THE EFFECTS OF CREDIT RISK ON THE FINANCIAL PERFORMANCE OF QUOTED DEPOSIT MONEY BANKS

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Abstract

The business of banking comes with a risk of default from borrowers, which would consequently affect the performance of these banks. As the banking sector plays a vital part in the economic and financial development of any country, it is essential to establish the effect credit risk has on the financial performance of quoted deposit money banks in Nigeria. The general objective of the study is to examine the effect of credit risk on financial performance, three (3) specific objectives and hypotheses were postulated to test the relationship between the variables of the study. Data was collected from audited financial reports of five first tier banks listed banks and data analysis was conducted using descriptive statistics, correlation analysis and panel regression analysis. Findings from the study revealed that non-performing loans and impairment loan charge-off had negative and significant effect on the financial performance of listed banks, while capital adequacy had a positive but inconsequential effect on the financial performance of listed banks. The study therefore, recommends that banks should be more critical with assessment of loans and bring up to date their terms and conditions to reflect new realities that can increase their nonperforming loans.

Keywords: Effects, Credit Risk, Financial Performance, Deposit Money Banks.

1. Introduction
Financial institutions carry out several functions in the economy through financial intermediation that increases and promotes activities that foster profitable and economic

development of the country. They are saddled with the responsibility of taking deposits and lending for consumption or investment purposes. Commercial banks, have overtime increased the number of financial products and services available to their clients in the market and among these products and services, lending is the major activity that gives rise to income (Morina, 2020).

According to Luy, (2010), credit risk is said to arise when a lender is exposed to loss from a counterparty, who fails to honour their debt obligation as agreed. Colquitt (2007) also described credit risk as a loss that may arise from a deterioration in the credit quality of a counter-party, thereby leading to a loss in the debt value. Credit risk has also being defined as the potential that a bank borrower or counterparty will fail to meet its obligation in accordance with agreed terms, (BCSB 2001). Greuning and Bratanovic (2009) opined that the biggest threat to any bank performance is credit risk and it is also the principal cause of bank failures.

Deposit Money banks generates most of their income from lending activities through interest charges paid by borrowers. Although one of the major sources of income for DMBs is their lending activities, there is still an issue of the underlying risks of providing credit as it affects their performance. This risk comes from poor assessment of creditworthiness of the loan beneficiaries and non-compliance to lending principles, this leads to a situation where the borrowers default and fail to meet up with their obligations. Furthermore, in 2001 the Basel Committee on Banking Supervision emphasized that credit financing is quote volatile as a result of the likelihood of partially or wholly losing an outstanding loan due to a series of credit circumstances. A loan is classified as non-performing when payment becomes outstanding for a certain period of time, and these non-performing loans are one of the measures used for assessing the credit risk of DMBs. There is a continuous increase in non-performing loan profile in the DMBs in Nigeria, and this has been identified as a disturbing trend (Echobu & Philomena, 2019). This increase in non-performing loans is evident with the recent problems faced by Skye bank now Polaris bank in 2018 which made the Central Bank to quickly change the management and temporarily take over the bank, after the initial intervention of CBN was not adequate the bank was later sold and the name changed to Polaris bank due to their level of non-performing loans and poor corporate governance that lead to bankruptcy for the bank. Diamond bank also faced the same challenges and had to be acquired by Access bank in order to stay liquid and remain in the banking sector in the second quarter of 2019.

According to Afolabi et al., (2020) in order to avoid systemic failure in the system, banks have been exhibiting a strong interest in following or abiding by due diligence before committing funds. The main assets of any bank is its loan and advances, therefore, assessing the quality of bank credit as well as its effect on the bank's financial condition is of great importance. Furthermore, there are several forces operating in the banking sector that act in certain ways affecting the business activity of lending. These forces in the long run may expose banks to a very high credit risk which could lead to distress or even bankruptcy.

Therefore, the level of non-performing loans has made the study on the effect of credit risk on the financial performance of DMBs important. More importantly, other studies have

examined the relationship between credit risk management and bank performance in Nigeria, the results however have been inconsistent while some other studies use less representative samples making it difficult to generalize their studies. This study will improve upon other studies by including impairment loan charge-off which has been rarely used by previous studies as one of the measure of credit risk to enrich the current study.

1.1 Objectives of the Study

The general objective of the study is to evaluate the effect of credit risk on financial performance of deposit money banks in Nigeria.

The specific objectives of the study are

    i.   To evaluate the effect of non-performing loans on financial performance of deposit money banks in Nigeria.

    ii.   To assess the effect of capital adequacy on financial performance of deposit money banks in Nigeria.

    iii.   To examine the effect of impairment loan charge-off on financial performance of deposit money banks in Nigeria.

2. Literature review

2.1 Concept of Credit Risk

2.2 Credit risk is defined as a liability that results from the inability of the clients to pay their debt or borrowed funds they were expected to pay back to the bank as and when due. There are several risks being faced by banks, however, credit risk has been described as the crucial risk, this is attributed to the high percentage of bank profit that come from granting credit owing to the interest earned on credit (Almekhlafi, et al., 2016).

Several studies on credit risk have used various determinants to measure credit risk. According to Garissa (2013), the foremost determinant widely employed by analysts is the non-performing loans to total loan ratio, as non-performing loans indicates an impending danger to the banking industry and would directly impact the bank's profitability owing to the bad loans. Furthermore, Suganya and Kengatharan (2018) also validated the use of non-performing loans to measure credit risk.

