



Effects of Credit Failures on Financial Performance of Nigerian Banks

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The study examined the effects of credit failures on the financial performance of Nigerian Banks. The objectives were to; examine the effect of the Non-Performing Loans Ratio (NPL) on the profit for the year of banks in Nigeria; ascertain the extent to which the deposit ratio affects the profit for the year of banks in Nigeria and determine the effect of the leverage ratio on the profit for the year of banks in Nigeria. Ex-post facto design was adopted while the analytical tools used were unit root test, descriptive statistics, and random panel regression model. The study found out that the Non-Performing Loans Ratio (NPL) has a negative and significant effect on the profit for the year of Nigeria banking sector, the deposit ratio positively and significantly affects the profit for the year of Nigeria banking sector and the leverage ratio has a negative and significant effect on the profit for the year of Nigeria banking sector. The study implies that nonperforming loans in banks are deleterious to banks' profitability while customers' deposits promote banks' profitability as banks use such deposits for investment purposes to improve profits. The study recommended that prudential supervision of banks should be encouraged, as well as strengthening the activities of the Asset Management Corporation of Nigeria (AMCON) to deal with the problem of non-performing loans in the banking sector, and the Internal Control Departments of banks should also be strengthened and empowered to adequately tackle the problem of the high level of non-performing loans in banks. There is a need for bank management to devise new methods of enhancing customers' deposits. Management of banks should ensure that financial decisions taken align with the shareholders' wealth maximization objectives which encompass the profit maximization objective of the firm.

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ABSTRACT

Keywords: Credit Failures; Financial Performance; Nigerian Banks

Introduction

A commercial bank is an institution that provides financial services, including issuing money in various forms, receiving deposits of money, lending money, processing transactions, and creating credit (Adebayo, 2011). Banks are exposed to different types of risks, which affect the performance and activity of these banks, since the primary goal of the banking management is to maximize the shareholders' wealth, in achieving this goal banks' managers should assess the cash flows and the assumed risks as a result of directing its financial resources in different areas of utilization. Credit risk is one of the most significant risks that banks face, considering that granting credit is one of the main sources of income in commercial banks. Therefore, the management of the risk related to that credit affects the profitability of the banks (Kolapo, Ayeni & Oke, 2012). The importance of credit risk management in banks is due to its ability in affecting the banks' financial performance, existence and growth.

Agbada & Osuji (2013) is of the view that the deregulation of the financial system in Nigeria embarked upon from 1986 allowed the influx of banks into the banking industry, as a result of alternative interest rate on deposits and loans, credits were given out indiscriminately without proper credit appraisal. These inappropriate credit appraisal systems made banks have nonperforming loans that exceed 50 percent of the bank's loan portfolio. Funso (2012) states that the increased number of banks over-stretched their existing human resources capacity which resulted in many problems such as poor credit appraisal system, financial crimes, and accumulation of poor asset quality among others and this led to an increase in the number of distressed banks. Other factors identified were bad management, adverse ownership influences, and other forms of insider abuses coupled with political considerations and prolonged court processes, especially as regards debt recovery.

Nwite (2015) is of the view that few banks can withstand a persistent run, even in the presence of a good lender of last resort as depositors take out their funds, the bank hemorrhages and in the absence of liquidity support, the bank is forced eventually to close its doors. Thus, the risks faced by banks are endogenous, associated with the nature of the banking business itself, whilst others are exogenous to the banking system.

Ogboi & Unuafé (2013) highlights those available statistics from the liquidated banks clearly showed that inability to collect loans and advances extended to customers and directors or companies related to directors/managers was a major contributor to the distress of the liquidated banks.

Ayanda, Ekpo & Mustapha (2013) state that the history of bank lending could be traced to the era when British goldsmiths acted as banks. The goldsmiths discovered that only a small proportion of the money kept with them for safety yielded enough interest for them. As banks emerged, the practice of the goldsmith was adopted and it was found encouraging. With this discovery, banks started issuing loans to those in need of them and paying interest on fixed and saving deposits. The banks, which are the sources of such credit provide these services based on accepted principles. The service of raising funds from surplus economic units and making these funds available to deficit economic units is of utmost importance to the economy (Emeka & Werigbelegha, 2016).

Banks are corporate bodies; they have the following objectives which are; profit maximization, maximization of owners' wealth, corporate social responsibility, and increasing market shares (Eljelly, 2014). Credit management, on the other hand, is one of the most important and challenging functions of all banks. It is the act of managing debtors who might have received services from banks in exchange for the promise of repayment in the future. Credit management is faced with credit risk which is the most significant risk faced by banks. The success of their business depends on accurate measurement and efficient management of this risk to a greater extent than any other risk. Credit risk is critical since the default of a small number of important customers can generate large losses, which can lead to insolvency (Basse & Moses, 2015). In other words, credit management entails the formulation of a standard credit policy that can determine the amount and nature of loans/credits to be extended to customers. The credit policy, therefore, serves as an important tool for the realization of the basic objectives of the banking industry. It ensures that banks' terms and conditions are followed, thereby minimizing credit risk. It is based on these premises that the study is set to examine the effects of credit failures on the financial performance of Nigerian Banks

Statement of the Problem

When bank customers are unable to settle their debts, these defaults result in losses that can ultimately bankruptcy of the affected bank. Whenever a bank provides a credit facility it is susceptible to credit risk. Credit risk occurs due to customers' failure to service bank-borrowed funds as well as interest charged on the loan. Risk management is at the core of lending in the banking industry. Many Nigerian banks had failed in the past due to inadequate risk management exposure. Borrowing more often than not has fees and interest related to it. On the chance that credit is not paid back on a convenient premise, a corporation could have additional costs that will influence its cash flow which is harmful to financial performance.

