ABSTRACT
Risk is an intrinsic attribute that is existent in virtually all fields of human endeavour. The financial environment has turned out to be extremely precarious, unstable and unpredictable by dint of defective risk management practice. In giving out credit, Deposit Money Banks (DMBs) take the risk of the loan or advances (LAD) being fully or partially lost, or of the interest-income accrued not eventually materialising. The review of empirical literature revealed a plethora of approaches to measuring the credit risks facing financial institutions. They showed that the management of risks has a positive impact on profitability. Concentrating on deposit money banks in Nigeria and using Zenith Bank Plc as a case study, the objective of this study is to show in simple terms that risks can be represented by the LAD and the loan loss provision (LLP) made by DMBs, just as performance can be measured by the return on equity (ROE), while total assets (TAS) are included as the control variable. Using data extracted from the financial statements from 2002 to 2017 (16 years), it was established, by means of descriptive statistics and regression analysis, that loan loss provision does not exert a significant impact on profitability.

KEY WORDS
Risk management, credit risk, loans and advances, loan loss provision, bank performance.

Introduction
Due to economic liberalisation and globalisation, corporate firms understand the intense competition they face: they need to diversify risk in order to achieve economies of scope and scale. Companies have to search for new markets, leverage resources to gain a competitive edge, and intensify the connections between firms by means of mergers, investments, and cross-shareholdings (Ahmad et al., 2018).

Risk is an intrinsic attribute that is existent in virtually all fields of human endeavour. The financial environment has turned out to be extremely precarious, unstable...
and unpredictable by dint of defective risk management practice. The risks include fluctuating exchange rates, frequent changes in government policies and other factors beyond the sphere of influence of the financial environment. Consequently, in response to these risks, firms develop the necessary practices to mitigate the effects of such risks on their financial operations: such practices can be referred to as risk management practices. Risk management has assumed an important place in the schedule of practitioners, academics and the business community as a whole, irrespective of its obvious failure in the recent financial crisis that originated in America and had a multiplier effect on the economies of other nations (Huber and Scheytt 2013). Risk Management has risen to the top of agendas in the business world because it heightens organisational performance and creates value for shareholders (Gates et al., 2012).

In recent times, there has been an upsurge in the contribution of literature regarding risk management, especially due to the economic meltdown of 2008, which tested the tenacity of financial institutions as regards withstanding failures across the globe. Unfortunately, most financial institutions took a turn for the worse rather than surviving the austere economic conditions posed by the financial crisis; the unfavourable turn was attributed to deficient risk management practices and strategies worldwide. The effect of the global financial crisis has further emphasised the importance of risk management (Coskun 2012). This is also attributed to the varying business environment, characterised by threats posed by political, economic, natural and technical resources (Wu and Olson 2010).

Applying, some level of risk is needed to ensure the profitability of financial institutions, as such institutions play their requisite roles in the intermediation process. However, the management of the trade-off between risks and return is important for the sustainable profitability of banks and other financial institutions (Gizaw et al., 2015). Consequently, there is a need for sustained risk management by financial institutions to achieve survival and attain stability.

In the Nigerian context, risk management is at a rudimentary stage because of the poor knowledge of risk management possessed by the management board members of many banks, an inadequate number of professionals, lack of training and education on the subject of risk and a defective framework that restricts the development of capable workers in the industry (Sanusi 2012). Financial institutions are confronted with various risks which are idiosyncratic to the roles they play in the financial circle, ranging from credit risk to liquidity risk, systemic risk and un-systemic risk. As domestic financial reforms were intended to encourage the flow of capital and improve the efficiency of a capital market, and hence remove the financial constraints on firms’ investments, so their outcome was most probably a decrease in the firms’ external financing cost and an increase in the credit flow to the firms (Baloch et al., 2018). A common concern among operators and regulators of banks is the occurrence of non-performing loans, the consequent increase in loan loss provisions, the negative impact on profits and the erosion of the capital base. The risk that loans may fail to perform falls under the category of credit risk. This study is therefore designed to explore the essentials of credit risk management and its accompanying effects on deposit money banks in Nigeria, using Zenith Bank Plc as a case study. The purpose of the study is to show in simple terms that credit risks in the DMBs can be measured by loans and advances granted and loan loss provisions made.
The study is divided into five parts. The first is this introductory part, which is followed by a review of related literature, which is sub-divided into conceptual, theoretical and empirical reviews. The third part deals with our approach to the study. In the fourth part, we analyse the data from descriptive, correlation and regression angles. Finally, in the fifth part, we provide a summary of findings, draw our conclusion and make some recommendations to management. In addition, we offer leads to other researchers who might be interested in this or related topics.

