is stored or increases beyond limit, the risk of insolvency will be reduced but the profitability rate will be reduced. Likewise, when liquidity is reduced, the profitability rate increases but the risk of insolvency also increases, so excess desire to pursue for one variable will take a toll in the other. Both goals run in opposite direction in the sense that an attempt by banks to achieve higher profitability will certainly take a toll on the liquidity level and solvency position and vice versa (Olagunji, Adenanju & Olabode, 2011). While it may be true that the ultimate goal for any firm is to maximize profit, but, too much attention on profitability may lead the firm into a pitfall by diluting the liquidity position of the organization (Niresh, 2012). For banks there is a conflicting requirement between bank liquidity and bank profitability arising from the conflicting desires of the major providers and managers of the bank resources. Shareholders desire maximum profitability as a return on their investment, while the depositors opt for a maximum liquidity as a guarantee for safety and ability to pay their money on demand. Also, Managers on their side are interested in measuring the operating performance and returns in terms of profitability. Hence, a low profit margin would suggest ineffective management and investors would be hesitant to invest in the bank. Therefore the need to strike a balance between the firm's desire to make profit and the desire to remain liquid cannot be over-emphasized. Then; the key drivers of stability for any commercial entity are liquidity and profitability.

The maturity mismatch between short-term deposits and long-term loans offered by deposit money banks exposes them to liquidity risk (Edem, 2017). For instance banks make loans that cannot be sold quickly at a high price and also issue demand deposits that allow depositors to withdraw at 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. Farag and Nixon (2013) stress that the 2008, 2009 global financial crisis resulted from a false assessment of funding stability, especially short-term wholesale funding. A situation whereby a large amount of short-term wholesale funding (short term deposit) is facing a long-term loan means that if all investors attempt to withdraw this short-term funding at the same time then the bank's buffer of liquid assets is quickly depleted.

The challenges of inefficient liquidity management of banks in Nigeria were brought to the fore during the liquidation and distress era of the late 1980s and early 1990s. The negative cumulative effects of the banking system liquidity crisis from the 1980s and 1990s lingered up to the re-capitalization era in 2005 in which banks were mandated to increase their capital base from N2 billion to an astronomical N25 billion. This move by the apex bank was believed would stabilize and rectify the bank liquidity problem that was prevalent in the economy (Fadare, 2011). However, after five years of what was applauded as a fortified repositioning of banks against liquidity shortage; the Central Bank of Nigeria in 2009 came on a rescue mission to save five illiquid banks by injecting N620 billion to save the five banks that were operating on negative shareholders' funds. The failure of a bank to meet its obligations due to lack of sufficient liquidity will result in a poor credit worthiness, loss of customers confidence and the withholding of the licenses by the Central Bank of Nigeria or its final destination is the mortuary of Nigeria Deposit Insurance Corporation (NDIC) from where it will proceed to its final destination – liquidation (Adeyemi, 2011). Following the

above arguments on profitability and liquidity, there is a need for adequate trade-off between the two variables, profitability and inflation rate as it affects the liquidity of deposit money banks in Nigeria.

Review of related literature

Liquidity risk

The concept of liquidity is also intrinsically linked to both sides of a bank's balance sheet. It relates to the mix of assets a bank holds and the various sources of funding for the bank, in particular, the liabilities which must in due course be repaid. Liquidity risk is a risk of loss to a bank arising from the bank not having adequate funds to meet deposit withdrawals and Loan demands (Workneh, 2015). He further states that this risk is a very serious one since it strikes at the credibility and confidence reposed in the bank. Liquidity risk can precipitate a run on a bank. Once there is a run, there is a good likelihood that the bank would be insolvent since no bank can withstand a sustained run on its deposits (Emefiele, 2015). It is the risk that a large number of depositors and investors may withdraw their savings, the bank funding at once, leaving the bank short of funds. Such situations can force banks to sell off assets most likely at an unfavorably low price, when they would not otherwise choose to. Liquidity risk arises from the fundamental role of banks in the maturity transformation of short-term deposits into long term loans. It is useful to distinguish between the two types of liquidity risk faced by banks.

According to Farag and Nixon (2013) Banks can mitigate these liquidity risks in two ways. First, they can seek to attract stable sources of funding that are less likely to 'run' in the event of stressed market conditions. And second, banks can hold a buffer of highly liquid assets or cash that can be drawn down when their liabilities fall due. This buffer is particularly important if a bank is unable to roll over (renew) its existing sources of funding or if other assets are not easy to liquidate. This buffer mitigates both types of liquidity risk.