Bank lending involves several risks such as funding risk, interest rate risk, clearing risk, and foreign exchange risk. Historical experience shows that the concentration of credit risk in asset portfolios has been one of the major causes of bank distress. The most obvious characteristic of failed banks is not poor operating efficiency, however, but an increased volume of non-performing loans and nonperforming loans in failed banks have typically been associated with regional macroeconomic problems. The study is therefore set to address diverse credit failures such as nonperforming loans associated with banks in Nigeria.

Objectives of the Study

The broad objective of the study is to examine the effects of credit failures on the financial performance of Nigerian Banks. Specifically, the study is to;

- I. Examine the effect of the Non-Performing Loans Ratio on the profit for the year of Nigerian banks.
- II. Ascertain the extent to which the deposit ratio affects the profit for the year of Nigerian banks.
- III. Determine the effect of the leverage ratio on the profit for the year of Nigerian banks.

Statement of the Hypotheses

The following hypotheses are formulated for the study:

- I. Non-Performing Loans Ratio does not have a positive and significant effect on the profit for the year of Nigeria's banking sector.
- II. The deposit ratio does not positively and significantly affect the profit for the year of Nigeria's banking sector.
- III. The leverage ratio does not have a positive and significant effect on the profit for the year of Nigeria's banking sector.

Review of Related Literature

Conceptual Review

Credit Failures

Banks are exposed to different types of risks, which affect the performance and activity of these banks, since the primary goal of the banking management is to maximize the shareholders' wealth, in achieving this goal banks' managers should assess the cash flows and the assumed risks as a result of directing its financial resources in different areas of utilization (Ali, 2015). Credit risk is one of the most significant risks that banks face, considering that granting credit is one of the main sources of income in commercial banks. Therefore, the management of the risk related to that credit affects the profitability of the banks (Li and Zou, 2014). The importance of credit risk management in banks is due to its ability in affecting the banks' financial performance, existence and growth.

Adebayo (2011) states that credit risk is the oldest and most important risk to which institutions are exposed. The importance of credit risk and credit risk management is increasing with time because of some reasons like; economic crises and stagnation, company bankruptcies, infraction of rules in company accounting and audits, growth of off-balance sheet derivatives, declining and volatile values of collateral, borrowing more easily of small firms and financial globalization.

Agbada & Osuji. (2013) defines credit risk as the risk of losses caused by the default of borrowers. Default occurs when a borrower cannot meet his financial obligations. Credit risk can alternatively be defined as the risk that a borrower deteriorates in credit quality. This definition also includes the default of the borrower as the most extreme deterioration in credit quality (Ayanda, Ekpo, & Mustapha 2013). Credit risk is managed at both the transaction and

portfolio levels but, institutions increasingly measure and manage the credit risk on a portfolio basis instead of a loan-by-loan basis.

Bassey & Moses (2015) posit that most organizations track interest rate risk closely. They measure and manage the firm's vulnerability to interest rate variation, even though they cannot do so perfectly. At the same time, international organizations with large currency positions closely monitor their foreign exchange risk and try to manage, as well as limit, their exposure to it. Similarly, some institutions with significant investments in one commodity such as oil, through their lending activity or geographical franchise, concern themselves with commodity price risk. Others with high single-industry concentrations may monitor specific industry concentration risks as well as the forces that affect the fortunes of the industry involved (Eljelly 2014). Emeka & Werigbelegha (2016) state that key Credit controls include loan product design, credit committees, and delinquency management.

Loan Product Design

Banks can mitigate a significant portion of default risk by designing loan products that meet client needs. Loan product features include the loan size, interest rate and fees, repayment schedule, collateral requirements, and any other special terms. Funso (2012) states that loan products should be designed to address the specific purpose for which the loan is intended.

Credit Committees

Establishing a committee of persons to make decisions regarding loans is an essential control in reducing credit failures. If an individual has the power to decide who will receive loans, which loans will be written off or rescheduled, and the conditions of the loans, this power can easily be abused and covered up. While loan officers can serve on the credit committee, at least one other individual with greater authority should also be involved. The credit committee has the responsibility not only for approving loans, but also for monitoring their progress and, should borrowers have repayment problems, getting involved in delinquency management (Kolapo, Ayeni, & Oke 2012).

Loan Rescheduling

Given the vulnerability of the target market, it is common for borrowers to be willing but unable to repay. After carefully determining that this is indeed the case it may be appropriate to reschedule a limited number of loans. Only done under extreme circumstances, this may involve extending the loan term and/or reducing the installment size (Kolapo, Ayeni, and Oke 2012).