1. Literature review

Finance literature is filled with a variety of contributions regarding risk management and its effects on the performance and operations of financial institutions. This segment of the study will embrace reviews as regards the subject matter in the conceptual, theoretical and empirical contexts.

1.1. Conceptual issues

Risk is an intrinsic feature of life. Conventionally, risk is linked with the likelihood of a negative outcome. Considering risk from the perspective of finance, risk is a deviation from expected return or outcome. There are various types of risks: liquidity risk, reputational risk, foreign exchange risk, business risk, default risk, exchange risk, credit risk, and so forth (The Economic Times 2015; Ennouri 2013: 290; Nadeem and Khalil, 2014:35). Bank (2004) defines risk as the effect of uncertainty on a future outcome or event or objective. According to Pyle (1997) risk is a reduction in a firm’s net worth due to changes in its operating environment; while Alam and Masukuujjaman (2011) define it as the deviation from an expected outcome.

Risk as a financial expression can be divided into two main groups: systemic and un-systemic risk (Lubatkin and Rogerson 1989). Systemic risk, also known as non-diversifiable risk, is risk that cannot be mollified through diversification; it is due to the interaction of forces beyond the control of the institution. Examples of these forces can be war, political instability, and economic recession that can lead to a downturn in economic activities. Conversely, un-systemic risk, also known as diversifiable risk, is risk that can be assuaged by diversification; this is usually because of factors within the organisation. Other types of risk peculiar to various financial institutions are strategic risk, market risk, credit risk, liquidity risk, operational risk, reputational risk, legal risk and solvency risk (Bloom and Milkovich 1998).

However, according to Basel II, the foremost risks are credit, market and operational risks. Credit risk is one of the oldest risks faced by financial intermediaries (Broll et al., 2002). It is the prospect of loss that may arise from the inability of a borrower to meet his obligations to pay back his borrowings when due. Market risk refers to the vicissitudes in the market that affect the profitability of financial institutions. This may be, for example, exchange rate instability or interest rate variability. The market risk of every financial institution is determined by the volatility of the underlying risk factors and the response of the portfolio to changes in these risk factors (Hendricks and Hirtle 1997; Alam and Masukuujjaman 2011). There are significant differences between entrepreneurs in the selected coun-

---

1 The Basel Committee was founded in 1974 by the governors of the central banks in the European Union (Zupanovic, 2013:82). The objective was to formulate general standards for the supervision and best practices for the operation of banks. These standards (starting with Basel I, then Basel II, etc.) have become global benchmarks for managing capital adequacy and for capital measurements and standards (BCBS, 2001). Basel II deals with the harmonisation of auditing and supervisory regulations and was fully implemented in 2007.
tries (V4 and Serbia) in evaluating sources of market risk (losing customers; strong competition in the area of business; stagnation of the market; unreliability of suppliers). The country of operation of the entrepreneurs is a statistically significant factor when evaluating all sources of market risk (Dvorsky et al., 2018).

Finally, operational risk is a potential loss that arises because of glitches or temporary cessation in the day-to-day operational activity of the firm. This can result from failure to comply with policies, laws and regulations (Njogo, 2012). Contrary to the opinion of most researchers, Stulz (1996) suggested that risks present prospects through which firms can gain comparative advantage and improve performance.

Rejda (2008) explained risk management as the process through which an organisation ascertains exposure to loss and picks the best strategy suitable for mitigating such risk exposures. Risk management is a systematic process of understanding, evaluating and addressing risks to maximise the chances of objectives being achieved and ensuring organisations, individuals and communities are sustainable (Dugguh and Diggi 2015). Thus, in the process of risk management, risk bearing the greatest loss and with the greatest probability of occurrence should be handled first, and lower-level risk should be handled later (Kiochos 1997; Stulz 2003).