Liquidity Risk Measurement

Ngwu (2006) noted that liquidity measurement entails finding a standard or benchmark which each bank should meet as to be regarded as being liquid. He further pointed that a standard for liquidity is difficult to determine since future demands are not known. To obtain a realistic appraisal of a bank's liquidity position would require an accurate forecast of cash need and expected level of liquid assets and receipts of cash over a period of time. Before going into the methods of measuring liquidity risk in banks, we need to take a closer look at the sources of liquidity risk in banks for a better understanding of liquidity risk problems. According to Rochet (2008), the three main sources of liquidity risk are:

On the liability side, there is obviously a large uncertainty on the amount of withdrawals of deposits or the renewal of rolled-over inter-bank loans. This is especially so when the bank is under suspicion of insolvency, when there is an aggregate liquidity shortage or when the economy suffers from a macroeconomic shock.

On the assets side, there is also some uncertainty on the volume of new requests for loans that a bank will grant in the future. For sure, the bank could refuse to grant these new loans, but it would lead to the loss of profit opportunities. It could also be detrimental to the borrowing firm if it is credit rationed, and more general to the economy as a whole: it needs to be clear that banks are unique providers of liquidity to small and medium size enterprises, which constitute an important fraction of the private sector. This credit rationing would be

especially costly if the firm is forced to close down, possibly resulting in additional losses for the bank itself.

Off-balance sheet operations are a third source of liquidity risk for banks. For example, credit lines and other commitments. Furthermore, the formidable positions taken by banks on derivative markets can generate huge liquidity needs during crisis period.

There are different views from scholars and researchers with regard to measures of liquidity risk and they are compiled and presented as follows for a better understanding.

Liquidity Management in Deposit Money Banks

Liquidity management refers to a bank's programs or strategies to be able to meet deposit and loan demands. Examples of such strategies include holding of short-term financial assets (Treasury bill and certificates) which are highly marketable, maintaining avenues for short-term accommodation from the Central Bank or other banks and by bidding for a greater volume of deposits. Ibe (2013) reported liquidity management entails the construction of assets in such a way that outflow of funds can be accommodated without making an understanding adjustment in liability. It involves a skilled treatment of liquidity to support the banks' assets or assets growth, as well as maintaining a certain level of fluidity in the assets in order to meet potential demand for liquidity (Emefiele, 2015). Liquidity management mechanism is the mandatory requirement imposed on deposit money banks by the Central Bank to ensure that deposit money banks do not become easily insolvent (Obi-Nwosu, Okaro, Ogbonna&Atsan, 2017). Olagunju et al. (2011) stress that for a deposit money bank to plan for or manage its liquidity position; it first manages its money position by complying with the legal requirement. Actually, management of money position is essential if a bank must avoid excesses or deficiencies of required primary reserves. Liquidity management must of necessity involve liquidity planning. Unfortunately, adequate liquidity planning is lacking in many Nigerian banks. Few banks are able to plan for short, medium and long-term liquidity needs. To plan well, the bank must be able to forecast future funds' demand and deposit supplies (Emefiele, 2015). Optimum level of liquidity is greatly linked with the efficient banking operations. If the liquidity position is not adequately managed it may lead to insolvency (in case of low liquidity) or low profitability (in case of high liquidity) and ultimately destroy the wealth of shareholders and breakdown of entire financial institutional framework due to strong integration, dependencies and contagion effect. Olagunju et al concluded that for the success of operations and survival, deposit money 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. Liquidity management in deposit money banks also reduces the incidence of bankruptcy and liquidation which are simply the result of illiquidity, and thereby, help to protect customers' deposits. The Central Bank thus develop framework to guide banks' management of their liquidity in line with international standards and best practices.

Annual Inflation rate (external factor)

In this research work only one external factor was considered as independent variable and that is, annual inflation rate measured by the consumer price index (CPI). CPI measures the average change over time in prices of goods and services consumed by people for day-to-day living. The impact of inflation on bank profitability depends on whether inflation has been fully and correctly predicted by bank managers (Perry, 1992). Studies of Athanasoglou, Brissimis, and Delis, (2005) showed that banks' performance and liquidity are negatively

related to both anticipated and unanticipated inflation. Since inflation reduces the future value of money, it pays people (both potential borrowers and lenders) to try to forecast inflation over the relevant time period.