Non-Performing Loan Ratio

Banks depend on borrowers to maintain their scheduled loan repayments as a major source of revenue. When a borrower has not made regular payments for at least 90 days, the loan is considered a nonperforming loan, or NPL. The nonperforming loan ratio, better known as the NPL ratio, is the ratio of the amount of non-performing loans in a bank's loan portfolio to the total amount of outstanding loans the bank holds. The NPL ratio measures the effectiveness of a bank in receiving repayments on its loans (Akande, 2013). The odds of loan repayment decrease significantly after 90 days, which is why the nonperforming loan designation uses this standard. Loans can be classified as nonperforming if the borrower defaults on the loan, declares bankruptcy, or loses the income she needs to repay the debt. Because nonperforming loans can hurt a bank's standing as a borrower, the bank may choose to sell these loans to collection agencies or other businesses to recover its losses (Funso, 2012). A nonperforming loan is a sum of borrowed money upon which the debtor has not made the scheduled payments for a period of usually at least 90 days for commercial banking loans and 180 days for consumer loans. Nonpayment means there have been zero interest or principal payments made on the loan within a specified period generally, 90 to 180 days depending on industry and loan type (Gweyi and Karanja, 2014).

Deposit Ratio

A deposit ratio is a ratio between the bank's total loans and total deposits. The ratio is generally expressed in percentage terms (Ucheaga, Adetiloye, and Agwu 2016). If the ratio is lower than one, the bank relied on its deposits to make loans to its customers, without any outside borrowing. If on the other hand, the ratio is greater than one, the bank borrowed money which it reloaned at higher rates, rather than relying entirely on its deposits (Kolapo, Funso, & Kolade, 2014). Banks may not be earning an optimal return if the ratio is too low. If the ratio is too high,

the banks might not have enough liquidity to cover any unforeseen funding requirements or economic crises. Banking analysts commonly used metrics for assessing a bank's liquidity.

The deposit ratio is not the only metric used to ascertain a bank's liquidity. Modern banks today have multiple sources of finance beyond equities and deposits. The diversity of financing sources reduces the importance of the debt ratio in determining a bank's health (John and Ugoani 2016). Lydnon, Peter, and Ebitare (2016) state that multiple factors can drive changes in deposit ratios. For instance, when the Federal Reserve lowers interest rates, it encourages consumers to take out loans. Simultaneously, however, these rates deter investors from investing or buying securities, thus increasing the amount of cash they tend to deposit into bank accounts. When the interest rate environment improves, deposits grow at a slower pace than loans because higher interest rates push investors to invest more money, reducing the number of bank deposits they make. Conversely, when rates are lower, deposit growth increases (Ozili 2018).

Leverage Ratio

A leverage ratio is any one of several financial measurements that look at how much capital comes in the form of debt (loans) or assesses the ability of a company to meet its financial obligations (Tariku and Madhusudhana 2017). The leverage ratio is important given that companies rely on a mixture of equity and debt to finance their operations, and knowing the amount of debt held by a company is useful in evaluating whether it can pay its debts off as they come due. Ojo and Somoye (2015) state that too much debt can be dangerous for a company and its investors. However, if a company's operations can generate a higher rate of return than the interest rate on its loans, then the debt is helping to fuel growth in profits. Nonetheless, uncontrolled debt levels can lead to credit downgrades or worse. On the other hand, too few debts can also raise questions. A reluctance or inability to borrow may be a sign that operating margins are simply too tight.

Michael (2018) is of the view that several different specific ratios may be categorized as a leverage ratio, but the main factors considered are debt, equity, assets, and interest expenses. A leverage ratio may also be used to measure a company's mix of operating expenses to get an idea of how changes in output will affect operating income. Fixed and variable costs are the two types of operating costs; depending on the company and the industry, the mix will differ.

Financial Performance

A well-designed and implemented financial management is expected to contribute positively to the creation of a firm's value. The dilemma in financial management is to achieve the desired trade-off between liquidity, solvency, and profitability. The subject of financial performance has received significant attention from scholars in the various areas of business and strategic management. It has also been the primary concern of business practitioners in all types of organizations since financial performance has implications for an organization's health and ultimately its survival. High performance reflects management effectiveness and efficiency in making use of the company's resources and this in turn contributes to the country's economy at large (Ogboi & Unuafé 2013). There have been various measures of financial performance. For example, return on sales reveals how much a company earns about its sales, return on assets determines an organization's ability to make use of its assets, and return on equity reveals what return investors take for their investments. The advantages of financial measures are the easiness of calculation and that definitions are agreed upon worldwide. Traditionally, the success of a manufacturing system or company has been evaluated by the use of financial measures.

Liquidity measures the ability of the business to meet financial obligations as they come due, without disrupting the normal, ongoing operations of the business (Ogunlade and Oseni 2018). Liquidity can be analyzed both structurally and operationally. Structural liquidity refers to balance sheet measures of the relationships between assets and liabilities and operational liquidity refers to cash flow measures. Solvency measures the amount of borrowed capital used by the business relative to the amount of owner's equity capital invested in the business. In other words, solvency measures indicate the business's ability to repay all indebtedness if all of the assets were sold. Solvency measures also indicate the business's ability to withstand risks by providing information about the operation's ability to continue operating after major financial adversity (Jane, Kennedy, & Willy 2015).

Profitability measures the extent to which a business generates a profit from the factors of production: labor, management, and capital. Profitability analysis focuses on the relationship between revenues and expenses and the level of profits relative to the size of investment in the business. Repayment capacity measures the ability to repay

debt from both operation and non-operation income. It evaluates the capacity of the business to service additional debt or to invest in additional capital after meeting all other cash commitments. Measures of repayment capacity are developed around an accrual net income figure. The short-term ability to generate a positive cash flow margin does not guarantee long-term survivability. Financial efficiency measures the degree of efficiency in using labor, management, and capital. Efficiency analysis deals with the relationships between inputs and outputs. Because inputs can be measured in both physical and financial terms, a large number of efficiency measures in addition to financial measures are usually possible.