Risk Management Strategies are policies and plans adopted by financial institutions to palliate the unfavourable effects of risk. Dugguh and Diggi (2015) opined that this can be done through the identification, analysis, control, minimisation, elimination and avoidance of undesirable risks. It also involves diversification and compliance with policies by authorities in the financial domain: such policies as Basel II, Banks and Other Financial Institutions Decree (BOFID). The Basel Committee’s Capital Adequacy guideline aims to encourage sound risk management practices. As a result, the guideline contains a means of establishing an appropriate risk environment; operating under a sound credit providing process; maintaining an appropriate credit administration; measurement; a monitoring process; and ensuring adequate controls over credit risk. Basel II is aimed at enabling banks to promote these practices, although banks with advanced risk management systems have more likelihood of determining their minimum capital. Also, risk management strategies involve the integration of risk recognition, assessment, management and mitigation by managerial resources. Kolapo et al. (2012) further posited that credit risk management strategies include credit derivatives, credit securitisation, and compliance with the Basel Accord, adoption of a sound internal lending policy and the use of credit bureaux.

The financial performance of deposit money banks (DMBs) can be appraised through an evaluation of the firm’s profitability, solvency and liquidity. Profitability refers to the degree to which a firm makes profit, taking into cognisance its factors of production. Soteriou and Zenios (1999) clarify that profitability analysis deals mainly with the existing relationship between revenues and expenses and on the level of profits considering the size of investment in the business through the adoption of profitability ratios. Thus, there is a need for risk management to enhance profit as investment is necessary to induce profit. Standard and Poor’s (2013), as cited by Omasete (2012), assumes poor liquidity management, under-pricing, under-reserving and high tolerance for investment risk as the factors underlying the failure of financial institutions. Correspondingly, Prakash and Poudel (2012) affirm that credit risk management is an important determinant of financial performance. Charles and
Kenneth (2013) concur by stating clearly that a strong credit risk management is important in order to build the performance of DMBs and the overall economy.

In this study, we shall place emphasis on credit risk management and its effect on the performance of Deposit Money Banks (DMBs) in Nigeria. One of the foremost international DMBs, Zenith Bank Plc, shall be selected as the sole sample for the study because of its size, spread and capacity and the leading role it plays in spreading to other countries in Africa. In giving out credit, DMBs take the risk of the loan or advances being fully or partially lost or of the interest-income accrued not eventually materialising. Zenith Bank Plc was established as a commercial bank in Nigeria in May 1990, and it commenced operations in July 1990 with share capital of twenty million naira (₦20,000,000). It became a public limited liability company (plc) in June 2004 and was listed on the Nigerian Stock Exchange (NSE) in October of the same year through an initial public offer that was over-subscribed. It was listed on the London Stock Exchange in 2013. It has over one million shareholders and over 500 branches in Nigeria. The bank has subsidiaries in the UK, The Gambia, Ghana and Sierra Leone and representative offices in China and South Africa.

1.2. Theoretical review

In this section, we consider several theories relating to risk management and the performance of financial institutions. Cantor and Frank (1996) asserted that credit risk theory is the predominant theory in assessing credit risk. This theory assumes that a firm should come up with a means of quantifying credit risk across a broad range of instruments including traditional loans, trade credits, fixed income instruments, and so on (Padilla and Pagano 2000).

Financial intermediation is the process through which financial institutions pool funds from the surplus unit for use in the deficit unit of the economy. Adrian (2009) asserted that financial intermediaries are recognised by the categories of their deposits not related to their portfolio performance, a high proportion of their deposits are withdrawable on demand and their assets as well as their liabilities are transferable on demand. The role of the financial intermediary is creating specialised financial products (Nicola et al., 2012).

Markowitz (1959) focused on the idea of portfolio diversification as a method of mitigating risk. This theory further discusses how a risky asset should be priced. In fact, Keynes (1936), Kaldor (1939) and Marschak (1938) all envisaged the portfolio selection theory in which risk and uncertainty played a significant role. The theory served as a basis for the Two Fund Separation Theory by Tobin (1958) which dealt mainly with individual preference as regards investment. Williamson (1998), as conveyed by Muteti (2014), posited that risk management practices may be determined by institutions or recognised as an acceptable practice operating in a market or industry. Correspondingly, Smith and Watts (1992) described regulation, according to this theory, as a key determinant of a firm’s risk management policies. As a result, if regulated firms (like DMBs) are confronted by tighter regulations, they are likely not to fall prey to credit risk.

1.3. Empirical review

A plethora of contributions in literature abound as regards credit risk management and the performance of financial institutions. This section of the study will review some of the empirical studies present in literature concerning the subject matter across the globe. Kambi and Ali (2016) studied the relationship between risk man-
agement practices and the performance of listed banks on the Nairobi Securities Exchange in Kenya. Employing both descriptive and regression analysis, it was revealed that risk management practices have a significant relationship to bank performance. Hence, it was recommended that training should be organised for staff to learn more about the notion of risk management.