Bank Profitability (Financial performance)

The term profitability refers to the ability of the business organization to maintain its profit year after year. Pandey (2011) define profit as the difference between revenues and expenses over a period of time (usually one year). Profit is the ultimate 'output' of a company, and it will have no future if it fails to make sufficient profits. Bank performance is a general measure of how well a bank generates revenues from its capital. It also shows a bank's overall financial health over a period of time, and it helps to compare different banks across the banking industry at the same time. Bank's performance generally can be recognized as its *stability and profitability*. The stability refers to its risk factors and profitability refers to its financial return. Hence, when we mean bank performance in this study it is in terms of profitability of a bank. As an individual bank, it would be important to start with its income statement for better understanding of how well it is operating, which describe the sources from income and expenses representing its profitability.

There have been several fundamental measures on banks' performance over the years. Many banks in attempt to evaluate financial performance employ several indicators such as: return on assets (ROA), return on equity (ROE), net interest margin (NIM). These measures of performance incorporate efficiency. They do not talk of only profit as an absolute value but profitability which measures efficiency (Obi-nwosu et al 2017), Godwin and Comfort 2015), Workneh 2015), Sehrish et al 2011). These are ratios which, according to Workneh, (2015) are simply relationships between two financial balances or financial calculations. These relationships establish references so we can understand how well we are performing financially. For instance, ROA measures the ability of the management to generate income by utilizing company assets at their disposal. The major illiquid assets of banks are loans and advance the more loans and advances they extend to borrowers, the more the profit they make (Solomon, 2012). Analysts evaluate banks progress based on the ability to utilize these assets. This forms one justification for our choice of adopting ROA as the performance measure in this research work. Return on Asset (ROA) is a ratio of income to its total asset. This is probably the most important single ratio in comparing the efficiency and operating performance of banks as it indicates the returns generated from the assets that bank owns. Although ROA shows good information of profitability of bank, but it is not what shareholders care the most.

Return on Asset (ROA)

As Workneh (2015) points out, the ROA has emerged as key ratio for the evaluation of bank profitability and has become the most common measure of bank profitability. Most authors and researchers also used ROA as a measure of bank profitability (performance). The ROA reflects the ability of a bank's management to generate profits from the bank's assets. It shows the profits earned per naira of assets and indicates how effectively the bank's assets are managed to generate revenues, although it might be biased due to off-balance-sheet activities. Basically, the higher ROA means better performance and vice-versa. Technically ROA can be raised by bank from either profit margin or assets turnover but not at the same time due to their trade-off. ROA can be calculated as:

ROA = Net Income after Tax / Total Assets

This is probably the most important single ratio in comparing the efficiency and operating performance of banks as it indicates the returns generated from the assets that bank owns. Although ROA shows good information of profitability of bank, but it is not what shareholders care the most. Shareholders of bank more concern with how much bank earned for their investment to equity measured by ROE, which shows the net income after tax per naira from equity capital.

Empirical Studies

Oleka, Eyisi and Ebue(2015) examined the effect of inflation to profitability of corporate entities such as banks. The data extracted from annual financial statement of the sampled banks that are operating in Nigeria between the periods of 2000 to 2014 and the CBN Statistical Bulletin of various issues. Ordinary Least Squares (OLSs) were applied to a panel series of data to test the hypotheses. The results revealed that that there is no significant positive relationship between inflation and reported profit vis-à-vis return on equity as a measure of profitability of commercial banks operating in Nigeria. Oleka, Eyisi and Onyeze(2014) determined the relationship between inflation and banks' performance and how the outcome influences the lending decision of such banks. Ex-post factor research design which relies mainly on the use of secondary data. The sample size is the four stand-alone bank and four merged banks that are in operation after the recent bank consolidation reform that took place in Nigerian banking industry. The result revealed that there is positive but not significant relationship between inflation, banks' performance and the investment decision of commercial banks operating in Nigeria. Nsambu (2014) established the underlying factors responsible for performance of domestic commercial banks in Uganda. Using Linear multiple regression analysis over the period 2000-2011, the study found that, management efficiency; asset quality; interest income; capital adequacy and inflation are factors affecting the performance of domestic commercial banks in Uganda over the period 2000-2011. Brunilda and Elvana (2015) analyzed factors influencing bank profitability. The result of this study shows that inflation appears to be significant and related negatively to the profitability. Sehrish et al (2011) investigated the relationship between bank-specific and macro-economic characteristics over bank profitability in Pakistani commercial banks over the period of 2005 to 2009. Ordinary Least Square was used to test the formulated hypotheses. The empirical results found strong evidence that both internal and external factors have a strong influence on the profitability. Athanasoglou, Brissimis and Delis (2005) ascertained the bank-specific, industry-specific and macroeconomic determinants of bank profitability. The result showed that expected inflation, as proxy by the previous period's actual inflation, positively and significantly affects profitability, possibly due to the ability of Greek banks' management to satisfactorily, though not fully; forecast future inflation, which in turn implies that interest rates have been appropriately adjusted to achieve higher profits. Muhammad and Amir (2013) determined the bank specific and macroeconomic determinants of commercial bank's liquidity in Pakistani. The sample of the study consists of 26 commercial banks. The study period consists of 5 years (2007 to 2011) which also covers the period of the Asian financial crisis 2008. The results of model 1 (L1) indicate that the bank specific fundamentals (NPL and TOA) and monetary policy interest rate positively determine the bank liquidity whereas inflation has a negative impact. Bank liquidity measured by L1 is negatively and significantly affected by the financial crisis. Onyekwelu, Chukwuani and Onyeka (2018) appraised the effect of liquidity on financial performance of deposit money banks in Nigeria.