Theoretical Review

Asymmetric Information Theory

The Asymmetric Information Theory was propounded by George A. Akerlof, Michael Spence, and Joseph Stiglitz in 2001. Information asymmetry refers to a situation where business owners or managers know more about the prospects for and risks facing their business than do lenders (Yuga 2016). It describes a condition in which all parties involved in an undertaking do not know relevant information. In a debt market, information asymmetry arises when a borrower who takes a loan usually has better information about the potential risks and returns associated with investment projects for which the funds are earmarked. The lender on the other hand does not have sufficient information concerning the borrower.

Uwalomwa, Olubukunola, and Oyewo (2015) point out that perceived information asymmetry poses two problems for the banks, moral hazard (monitoring entrepreneurial behavior) and adverse selection (making errors in lending decisions). Banks will find it difficult to overcome these problems because it is not economical to devote resources to appraisal and monitoring where lending is for relatively small amounts. This is because data needed to screen credit applications and monitor borrowers are not freely available to banks. Bankers face a situation of information asymmetry when assessing lending applications. The information required to assess the competence and commitment of the entrepreneur, and the prospects of the business is either not available, uneconomic to obtain, or difficult to interpret. This creates two types of risks for the Banker. The risk of adverse selection occurs when banks lend to businesses that subsequently fail (type II error), or when they do not lend to businesses that go on to become "successful or have the potential to do so (type I error).

Transactions Costs Theory

First developed by Schwartz (1974), this theory conjectures that suppliers may have an advantage over traditional lenders in checking the real financial situation or the creditworthiness of their clients. Suppliers also have a better ability to monitor and force repayment of the credit. All these superiorities may give suppliers a cost advantage when compared with financial institutions. Three sources of cost advantage were classified by Jonathan and Victor (2013) as follows: information acquisition, controlling the buyer and salvaging value from existing assets. The first source of cost advantage can be explained by the fact that sellers can get information about buyers faster and at a lower cost because it is obtained in the normal course of business. That is, the frequency and the number of the buyer's orders give suppliers an idea of the client's situation; the buyer's rejection of discounts for early payment may serve to alert the supplier of a weakening in the credit-worthiness of the buyer, and sellers usually visit customers more often than financial institutions do. The theoretical framework of the study is anchored on asymmetric information theory based on the fact that asymmetric information occurs when one party to an economic transaction possesses greater material knowledge than the other party. This typically manifests when the seller of a good or service possesses greater knowledge than the buyer, however, the reverse dynamic is also possible. Almost all economic transactions involve information asymmetries.

Empirical Review

John and Ugoani (2016) studied Nonperforming Loans Portfolio and its Effect on Bank Profitability in Nigeria. The study was to examine the nonperforming loan portfolio and its effect on bank profitability. The exploratory research design was adopted. Data generated were organized and coded before they were classified. To achieve the objective of the study data analyses were done through descriptive and regression analyses using the statistical package for the social sciences for the regression. With the regression result of $Y = 78.353 - 4.04x$, it was found that a nonperforming loans portfolio hurts bank profitability.

Lyndon, Peter, and Ebitare (2016) studied the impact of Non-performing Loans and Bank Performance in Nigeria. The study investigated the relationship between non-performing loans and bank performance in Nigeria for the period 1994-2014. The study employed the ADF Unit Root test, descriptive statistics, and multiple regression techniques to analyze data collected for the study from the CBN, NDIC, and annual reports of listed banks. The results of the study show that BAL and DOL had a statistically negative significant influence on ROCE, while SUL had a statistically negative insignificant impact on ROCE. The results show that a high level of non-performing loans would reduce the performance of banks in the long run in Nigeria. The study, therefore, recommended that credit reporting agencies and supervising authorities should be strengthened to reduce the high level of non-performing loans in the banking sector of Nigeria.

Ogunlade and Oseni (2018) studied Credit Management Practices and Bank Performance: Evidence from First Bank. The study examined the influence of credit management practices on the financial performance of Nigerian banks with specific reference to First bank Plc. Data was collected using the Purposive sampling technique from thirty (30) respondents as a sample size used to collect data from respondents. Both descriptive and inferential statistics were used to analyze data, such as frequency, percentage, weighted mean score, and multiple regression. The result revealed that credit management practices have a significant positive influence on the financial performance of First bank. The result concluded that client appraisal, credit risk control, and collection policy are major predictors of the financial performance of the First bank. Subsequently, the study recommended that management of other banks should learn from the First bank by enhancing their client appraisal techniques, credit risk control, and adopting a more stringent policy to improve their financial performance.

Jane, Kennedy, and Willy (2015) studied the effect of credit risk on the financial performance of commercial banks in Kenya. The objective of the study was to assess the effect of credit risk on the financial performance of commercial banks in Kenya. The study covered the period between the years 2005 and 2014. The study used the balance sheet components and financial ratios for 43 commercial banks in Kenya registered by the year 2014. Panel data techniques of fixed effects estimation and generalized method of moments (GMM) were used to purge time-invariant. The results show credit risk has a negative and significant relationship with bank profitability. Poor asset quality or high non-performing loans to the total asset is related to poor bank performance both in the short run and long run. Based on the study findings, it was recommended that the management of commercial banks in Kenya should enhance their capacity in credit analysis and loan administration Clear credit policies and lending guidelines should be established.