Murage and Muiru (2016) determined the effect of credit risk on the corporate liquidity of deposit-taking microfinance institutions in Kenya between 2011 and 2013. Adopting the regression analysis technique, the findings of the study indicated that credit risk has a strong and statistically significant effect on the corporate liquidity of deposit-taking microfinance institutions in Kenya. In turn, Kalui and Kiawa (2015) analysed the effect of credit risk management procedures on financial performance among microfinance institutions in Kenya. Adopting the descriptive and inferential statistical technique, it was revealed that risk identification in credit risk management ensured that the risk management function is established throughout the whole operation. Gizaw et al. (2015), in a quest to contribute to the knowledge surrounding this topic, conducted an investigation into the impact of credit risk on the profitability of commercial banks in Ethiopia between 2003 and 2014. Applying a descriptive statistics and panel data regression model, the results laid bare that credit risk measures have a significant impact on the profitability of commercial banks in Ethiopia.

Alshatti (2015) explored the effect of credit risk management on the financial performance of 13 commercial banks in Jordan between 2005 and 2013. Adopting the panel data regression analysis technique, it was discovered that credit risk management has a significant effect on the financial performance of commercial banks in Jordan. Soyemi et al. (2014) scrutinised the risk management practices and financial performance of deposit money banks in Nigeria in 2012. Adopting the classical Ordinary Least Square Regression Method coupled with descriptive statistics, it was revealed that risk management practices in the banking sector have a significant effect on financial performance. Kwabena (2014) investigated the link between credit risk management and the performance of financial institutions in Ghana from 1995 to 2009. By employing the Least Square Method, a positive relationship between bank performance and credit risk management was discovered.

Adeusi et al. (2013) evaluated the association between risk management practices and the financial performance of banks in Nigeria between 2006 and 2009. Adopting the panel data estimation technique, the result showed that a significant relationship exists between financial performance and risk management. Omasete (2012) scrutinised the effect of risk management on the financial performance of insurance companies in Kenya between 2008 to 2012 using both descriptive and regression procedures, establishing that risk management practices adopted by most insurance companies in Kenya have a strong effect on their financial performance. The study further inferred that risk identification is the most influential procedure in risk management affecting the financial performance of insurance companies in Kenya during the period of the study.

Kolapo et al. (2012) carried out an inquiry into the effect of credit risk on the performance of commercial banks in Nigeria between 2000 and 2010. The performance of banks was proxied by return on assets, while non-performing loans, loans and advances, loan loss provision, classified
loans and total deposits were used as indicators for credit risk management. Using the regression technique, the study disclosed that the effect of credit risk on bank performance is cross-sectional invariant, that is, the effect is similar across banks in Nigeria, and credit risk exerts a significant positive effect on profitability across banking firms. Kargi (2011) assessed the impact of credit risk on the profitability of banks in Nigeria between 2004 and 2008 using the descriptive, correlation and regression techniques, revealing that credit risk management has a significant impact on the profitability of Nigerian banks. Okoye (2010) examined the impact of risk management in Nigerian banks within the period of 2003-2008. Employing the correlation and regression analysis, it was discovered that credit risk exposures have a significant positive impact on the growth and profitability of Nigerian commercial banks. Kithinji (2010) evaluated the relationship between credit risk management and the profitability of banks in Kenya between 2004 and 2008. The study adopted the regression analysis technique as non-performing loans were used as a proxy for credit risk management and bank profit as an index for profitability. It was, however, divulged that there was no significant relationship between bank profit and credit risk management.

We present a summary of the above empirical studies in Table 1. None of the above studies used the case study approach. Also, the most recent of the studies on Nigerian banks was published in 2013. This study intends to fill these gaps. An added advantage is that it will help individual banks learn how to measure credit risk and how to manage it.