Using five banks in Nigeria, 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. Obi-Nwosu et al (2017) analyzed the effect of liquidity on the performance of deposit money banks in Nigeria from 2000 to 2015. The result of the study revealed that liquidity mechanism is not significantly related to deposit money banks (DMBs) performance in the short run and long run. The granger result proves that liquidity mechanism hinders DMBs performance within the period under review in the study. Workneh (2015) examined the impact of liquidity on the performance of commercial banks in Ethiopia from 2009 to 2014. The study used quantitative research approach and secondary financial data which was analyzed by multilevel linear regressions models for the three major bank performance measures. The empirical results show that the performance (profitability) measure, NIM, has significant relationship with liquidity measures of LDR, LAR and LADR. The other performance measure, ROE has positive and significant relationship with LADR; but ROA has positive and significant relationship with LADR. Mwizarubi, Harjit and Sadananda (2015) determined the relationship between banks' profitability and liquidity within the period of 2006 and 2013. By using Hausman test and thereafter fixed effects approach, all the models revealed that there is no statistically significant relationship between banks' profitability and liquidity. Basse and Effiong (2015) examined the liquidity-profitability trade off of deposit money banks in Nigeria. The study covered a panel data of 2010 to 2012. Two models were specified and estimated using Ordinary Least Squares (OLS) technique. The empirical results revealed that there is a statistically significant relationship between bank liquidity measures-current ratio, liquid ratio, cash ratio, loans to deposit ratio, loans to asset ratio- and return on equity. However, when return on asset was used as proxy for profitability, the relationship became statistically insignificant. Ajibike and Aremu (2015) examined the impact of liquidity on Nigerian Bank Performance. They discovered that Nigerian banks experienced a tremendous growth in the early 2000s, but these recorded growths were eroded by the global financial crisis in 2008. This issue raised the understanding of the role of liquidity on the performance of commercial banks in Nigeria. Using a Generalized Method of Moments (GMM) estimation technique for a panel of 13 banks from the period of 2004 to 2012, the study found a positive relationship between liquidity and bank performance.

Ezejiolor, Adigwe and John-Akamelu (2015) ascertained the effects of credit management on liquidity and profitability positions of a manufacturing company. Three hypotheses were formulated in line with the objectives of the study. Data were extracted from annual reports accounts of the manufacturing companies. The hypotheses were tested with ANOVA using SPSS statistical package 20.0 versions. From the analysis, it was found that credit policy can affect profitability management in manufacturing companies in Nigeria and there is a significant correlation between liquidity position and debtors' turnover of the company in Nigeria. Finding also shows that there is a relationship between liquidity management and corporate profitability.