Nwanna and Ivie, (2017) studied the Effect of Financial Leverage on Firm's Performance: A Study of Nigerian Banks (2006 -2015). The study investigated the effect of financial leverage measures on a firm's performance. The study was carried out on thirteen deposit-money banks listed on the Nigerian Stock Exchange floor for a period of ten years from 2006 to 2015. Financial leverage was decomposed into debt ratio, debt equity ratio, and interest coverage ratio. Performance areas under study were profitability, size, liquidity, efficiency, and market capitalization value, all measured using relevant ratios. Data were collated from annual reports of companies and analyzed with the ordinary least square multiple regression techniques to investigate the effects of financial leverage ratios on performance ratios. Models were formulated for each hypothesis and tested using the R square, adjusted R square, and calculated f figures. The empirical results revealed that financial leverage has a positive effect on profitability and efficiency. No significant effects were found on liquidity, size, and market capitalization value. The finding found that the use of debt improves managerial efficiency as managers will have to ensure more profit is made to pay interests and still be profitable. Interests that are tax deductible were also found to reduce tax and improve profitability. It was recommended that debt should be employed in such a capacity that the costs do not outweigh the benefits.

Jonathan and Victor (2013) studied Informality and Bank Performance in Nigeria: A Panel Data Analysis The study empirically examined the impact of informality on the performance of the banking industry in Nigeria. The results indicated that if bank performance is measured by profit for the year (PAT) or return on assets (ROA), then informality impacts negatively on the performance of deposit money banks in Nigeria. Other variables that impact negatively on bank performance are inflation rate and asset quality (measured as the ratio of total non-performing loans to total loans). Based on the findings, the study recommends that deposit money banks in Nigeria should pursue policies and products that will assist them to capture the huge economic activities taking place in the informal

sector, while the government (that is the Central Bank of Nigeria, CBN) should also reconsider its policies that are capable of driving economic units underground. The study concludes that deposit money banks in Nigeria must work together with the CBN to achieve an all-inclusive banking system, thereby reducing the negative impact of informality on the performance of deposit money banks in Nigeria.

Methodology

The study adopted an *ex-post facto research design*. The choice of the *ex-post facto* design was because the research relied on already recorded events, and researchers do not have control over the relevant dependent and independent variables they are studying intending to manipulate them (Onwumere, 2009). The area of study is the Nigerian banking sector. This study made use of secondary data covering a period of 10 years i.e., 2009 – 2018, which was obtained from the financial statement of the selected banks. The population of the study covered all twenty (22) listed banks in Nigeria's stock market. They are highlighted in the appendix of the study. The sample size consisted of five (5) banks which were selected from commercial banks in Nigeria. The banks selected include; Zenith Bank Nigeria Plc, Access Bank, UBA, First Bank, and FCMB Bank. These banks were selected with the aid of judgmental sampling. Panel data covering a period of 10 years were analyzed with descriptive statistics, a unit root test, and a panel regression model. The essence of descriptive statistics was to measure the variables using statistical tools as measures of central tendency, normality, and central dispersion. The unit root test was used to measure the stationarity of the variables while the panel regression model was used to determine how credit failures affect the financial performance of Nigerian banks.

Model Specification

The main aim of this study is to examine the effect of credit failures on the financial performance of Nigeria Banks. The model is specified in the functional form:

$$PAT = f(NPLR, DR, LR) \dots\dots\dots (1)$$

Where:

PAT = Profit for the year

NPLR = Non-Performing Loans Ratio

DR = Deposit Ratio

LR = Leverage Ratio

In a linear regression form, it will become:

$$PAT_t = \beta_0 + \beta_1 NPLR_t + \beta_2 DR_t + \beta_3 LR_t + \mu \dots\dots\dots (2)$$

β_0 = Constant Term

β_1 = Coefficient of NPLR

β_2 = Coefficient of DR

β_3 = Coefficient of LR

μ = Error Term

Data Presentation and Analyses

Data Presentation

This subheading indicates the data sourced from the annual reports of the various banks under study. The data collected were organized and used for testing the hypotheses.

Table 1: Table showing the Data for the United Bank of Africa

Year	NPLR	DR	LR	PAT
2009	0.047032	0.498195	0.065609	12889
2010	0.034400	0.510362	66.31813	2169
2011	0.036338	0.490320	8.147476	7966
2012	0.085824	0.390597	7.773410	47375
2013	0.274139	0.426701	7.543708	46483
2014	0.136780	0.488181	7.295794	40083
2015	0.099558	0.505632	5.552732	47642
2016	0.071209	0.641816	5.496739	47541
2017	0.052063	0.624802	6.283768	42438
2018	0.073832	0.500721	8.850040	41047

Source: Financial Statement of the United Bank for Africa

NB: NPLR: Non-Performing Loans Ratio

DR: Deposit Ratio

LR: Leverage Ratio

PAT: Profit for the year

Table 1 showed that the non-performing loan ratio of the United Bank for Africa decreased from 2009 to 2010 while the debt ratio increased in the same period as the leverage ratio increased and profit after tax decreased. The variables fluctuated for the rest of the years. For instance, the non-performing loan ratio increased from 2011 to 2013 as the debt ratio and leverage ratio decreased in the same year as profit after tax increased. From 2014 to 2017, the non-performing loan ratio and leverage ratio decreased as the debt ratio and profit after tax increased. Non-performing loan ratio and leverage ratio increased in 2018 as the debt ratio and profit after tax decreased the same year.