Table 1. Empirical studies reviewed

<table>
<thead>
<tr>
<th>S/N</th>
<th>AUTHOR(S)</th>
<th>YEAR</th>
<th>TARGET</th>
<th>METHOD</th>
<th>RESULT</th>
<th>COUNTRY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Kambi, Ali</td>
<td>2016</td>
<td>Listed Banks</td>
<td>Descriptive, Regression</td>
<td>Significant</td>
<td>Kenya</td>
</tr>
<tr>
<td>2</td>
<td>Murage, Muiru</td>
<td>2016</td>
<td>MFBs</td>
<td>Regression</td>
<td>Significant</td>
<td>Kenya</td>
</tr>
<tr>
<td>3</td>
<td>Kaliu, Kiawa</td>
<td>2015</td>
<td>MFBs</td>
<td>Descriptive, Inferential Statistics</td>
<td>Significant</td>
<td>Kenya</td>
</tr>
<tr>
<td>4</td>
<td>Gizaw, Kebede, Selvarag</td>
<td>2015</td>
<td>Banks</td>
<td>Descriptive, Panel Data</td>
<td>Significant</td>
<td>Ethiopia</td>
</tr>
<tr>
<td>5</td>
<td>Alshatti</td>
<td>2015</td>
<td>Banks</td>
<td>Panel Data</td>
<td>Significant</td>
<td>Jordan</td>
</tr>
<tr>
<td>6</td>
<td>Soyemi, Ogunleye, Ashogbon</td>
<td>2014</td>
<td>Banks</td>
<td>Descriptive, OLS Regression</td>
<td>Significant</td>
<td>Nigeria</td>
</tr>
<tr>
<td>7</td>
<td>Kwabena</td>
<td>2014</td>
<td>Financial Institutions</td>
<td>OLS</td>
<td>Significant</td>
<td>Ghana</td>
</tr>
<tr>
<td>8</td>
<td>Adeusi, Akeke, Adébisi, Oladunjoye</td>
<td>2013</td>
<td>Banks</td>
<td>Panel Data</td>
<td>Significant</td>
<td>Nigeria</td>
</tr>
<tr>
<td>9</td>
<td>Omasete</td>
<td>2012</td>
<td>Insurance Companies</td>
<td>Descriptive, Regression</td>
<td>Significant</td>
<td>Kenya</td>
</tr>
<tr>
<td>10</td>
<td>Kolapo, Ayeni, Oke</td>
<td>2012</td>
<td>Banks</td>
<td>Regression</td>
<td>Significant</td>
<td>Nigeria</td>
</tr>
<tr>
<td>11</td>
<td>Kargi</td>
<td>2011</td>
<td>Banks</td>
<td>Descriptive, Correlation, Regression</td>
<td>Significant</td>
<td>Nigeria</td>
</tr>
<tr>
<td>12</td>
<td>Okoye</td>
<td>2010</td>
<td>Banks</td>
<td>Correlation, Regression</td>
<td>Significant</td>
<td>Nigeria</td>
</tr>
<tr>
<td>13</td>
<td>Kithinji</td>
<td>2010</td>
<td>Banks</td>
<td>Regression</td>
<td>Insignificant</td>
<td>Kenya</td>
</tr>
</tbody>
</table>

Source: Own elaboration.
2. Research methods

The review of empirical literature revealed a plethora of approaches to measuring the credit risks facing financial institutions. They showed that the management of risks has a positive impact on profitability. Concentrating on the DMBs in Nigeria and using Zenith Bank Plc as a case study, the objective of this study is to show in simple terms that risks can be represented by Loans and Advances (LAD) booked and the Loan Loss Provision (LLP) made by banks. Total Assets (TAS) of the bank are included as a control variable in the model. In the same way, performance can be measured by the Return on Equity (ROE) or the Return on Assets (ROA) as shown in or extracted from the financial statements. All these variables can be extracted from the Statement of Comprehensive Income and the Statement of Financial Position of the DMBs.

For the purpose of this study, the data for LLP, LAD, TAS and ROE are extracted from the financial statements of Zenith Bank Plc for 16 years (2002 to 2017). In their work on bank age and bank retention policy, Inyiamma and Ugwuanyi (2016:236) used Zenith Bank Plc as a case study, collecting data from 2002 to 2013. The choice of 2002 as the first year for analysis was made as Zenith Bank has made data publicly available from that year. For the same reason, in this study, we shall include data from 2002. The ordinary least square regression technique is adopted for this study and the regression equation is shown as:

\[ \text{ROE} = \alpha + \beta_1 \text{LAD} + \beta_2 \text{LLP} + \beta_3 \text{TAS} + \varepsilon \]

Where
- \( \alpha \) = the coefficient (constant) to be estimated
- \( \beta \) = the slope of the independent variables
- \( \text{ROE} \) = Return on Equity

Abata (2014) undertook a study on asset quality and bank performance in Nigeria and established that total loan ratio did not influence the return on assets (ROA), whereas the loan loss ratio had a significant impact. This supports the use of LAD and LLP as the independent variables to be regressed against ROE. The choice of ROE instead of ROA is premised on the need to test using an alternative performance indicator to observe whether the results would match that of Abata (2014). Thus, this study is an adaptation of Abata’s model.