Mwangi (2014) ascertained the effect of liquidity risk management on financial performance of commercial banks in Kenya." Adopted a descriptive study design and the populations for this research was the 43 listed Commercial Banks in Kenya. The results of the study show that a unit increase in liquid assets to total assets ratio decreases return on assets by 1%. A unit increase in liquid assets to total deposits ratio decreases return on assets by 2.2%. A unit increase in borrowings from banks decreases return on assets by 14.2%. Finally the control variable which was asset quality shows that a unit increase in non-performing loans as a

proportion of total loans would lead to a 12.4% decrease in return on assets. Muriithiet, Waweru and Muturi (2017) examined the effect of liquidity risk on financial performance of 43 registered commercial banks in Kenya within the period of 2005 and 2014. Liquidity risk was measured by liquidity coverage ratio (LCR) and net stable funding ratio (NSFR) while financial performance by return on equity (ROE). The study using Panel data techniques of random effects estimation and generalized method of moments (GMM) discovered that NSFR is negatively associated with bank profitability both in long run and short run while LCR does not significantly influence the financial performance of commercial banks in Kenya both in long run and short run.

The review of literature from foreign countries, and studies in Nigeria, has come to different conclusion as the effect of liquidity on the financial performance of deposit money banks. From the review so far we discover that the conclusions on the effect of liquidity on the financial performance varies from country to countries depending on different variables applied, different statistical techniques used and different years of study. The effect of liquidity on the financial performance of deposit money banks is not static, because from our review we observed positive and significant relationship while some authors revealed negative and insignificant relationship. Also, review on the effect of credit risk on the performance of deposit money banks, all showed negative and significant relationship with bank profitability. The impact of inflation on the reviewed literature revealed negative influence on bank performance unless the management is able to anticipate the rate of inflation to adjust interest rate in order to make profit.

Methodology

This study adopted ex-post facto research design. The study is geared towards collecting secondary data to explain the trade-off or causal relationship between bank liquidity and profitability. In essence, the intention was to provide an unbiased result of the investigated phenomenon with a view to recommend for effective liquidity management for better performance of deposit money banks.

Population and Sample size

The population of the study comprises of all the twenty (20) deposit money banks operating in Nigeria as at the time of this research work. According to the Nigeria Stock Exchange (NSE), twenty (20) deposit money banks operate in Nigeria as at the end of year 2019. The deposit money banks operating in Nigeria licensed by the Central Bank of Nigeria (CBN) to run commercial banking services as at the time of this research was subdivided into 3 groups. The first group was banks that were licensed with international authorization; the second group was banks licensed with national authorization while the third group was banks licensed with regional operations. Below are the lists of deposit money banks licensed with International, National, and Regional authorization;

List of deposit money banks licensed with International authorization in Nigeria

1. Access Bank Plc.- Acquired Intercontinental Bank and Diamond Bank PLC
2. Fidelity Bank Plc.
3. First City Monument Bank Plc. - Acquired Fin Bank.
4. First Bank of Nigeria limited
5. Guaranty Trust Bank Plc.

Ha₁: The extent at which annual Inflation rate impact on the financial performance of quoted deposit money banks in Nigeria is significant.

In testing this hypothesis, inflation (I) was regressed against return on assets (ROA) of the banks. The results are presented in Table 1: A company by company analysis is presented to show whether each bank's inflation (I) relates to their ROA.

Table 1: Regression Results

| Bank | R | R ² | DW | RegSS | ResSS | F | Sig. | A | βI | t-value |
|-----------------------|-------|----------------|-------|--------|---------|-------|-------|-------|--------|---------|
| First Bank | 0.195 | 0.038 | 2.657 | 0.149 | 3.752 | 0.317 | 0.589 | 2.054 | -0.045 | -0.563 |
| EcoBank | 0.226 | 0.051 | 1.828 | 0.340 | 6.323 | 0.376 | 0.559 | 1.518 | -0.071 | -0.613 |
| Unity Bank | 0.114 | 0.013 | 2.527 | 5.748 | 436.214 | 0.119 | 0.738 | 3.292 | -0.277 | -0.344 |
| GTB | 0.291 | 0.085 | 0.594 | 1.228 | 13.294 | 0.831 | 0.386 | 2.718 | 0.128 | 0.912 |
| Fidelity Bank | 0.148 | 0.022 | 2.917 | 0.044 | 1.972 | 0.200 | 0.665 | 0.833 | 0.024 | 0.448 |
| Zenith Bank | 0.116 | 0.013 | 1.400 | 0.078 | 5.749 | 0.122 | 0.735 | 2.275 | 0.032 | 0.349 |
| Sterling Bank | 0.076 | 0.006 | 2.584 | 0.107 | 18.613 | 0.052 | 0.825 | 1.146 | -0.038 | -0.228 |
| Union Bank | 0.148 | 0.022 | 2.726 | 20.703 | 925.964 | 0.201 | 0.664 | 7.742 | 0.525 | 0.449 |
| Overall Banks' Result | 0.041 | 0.002 | 2.592 | 0.074 | 44.126 | 0.015 | 0.905 | 0.839 | 0.031 | 0.122 |

The correlation coefficient, which has a value of 0.195, indicates that there is a weak relationship between the Return on Assets (ROA) of First Bank and the independent variable (Inflation). R square, the coefficient of determination, shows that 3.8% of the variation in the dependent variable is explained by the model. The Durbin Watson value of 2.657 indicates there is autocorrelation.