Table 2: Table showing the Data for First Bank

Year	NPLR	DR	LR	PAT
2009	0.014427	0.302772	5.867271	1275
2010	0.05693	0.006628	5.765865	26936
2011	0.01527	9.775600	53.79595	23052
2012	0.01645	0.606134	6.202463	71144
2013	0.99999	0.142740	9.495051	59365
2014	0.9999	0.094913	8.641636	84842
2015	0.505780	0.057315	6.248280	2946
2016	0.390495	0.082097	6.319229	7507
2017	0.472520	0.002413	0.029229	9275
2018	0.523602	0.004772	0.031031	9342

Source: Financial Statement of the First Bank

Table 2 showed that non the performing loan ratio and profit after tax increased from 2009 to 2010 as the debt ratio and leverage ratio decreased. Nonperforming loan ratio and profit after tax decreased in 2011 as debt ratio and leverage increased the same year. Non – performing loan ratio increased from 2012 to 2014 and decreased from 2015 to 2016 while the debt ratio from 2012 to 2015, increased in 2016. The leverage ratio, on the other hand, increased from 2012 to 2013 and decreased from 2014 to 2015, and increased again in 2016. Profit after tax decreased from 2012 to 2013 and increased in 2014 before decreasing again in 2015 and increasing in 2016. The table also showed that all the variables increased from 2016 to 2017.

Table 3: Table showing the Data for FCMB

Year	NPLR	DR	LR	PAT
2009	0.194976	0.868759	0.259081	669371
2010	0.107876	9.660570	2.937091	7322322
2011	0.108037	0.772892	4.056256	11567744
2012	0.678733	0.544012	5.752532	15121704
2013	0.33221	0.629993	0.001118	6027752
2014	0.961711	0.842167	0.006061	5396908
2015	0.2729	0.846820	0.008011	2523055
2016	0.672972	1.003539	0.009733	3730260
2017	0.830534	0.942128	1.306464	1524886
2018	0.121591	0.770355	0.474803	3552392

Source: Financial Statement of the First Bank

Table 3 showed that the non-performing loan ratio decreased from 2009 to 2010 as the debt ratio while the debt ratio, leverage ratio, and profit after tax increased from 2009 to 2010. Also, non the performing loan ratio increased from 2011 to 2012 decreased in 2013 and increased again in 2014 while the debt ratio decreased from 2011 to 2012 while increased from 2013 to 3015. Also, the leverage ratio and profit after tax decreased from 2011 to 2015. The table also showed that non – the performing loan ratio and profit after tax increased from 2016 to 2017 and decreased in 2018 while the debt ratio and leverage ratio decreased from 2016 to 2017.

Table 4: Table showing the Data for Access Bank

Year	NPLR	DR	LR	PAT
2009	0.238964	0.888013	2.739942	880752
2010	0.581905	0.915188	0.298324	12931441
2011	0.093974	0.938720	111.0242	5248866
2012	0.242735	0.506952	5.378788	36353643
2013	0.135281	5.781721	5.950323	26211844
2014	1.103036	0.769886	6.229305	39941126
2015	0.069911	0.813509	5.691872	58924745
2016	0.024843	0.879498	6.339619	64026135
2017	0.046110	9.272832	6.522340	51335460
2018	0.053346	0.081828	0.800208	73596295

Source: Financial Statement of the First Bank

Table 4 showed that the non-performing loan ratio and profit after tax increased from 2009 to 2010 while the debt ratio and leverage ratio decreased in the same year. The non-performing loan ratio and profit after tax increased from 2011 to 2012 while the debt ratio and leverage ratio decreased the same duration. The table also showed that non–performing loan ratio decreased in 2013 and increased in 2014 before decreasing from 2015 to 2017 and increasing in 2018 while the debt ratio decreased from 2013 to 2014 and increased from 2015 to 2017 before decreasing in 2018 and the leverage ratio, on the other hand, increased from 2012 to 2014 and decreased in 2015 before increasing from 2016 to 2017 and decreasing again in 2018 while on the other hand, profit after tax decreased from 2012 to 2013 and decreased in 2014 before increasing from 2015 to 2016 and decreasing in 2016 before increasing again in 2018.

Table 5: Table showing the Data for Zenith Bank

Year	NPLR	DR	LR	PAT
2009	5.287214	2.741318	440.5671	18368
2010	0.104375	0.517901	5.498453	31819
2011	0.045814	0.524339	4.830575	41301
2012	0.031783	0.496865	4.56E+09	100681
2013	0.024834	0.541651	5.090900	95318
2014	0.016711	0.461546	5.677925	90275
2015	0.016694	0.792632	5.856851	106531
2016	0.026252	0.735088	5.138759	151389
2017	0.035038	0.654777	5.925180	173791
2018	0.032180	5.464745	6.341052	193424

Source: Financial Statement of the Zenith Bank

Table 5 showed that the non-performing loan ratio decreased from 2009 to 2015 and afterward increased from 2016 to 2017 and decreased in 2018 while the debt ratio decreased from 2009 to 2010, increased in 2011 before decreasing in 2012 and increasing again in 2013. It decreased in 2014 and increased in 2015 while it decreased from 2016 to 2018. Leverage ratio on the other hand from 2009 to 2012 and increased from 2013 to 2015. It decreased in 2016 before increasing from 2017 to 2018 while profit after tax increased from 2009 to 2012 before decreasing from 2013 to 2014. It increased from 2015 to 2018.