3. Analysis and discussion of results

The relationship between ROE, LAD and LLP can be observed graphically by charting their growth over the years. This is done in Figure 1.
A review of the chart shows that LLP made an upward spike movement four times. Each time it went up, it came down again. This shows that even though management was unable to hold it down permanently, it was able to control it. Another obvious point is that the LLP grows more quickly and swings more rapidly than LAD and ROE. In absolute terms, LLP went up sharply in 2009 and 2017, as shown in Figure 2 below. A policy thrust must have pushed up the LLP in these two years. An investigation into what happened in other banks will reveal whether it was due to in-house cleansing or a regulatory directive.

The output of the regression analysis provides the requisite indicators to facilitate interpretation of the analysis of time series data. The signs and significance of the outcome provides for a discussion of the results for the test of correlation and regression analysis.
Table 2. Correlation analysis

<table>
<thead>
<tr>
<th></th>
<th>ROE</th>
<th>LAD</th>
<th>LLP</th>
<th>TAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROE</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LAD</td>
<td>-0.41</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LLP</td>
<td>-0.28</td>
<td>0.60</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>TAS</td>
<td>-0.48</td>
<td>0.98</td>
<td>0.66</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Own elaboration using MS Excel Data Analysis Tool Pak.

The correlation analysis in Table 2 shows that LAD, LLP and TAS have a positive relationship with each other but a negative relationship with ROE. This does not show the direction of causality, yet relationships of -0.41, -0.28 and -0.48 exist between these three variables and ROE. This shows that increases in loans and advances, loan loss provisions and total assets will result in decreases in return on equity.

Table 3. Summary output – regression analysis

<table>
<thead>
<tr>
<th>Regression Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multiple R</td>
</tr>
<tr>
<td>R Square</td>
</tr>
<tr>
<td>Adjusted R Square</td>
</tr>
<tr>
<td>Standard Error</td>
</tr>
<tr>
<td>Observations</td>
</tr>
</tbody>
</table>

**ANOVA**

<table>
<thead>
<tr>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>Significance F</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>0.134</td>
<td>0.045</td>
<td>2.190</td>
<td>0.142</td>
</tr>
<tr>
<td>12</td>
<td>0.246</td>
<td>0.020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>0.380</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>Standard Error</th>
<th>t Stat</th>
<th>P-value</th>
<th>Lower 95%</th>
<th>Upper 95%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.5449</td>
<td>0.0680</td>
<td>8.0128</td>
<td>0.0000</td>
<td>0.3967</td>
</tr>
<tr>
<td>LAD</td>
<td>0.0004</td>
<td>0.0003</td>
<td>1.5110</td>
<td>0.1567</td>
<td>-0.0002</td>
</tr>
<tr>
<td>LLP</td>
<td>0.0014</td>
<td>0.0022</td>
<td>0.6562</td>
<td>0.5241</td>
<td>-0.0034</td>
</tr>
<tr>
<td>TAS</td>
<td>-0.0003</td>
<td>0.0001</td>
<td>-1.8437</td>
<td>0.0900</td>
<td>-0.0006</td>
</tr>
</tbody>
</table>

Source: Own elaboration using MS Excel Data Analysis Tool Pak.

The regression equation becomes:

ROE = 0.5449 + 0.0004LAD + 0.0014LLP - 0.0003TAS

This means that if all other variables are held constant, an increase in loans and advances (LAD) will bring an increase of 0.0008 in return on equity (ROE). In the same vein, a one-unit increase in loan loss provision (LLP) will lead to an increase of 0.0014 in ROE. Finally, a one-unit increase in total assets (TAS) will spur a 0.0003 reduction in ROE. Thus, increases in LAD and LLP will contribute to increases in ROE. This is understandable because every loan booked has the potential to yield interest income, though it will also lead to increases in loan loss provisions. However, increases in total assets will bring about a decrease in ROE. This tells management that a larger part of assets actually cause decreases in ROE.
Test of research hypotheses in Zenith Bank Plc

$H_0$: Loan Loss Provision does not significantly affect the performance of Zenith Bank Plc.