The regression sum of squares (0.149) is less than the residual sum of squares (3.752) which indicates that fewer of the variation in the dependent variable are explained by the model. The significance value of the F statistics (0.589) is greater than 0.05, which means that the variation explained by the model is due to chance.

The Inflation coefficient of -0.045 indicates a negative relationship between Inflation (I) and return on assets (ROA) of First Bank, which is not statistically significant (with t = -0.563). These results reveal that First Bank's performance was impacted upon negatively by inflation rate (I). However, this impact is not significant. Hence, the extent at which annual Inflation rate impact on the financial performance of First Bank is not significant.

The correlation coefficient, which has a value of 0.226, indicates that there is a weak relationship between the Return on Assets (ROA) of EcoBank and the independent variable (Inflation). R square, the coefficient of determination, shows that 5.1% of the variation in the dependent variable is explained by the model. The Durbin Watson value of 1.828 indicates there is no autocorrelation. The regression sum of squares (0.340) is less than the residual sum of squares (6.323). The significance value of the F statistics (0.559) is greater than 0.05, which means that the variation explained by the model is due to chance.

The Inflation coefficient of -0.071 indicates a negative relationship between Inflation (I) and return on assets (ROA) of EcoBank, which is not statistically significant (with t = -0.613).

These results reveal that Eco Bank performance is impacted upon negatively by inflation (I). However, this impact is not significant. Hence, the extent at which annual Inflation rate impact on the financial performance of Eco Bank is not significant.

The correlation coefficient, which has a value of 0.114, indicates that there is a weak relationship between the Return on Assets (ROA) of Unity Bank and the independent variable (Inflation). R square, the coefficient of determination, shows that 1.3% of the variation in the dependent variable is explained by the model. The Durbin Watson value of 2.527 indicates there is autocorrelation. The regression sum of squares (5.748) is less than the residual sum of squares (436.214) which indicates that fewer of the variation in the dependent variable are explained by the model. The significance value of the F statistics (0.738) is greater than 0.05, which means that the variation explained by the model is due to chance.

The Inflation coefficient of -0.277 indicates a negative relationship between Inflation (I) and return on assets (ROA) of Unity Bank, which is not statistically significant (with $t = -0.344$).

These results reveal that Unity Bank's performance is impacted upon negatively by inflation (I). However, this impact is not significant. Hence, the extent at which annual Inflation rate impact on the financial performance of Unity Bank is not significant.

The correlation coefficient, which has a value of 0.291, indicates that there is a weak relationship between the Return on Assets (ROA) of GT Bank and the independent variable (Inflation). R square, the coefficient of determination, shows that 8.5% of the variation in the dependent variable is explained by the model. The Durbin Watson value of 0.594 indicates there is no autocorrelation. The regression sum of squares (1.228) is less than the residual sum of squares (13.294) which indicates that fewer of the variation in the dependent variable are explained by the model. The significance value of the F statistics (0.386) is greater than 0.05, which means that t explained by the model is due to chance.

The Inflation coefficient of 0.128 indicates a positive relationship between Inflation (I) and return on assets (ROA) of GT Bank, which is not statistically significant (with $t = 0.912$).

These results reveal that GT Bank's performance is impacted upon positively by inflation (I). However, this impact is not significant. Hence, the extent at which annual Inflation rate impact on the financial performance of GT Bank is not significant.

The correlation coefficient, which has a value of 0.148, indicates that there is a weak relationship between the Return on Assets (ROA) of Fidelity Bank and the independent variable (Inflation). R square, the coefficient of determination, shows that 2.2% of the variation in the dependent variable is explained by the model. The Durbin Watson value of 2.917 indicates there is autocorrelation. The regression sum of squares (0.044) is less than the residual sum of squares (1.972). The significance value of the F statistics (0.665) is greater than 0.05, which means that the variation explained by the model is due to chance.

The Inflation coefficient of 0.024 indicates a positive relationship between Inflation (I) and return on assets (ROA) of Fidelity Bank, which is not statistically significant (with $t = 0.448$).