Data Analysis

Data analysis depicts how the data collected for each of the banks are analyzed with diverse analytical tools.

Descriptive Analysis

Table 6: Description of the Characteristics of the Variables Under Study for the Pooled Data of UBA, First Bank, FCMB, Access Bank, and Zenith Bank

	NPLR	DR	LR	PAT
Skewness	5.648637	2.831968	6.821696	2.348891
Kurtosis	35.06535	9.754490	47.69074	7.358399
Jarque-Bera	2407.948	161.8819	4548.760	85.55165
Probability	0.000000	0.000000	0.000000	0.000000
Observations	50	50	50	50

Source: Author's Computation from Eviews 9.0

Table 6 contains the description of the variables using the normality test which comprises of Skewness, Kurtosis, and Jarque – Bera Statistics. The table showed that all the variables were positively skewed relative to normal and are also leptokurtic as their kurtosis values are greater than three (3).

The table also showed that all the variables are normally distributed as the probability values of their Jarque-Bera statistics are less than 0.05.

Unit Root Test

This test tries to examine the property of the variables. It is used to check for the presence of a unit root i.e., whether the variables are stationary. This test is carried out using the Augmented Dickey-Fuller (ADF) test. The ADF is carried out using the E-views software package and the results from the test are tabulated below:

Table 7: Pooled Unit Root Test for UBA, First Bank, FCMB, Access Bank, and Zenith Bank

VARIABLES	LLC		ADF – FISHER		PP – FISHER	
	Test Stat.	Order of integration	Test Stat.	Order of integration	Test Stat.	Order of integration
<i>NPLR</i>	-5.68 (0.0000 < 0.05)	I (0)	27.47 (0.0022 < 0.05)	I (0)	32.82 (0.0003 < 0.05)	I (0)
<i>DR</i>	-3.53 (0.0002 < 0.05)	I (0)	28.09 (0.0017 < 0.05)	I (0)	25.72 (0.0041 < 0.05)	I (0)
<i>LR</i>	-3.45 (0.0003 < 0.05)	I (0)	21.49 (0.0179 < 0.05)	I (0)	37.05 (0.0001 < 0.05)	I (0)
<i>LPAT</i>	-4.10 (0.0000 < 0.05)	I(1)	24.06 (0.0075 < 0.05)	I(1)	52.03 (0.0000 < 0.05)	I (0)

Source: Author's Compilation from E-views 9.0

LLC = Levin, Lin, and Chu Test

IPS = Im, Pesaran and Shin W – Stat

ADF FISHER = Augmented Dickey-Fuller Fisher Chi-Square Test

PP FISHER = Philip Peron Fisher Chi-Square Test

Table 7 showed that nonperforming loans ratio, deposit ratio, and leverage ratio are integrated of order zero or are stationary at a level while profit for the yeas is integrated of order one or stationary at first difference.

Test of Hypotheses

The test of the hypothesis was carried out as follows:

Step 1: Re-statement of the hypothesis in the null and alternate forms

Step 2: Statement of decision criteria

Step 3: Presentation of test result

Step 4: Decision

Test of Hypothesis one

Step 1: Restatement of the Hypothesis.

Non-Performing Loans Ratio (NPL) does not have a positive and significant effect on the profit for the year of Nigeria's banking sector.

Step 2: Statement of Decision Criteria

Reject H_0 if the probability value is <0.05 .

Step 3: Presentation of Test Result

Table 8: Test of Hypothesis One

Dependent Variable: PAT				
Method: Panel EGLS (Period random effects)				
Date: 07/22/19 Time: 07:17				
Sample: 2009 2018				
Periods included: 10				
Cross-sections included: 5				
Total panel (balanced) observations: 50				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
NPLR	-84176.76	147491.1	-0.570725	0.0010
DR	1137956.	1193472.	4.953484	0.0453
LR	-0.000108	0.000255	-0.426046	0.0021
C	7598648.	3337333.	2.276862	0.0275
Effects Specification				
			S.D.	Rho
Period random			0.000000	0.0000
Idiosyncratic random			19550706	1.0000
Weighted Statistics				
R-squared	0.037604	Mean dependent var		8571102.
Adjusted R-squared	-0.025161	S.D. dependent var		18220257
S.E. of regression	18448057	Sum squared resid		1.57E+16
F-statistic	0.599117	Durbin-Watson stat		0.325788
Prob(F-statistic)	0.618847			
Unweighted Statistics				
R-squared	0.037604	Mean dependent var		8571102.
Sum squared resid	1.57E+16	Durbin-Watson stat		0.325788

Source: Author's Computation from E-View 9.0

Step 4: Decision

Given the decision, the criteria to reject H_0 is if the probability value is < 0.05 . Table 8 shows the probability value as 0.0010 which is less than 0.05. We reject the null hypothesis (H_0) and conclude that the Non-Performing Loans Ratio (NPL) has a negative and significant effect on the profit for the year of Nigeria's banking sector.

Test of Hypothesis Two

Step 1: Restatement of the Hypothesis

The deposit ratio does not positively and significantly affect the profit for the year of Nigeria’s banking sector.