$H_1$: Loan Loss Provision significantly affects the performance of Zenith Bank Plc.

Decision Rule: Reject $H_0$ if P-Value is less than a-value (0.05).

The hypothesis $H_0$ cannot be rejected because the p-values for the three coefficients at 0.1567, 0.5241 and 0.0900 are all greater than 0.05. The loans and advances (LAD), the loan loss provision (LLP) and the total assets (TAS) have no significant effect on the performance of Zenith Bank Plc. Thus, none of these three variables can individually have any significant impact on ROE. The implication is that there are various other factors (in addition to these variables) that jointly combine to determine ROE.

This is in contrast to the results of earlier research on the same subject matter. Kolapo et al. (2012) had investigated the impact of credit risk on the profitability of banks in Nigeria between 2004 and 2008 using the descriptive, correlation and regression techniques, and they showed that credit risk management has a significant impact on the profitability of Nigerian banks. This result is in partial agreement with Abata (2014), who undertook a study on asset quality and bank performance in Nigeria and established that total loan ratio did not influence the return on assets (ROA) whereas the loan loss ratio had a significant impact. The implication of the outcome of this study is that credit risk was well-managed by the bank over the period under review, to the extent that it did not significantly affect performance.

Summary, recommendations and conclusion

There is considerable instability in the state of financial institutions in the market due to weak credit risk management strategies. Risk is an intrinsic attribute that is existent in virtually all fields of human endeavour. The financial environment has turned out to be extremely precarious, unstable and unpredictable by dint of defective credit risk management practice. Using data extracted from financial statements from 2002 to 2017 (16 years), it was established, by means of descriptive statistics and regression analysis, that loan loss provision has no significant impact on ROE (i.e. the financial performance) of Zenith Bank Plc. This, coupled with the plethora of conceptual, theoretical and empirical findings in literature, led to the conjecture that credit risk management is a requisite for the profitable financial performance of DMBs, and indeed all financial institutions, across the globe.

The board and senior management of DMBs should develop strategies and train staff on credit risk management. Due diligence is required before loans are booked and funds are disbursed, otherwise recovery may become expensive. Loan recovery involves giving commission to agents and incurring legal fees. Now that DMBs operate as one-branch banks because of technological enhancement that permits instant real-time transaction updates, it becomes easy to track every loan given to customers. Basel Pillar II criteria must be adhered to and management must be above board when it comes to loan approvals. Related party transactions and insider trading are abuses that get banks into trouble. Management is already highly remunerated and thus motivated to discourage abuse: thus, observed abuse should be sanctioned with the strictest penalty to function as a deterrent. Once exposed, it is always difficult for banks to bounce back unless substantial additional funds are injected. Dabari and Saidin (2014) equally stressed the expected contributions of top management, in terms of recommendations emanating from their study.
The study uses the case study approach, selecting only one bank from the 15 listed banks in Nigeria. Further studies could consider other banks apart from Zenith Bank Plc. A study on the same topic for microfinance banks is also worthwhile, considering the number of microfinance banks in Nigeria. A study of failed banks using this approach may reveal one of the reasons why banks fail.

References
Gizaw, M., Kebede, M., Selvaraj, S. (2015), The impact of credit risk on profitabil-


Kithinji, A.M. (2010), Credit risk management and profitability of commercial banks in Kenya, University of Nairobi, Kenya repository.


Dr. Michael Ojo Oke is the Acting Head, Department of Finance, Faculty of Management Sciences, Ekiti State University. He has close to twenty years’ experience of teaching; research and community service in the University system. His areas of interest include: Enterprises Financing; Public Sector Finance; International Finance and Management of Financial Institutions. Dr. Oke has published widely in reputable journals.

Olawale Isaac Wale-Awe has BSc Economics (1984), PGD Computer Science (1986), MSc Banking & Finance (2006), ACA (1989), FCA (2000). He was lecturer as well as HOD in the Department of Accounting, and Sub-Dean of Faculty, Ekiti State University, Nigeria (1996-2008). Director of Examinations, then Director of Student Affairs and later Director Membership Affairs at the Institute of Chartered Accountants of Nigeria (2008-2016). He embarked on full-time PhD programme in the Ekiti State University in 2016, and dissertation is ready for defence. He consults for Sage Education Limited and is partner in Wale Awe & Co (Chartered Accountants). He has written five books and published many articles.