These results reveal that Fidelity Bank's performance is impacted upon positively by inflation (I). However, this impact is not significant. Hence, the extent at which annual Inflation rate impact on the financial performance of Fidelity Bank is not significant.

The correlation coefficient, which has a value of 0.116, indicates that there is a weak relationship between the Return on Assets (ROA) of Zenith Bank and the independent variable (Inflation). R square, the coefficient of determination, shows that 1.3% of the variation in the dependent variable is explained by the model. The Durbin Watson value of 1.400 indicates there is no autocorrelation. The regression sum of squares (0.078) is less than the residual sum of squares (5.749) which indicates that fewer of the variation in the dependent variable are explained by the model. The significance value of the F statistics (0.735) is greater than 0.05, which means that the variation explained by the model is due to chance.

The Inflation coefficient of 0.032 indicates a positive relationship between Inflation (I) and return on assets (ROA) of Zenith Bank, which is not statistically significant (with $t = 0.349$).

These results reveal that Zenith Bank's performance is impacted upon positively by inflation (I). However, this impact is not significant. Hence, the extent at which annual Inflation rate impact on the financial performance of Zenith Bank is not significant.

The correlation coefficient, which has a value of 0.076, indicates that there is a very weak relationship between the Return on Assets (ROA) of Sterling Bank and the independent variable (Inflation). R square, the coefficient of determination, shows that 0.6% of the variation in the dependent variable is explained by the model. The Durbin Watson value of 2.584 indicates there is autocorrelation. The regression sum of squares (0.107) is less than the residual sum of squares (18.613) which indicates that fewer of the variation in the dependent variable are explained by the model. The significance value of the F statistics (0.825) is greater than 0.05, which means that the variation explained by the model is due to chance.

The Inflation coefficient of -0.038 indicates a negative relationship between Inflation (I) and return on assets (ROA) of Sterling Bank, which is not statistically significant (with $t = -0.228$).

These results reveal that Sterling Bank's performance is impacted upon negatively by inflation (I). However, this impact is not significant. Hence, the extent at which annual Inflation rate impact on the financial performance of Sterling Bank is not significant.

The correlation coefficient, which has a value of 0.148, indicates that there is a very weak relationship between the Return on Assets (ROA) of Union Bank and the independent variable (Inflation). R square, the coefficient of determination, shows that 2.2% of the variation in the dependent variable is explained by the model. The Durbin Watson value of 2.726 indicates there is autocorrelation. The regression sum of squares (20.703) is less than the residual sum of squares (925.964) which indicates that fewer of the variation in the dependent variable are explained by the model. The significance value of the F statistics (0.664) is greater than 0.05, which means that the variation explained by the model is due to chance.

The Inflation coefficient of 0.525 indicates a positive relationship between Inflation (I) and return on assets (ROA) of Union Bank, which is not statistically significant (with $t = 0.449$).

These results reveal that Union Bank's performance is impacted upon positively by inflation (I). However, this impact is not significant. Hence, the extent at which annual Inflation rate impact on the financial performance of Union Bank is not significant.

Decision

Based on the analysis presented above, the null hypothesis was accepted. Hence, the extent at which annual Inflation rate impact on the financial performance of quoted deposit money banks in Nigeria is not significant.