Step 2: Statement of Decision Criteria

Reject H_0 if the probability value is <0.05 .

Step 3: Presentation of Test Result

Table 9: Test of Hypothesis Two

Dependent Variable: PAT				
Method: Panel EGLS (Period random effects)				
Date: 07/22/19 Time: 07:17				
Sample: 2009 2018				
Periods included: 10				
Cross-sections included: 5				
Total panel (balanced) observations: 50				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
NPLR	-84176.76	147491.1	-0.570725	0.0010
DR	1137956.	1193472.	4.953484	0.0453
LR	-0.000108	0.000255	-0.426046	0.0021
C	7598648.	3337333.	2.276862	0.0275
Effects Specification				
			S.D.	Rho
Period random			0.000000	0.0000
Idiosyncratic random			19550706	1.0000
Weighted Statistics				
R-squared	0.037604	Mean dependent var		8571102.
Adjusted R-squared	-0.025161	S.D. dependent var		18220257
S.E. of regression	18448057	Sum squared resid		1.57E+16
F-statistic	0.599117	Durbin-Watson stat		0.325788
Prob(F-statistic)	0.618847			
Unweighted Statistics				
R-squared	0.037604	Mean dependent var		8571102.
Sum squared resid	1.57E+16	Durbin-Watson stat		0.325788

Source: Author’s Computation from E-View 9.0

Step 4: Decision

Given the decision, the criteria to reject H_0 is if the probability value is < 0.05 . Table 9 shows the probability value as 0.0453 which is less than 0.05. We reject the null hypothesis (H_0) and conclude that the deposit ratio positively and significantly affects the profit for the year of Nigeria’s banking sector.

Test of Hypothesis Three

Step 1: Restatement of the Hypothesis.

The leverage ratio does not have a positive and significant effect on the profit for the year of Nigeria's banking sector.

Step 2: Statement of Decision Criteria

Reject H_0 if the probability value is <0.05 .

Step 3: Presentation of Test Result

Table 10: Test of Hypothesis One

Dependent Variable: PAT				
Method: Panel EGLS (Period random effects)				
Date: 07/22/19 Time: 07:17				
Sample: 2009-2018				
Periods included: 10				
Cross-sections included: 5				
Total panel (balanced) observations: 50				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
NPLR	-84176.76	147491.1	-0.570725	0.0010
DR	1137956.	1193472.	4.953484	0.0453
LR	-0.000108	0.000255	-0.426046	0.0021
C	7598648.	3337333.	2.276862	0.0275
Effects Specification				
			S.D.	Rho
Period random			0.000000	0.0000
Idiosyncratic random			19550706	1.0000
Weighted Statistics				
R-squared	0.037604	Mean dependent var		8571102.
Adjusted R-squared	-0.025161	S.D. dependent var		18220257
S.E. of regression	18448057	Sum squared resid		1.57E+16
F-statistic	0.599117	Durbin-Watson stat		0.325788
Prob(F-statistic)	0.618847			
Unweighted Statistics				
R-squared	0.037604	Mean dependent var		8571102.
Sum squared resid	1.57E+16	Durbin-Watson stat		0.325788

Source: Author's Computation from E-View 9.0

Step 4: Decision

Given the decision, the criteria to reject H_0 is if the probability value is < 0.05 . Table 10 shows the probability value as 0.0021 which is less than 0.05. We reject the null hypothesis (H_0) and conclude that the Leverage ratio has a negative and significant effect on the profit for the year of Nigeria's banking sector.

Discussion of Result

The following results were generated from the analysis of the study;

- I. Non-Performing Loans Ratio (NPL) has a negative and significant effect on the profit for the year of Nigeria's banking sector based on the premise that the probability value being 0.0010 was less than 0.05.
- II. The deposit ratio positively and significantly affects the profit for the year of Nigeria's banking sector since the probability value being 0.0453 was less than 0.05.
- III. The leverage ratio has a negative and significant effect on the profit for the year of Nigeria's banking sector as the probability value being 0.0021 was less than 0.05.

Summary of Findings

The summary of findings made for the study includes the following:

- I. Non-Performing Loans Ratio (NPL) has a negative and significant effect on the profit for the year of Nigeria's banking sector.
- II. The deposit ratio positively and significantly affects the profit for the year of Nigeria's banking sector.
- III. The leverage ratio has a negative and significant effect on the profit for the year of Nigeria's banking sector.

Conclusion

The study concluded that the objectives of the study were to; examine the effect of the Non-Performing Loans Ratio (NPL) on the profit for the year of Nigeria's banking sector, ascertain the extent to which the deposit ratio affects the profit for the year of Nigeria banking sector and determine the effect of the leverage ratio on the profit for the year of Nigeria banking sector.

Recommendation

The following recommendations are made for the study:

- i. That prudential supervision of banks should be encouraged, as well as strengthening the activities of the Asset Management Corporation of Nigeria (AMCON) to deal with the problem of non-performing loans in the banking sector furthermore, the Internal Control Departments of banks should also be strengthened and empowered to adequately tackle the problem of the high level of non-performing loans in banks.
- ii. There is a need for bank management to devise new methods of enhancing customers' deposits.
- iii. Management of banks should ensure that financial decisions taken agree with the shareholders' wealth maximization objectives which encompass the profit maximization objective of the firm.

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