Discussion of findings on inflation rate

Findings of the study showed that the extent at which annual Inflation rate impact on the financial performance of quoted deposit money banks in Nigeria is not significant. The overall result of inflation rate (I) coefficient of 0.031 indicates a positive relationship between inflation rate (I) and return-on-assets (ROA) of all the sampled banks. However, this result is not statistically significant (with $t = 0.122$). The positive impact of inflation rate on return-on-assets implies that bank's management fully anticipated inflation rate and adjusted interest rates in order to increase their revenues faster than their costs and acquire higher economic profits. But the result is not statistically significant meaning that both the anticipation and adjustment is eroded by the sustained increase in the general price level of goods and services in an economy over a period of time. It implies that interest rates charged by banks is fast overtaken by inflation rate and borrowers find it difficult to repay loans as real incomes fall. The effect of inflation on performance is that return-on-asset of owners though is positive, but there is loss in real value of profit generated by the bank's because of inflation. This result has strong negative effect on the economy, thereby affecting both price of goods and services. It will also affect productivity and foreign exchange earnings. It can lead to lie down of workers (i.e.) retrenchment of workers. It will reduce bank lending rate. It will reduce the standard of living in the country. The finds is in line with the study of Oleka et al (2014) which revealed that there is positive but not significant relationship between inflation, banks' performance and the investment decision of commercial banks operating in Nigeria. This implies that the impact of inflation on bank's performance vis-à-vis investment decision of banks was positive but not statistically significant. The study of Brunilda and Elvana (2015) from Albania revealed that inflation appears to be significant and related negatively to the profitability. In the Albanian financial sector it appears that with the inflation the operational costs are increased more than the effect of the interest rates resulting in lower profitability for the banks. The study is not consistent with the study of Athanasoglou et al (2005), their empirical evidence showed that inflation was positively and has significantly effects on profitability, possibly due to the ability of Greek banks management to satisfactorily, though not fully; forecast future inflation, which in turn implies that interest rates have been appropriately adjusted to achieve higher profits. This may also be viewed as the result of bank customers failure (in comparison to bank managers) to fully anticipate inflation, implying that above normal profits could be gained from asymmetric information. However, the study of Perry (1992) discloses that inflation affects bank profitability whether it is fully anticipated or not. Lartey and boadi (2013) notice that banks in developing countries tend to be less profitable in inflationary environments, particularly when they have a high capital ratio. The scenario Nigeria quoted banks are passing through is best described by what the last author noticed in developing countries.

The submission of this research work is based on the empirical evidence which discloses that loan to deposit ratio does not influence financial performance of deposit money banks in Nigeria, though was found positive, the positive impact was not statistically significant at influencing banks' financial performance. We believe that the positive coefficient in the first place was attributable to efforts made by managers as well as, the ability of the apex bank

(the Central Bank of Nigerian) to strictly ensure compliance with its various policies and guidelines and meting appropriate sanctions on any bank who fails to comply accordingly. But, we discover that these efforts and policy put in place do not reduce the rate of merger and acquisition of banks in Nigeria. The findings in this study is in tandem with Wambu (2013); Ongore and Kusa (2013); Mwizarubi et al (2015) both find that there exist a positive coefficient between loans to deposit ratio, though not statistically significant at influencing banks' financial performance. However, the finding made in this regard is at variance with Lartey and Boadi (2013) who find that loans to deposit ratio coefficient is positive and statistically significant. Another liquidity measure tested revealed that loan to asset ratio do not have a positive and significant effect on the performance of quoted deposit money banks in Nigeria. This is an indication that the loans extended by the banks' minimizes returns of shareholders and producing less than optimal profitability in terms of efficient utilization of assets. The finding corroborates the finding of Bassey and Effiong (2015); Wambu (2013), both find that when loans to asset ratio were used as liquidity measure in banks' that it does not influence financial performance. Credit risk was observed to negatively influence financial performance of the banks and is statistically insignificant over the reference period. This is an indication that the banks had very high non-performing loans which may be said to arise as a result of weak credit risk management practices and policies. The empirical evidence is line with Lydnon et al (2016) who found that high level of non-performing loans reduces the performance of banks in Nigeria. The finding is consistent with those of Muriithi et al (2017); Sufian (2009); Nzoka (2014); Uwalomwa et al (2015), both find that ratio of non-performing loans to loans and advance do have a significant negative effect on the performance of banks. The empirical evidence revealed that Inflation rate was positive, but the influence was statistically insignificant. The finding is in line with Oleka et al (2014); Brunilda and Elvana (2015) who find that there is positive but not significant relationship between inflation and banks' financial performance. On the overall, it implies that effective liquidity management by banks in Nigeria has the capacity to mitigate poor financial performance, consequently prevents banks liquidity risk that leads to banks failure in Nigeria.

Conclusion and Recommendation

This study has examined critically the effect of liquidity on the financial performance of quoted deposit money banks in Nigeria. The analysis shows that the annual inflation rate does not positively influence banks' financial performance. Therefore, we conclude that deposit money banks should be able to anticipate inflation rate periodically to adjust their interest rate in order to make profit. The inflation (I) coefficient of 0.031 indicates a positive relationship between inflation (I) and return-on-assets (ROA) of all the sampled banks. However, this result is not statistically significant (with $t = 0.122$). The null hypothesis was accepted which conclude that the extent at which annual Inflation rate impact on the financial performance of quoted deposit money banks in Nigeria is not and significant. Based on the result, the researcher recommended that banks should be able to anticipate inflation rate periodically to adjust their interest rate in order to make profit.

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