Noman et al. (2015) examined the connection between capital adequacy and the bank's profitability in Nigeria. The study established that capital adequacy is favorably connected to the bank's profitability. The study of Ndoka and Islami (2016) also employed capital adequacy as an indicator for credit risk.

Therefore, after deliberate review of literature this study will measure credit risk with non-performing loans, capital adequacy and impairment loan charge-off.

2.2 Concept of Financial Performance

Financial performance is one of the most important variables in management research and arguably the most important indicator of any organization. According to Iswatia, and Anshoria (2007) financial performance is the function of the ability of an organization to gain and manage the resources in several different ways to develop competitive advantage. Kithinji (2010) described financial performance as how well a firm uses the resources at it

exposure to generate returns to its investors. The financial performance of a commercial bank is also referred to as profitability and this is usually measured in ratios. The Financial performance of a firm can be analyzed in terms of profitability (using ROA, ROE and Tobin Q), dividend growth, sales turnover, asset base, capital employed among others. However, there is still arguments among several disciplines on how firm performance should be measured and the factors affecting financial performance (Liargovas & Skandalis, 2008). According to Nzuve, (2016) return on assets reveals how well a company's resource may be used to generate the income. A higher return on asset (ROA) indicates that a firm uses its assets/resources efficiently, thus maximizing the shareholders' wealth. The most commonly used ratios are Return on Equity (ROE), and Return on asset(ROA). This study will therefore measure performance using ROA.

2.3 Credit Risk and Financial performance
This study will review some the work of some authors on credit risk and financial performance.

Kithinji, (2010) analyzed the effect of credit risk management on the profit of banks from 2004 to 2008. The study variables included volume of credits granted, volume of non-performing loans and profits of banks for the period. The findings from the study showed that neither the volume of credit nor the volume of non-performing loans impacted on banks profit for the period under review.

Kargi (2011) also examined the effect of credit risk on the profitability of Nigerian banks, using data from six banks for the periods of 2004 to 2008. The indicators of credit risk used were the ratio of the non-performing loans to total loans and advances, as well as the ratio of total loans and advances to total deposit. While return on asset was used to proxy financial performance. Results from the study revealed that banks profitability is inversely influenced by the levels of loans and advances, non-performing loans and deposits.

Ogboi and Unuafe (2013) studied the effect credit risk management and capital adequacy had on financial performance of deposit money banks in Nigeria. The result of the study showed that sound credit risk management and capital adequacy had positive impact on bank's financial performance except loans and advances which was found to have a negative impact on banks' profitability within the period under study.

Afolabi et al., (2020) evaluated the effect of credit risk on the financial performance of microfinance banks in Nigeria using six selected microfinance banks, covering seven years from 2012 to 2018. The study analysed data collected using panel Ordinary Least Squares (OLS) regression technique. Findings from the study revealed that non-performing loans has a significant and negative effect on returns on assets. Furthermore, the results also revealed a significant and positive relationship between total loans and advances (introduced as control variable) and returns on assets.

Echobu and Philomena, (2019) investigated how credit risks impact the financial performance of DMBs in Nigeria, from 2006-2017. The study collected data from 15 listed DMBs in Nigeria as at 31st December, 2017. Data collected was analyzed using multiple regression tools, and

the results show that non-performing loans and impairment loan charge-off have an adverse and consequential impact on the financial performance of deposit money banks. The impact of capital adequacy on financial performance is also negative but statistically insignificant.

Cheng et al., (2020) examined the impact credit risk, liquidity risk and operational risk had on the profitability of banks using data collected from banks registered on the Johannesburg Stock Exchange (JSE) for the period 2012-2018. Analysis was conducted using Smart PLS-SEM to examine the impact of the dependent variable on the independent variables. The research showed that credit risk has a significant positive association with bank profitability. Similarly, liquidity risk has shown a positive and significant connection with bank profitability. However, operational risk indicated a negative affiliation with bank profitability. The bank-specific risk has a positive and significant nexus with credit risk, operational risk, and liquidity risk but it link with profitability was insignificant.

Afolabi, (2021) also investigated the link between credit risk and bank performance in Nigeria using nonperforming loans, loan loss provisions, loans and advances and equity as proxy for credit risk. The study used panel research design, and panel data obtained from bank annual reports of the sampled banks from 2009 to 2018 was used for the empirical analysis. Result from the study showed that equity and non-performing loans have a positive and consequential effect on profitability while loan to deposit ratio has negative influence on profitability.

From the literature review, it has shown that result from some of the determinants of credit risk has been inconsistent as some variables are positive in some studies and negative is some other. Also only one study reviewed used impairment loan charge-off, hence the need to further study this variable and find out how its affect the financial performance of Deposit Money Banks.

2.4 Theoretical framework

Several theories have been developed to explain the relationship between banks operation and its associated risk. Some of the theories are modern portfolio theory, anticipated income theory, moral hazard theory and commercial loan theory. The anticipated income theory will underpin this study.

The Anticipated Income Theory

Prochnow formulated a new loan theory which he called "the Anticipated Income Theory" from a comprehensive study he carried out in 1949. Afriyie and Akotey (2011) in their study confirmed that regardless of the borrower's business nature and character, the bank planned liquidation of term loans from expected earnings of the borrower. Liquidation is not by sales of borrower's assets as seen in commercial or traditional theory of liquidity or by shifting the term loan to another lender as seen in the shiftability theory of liquidity but rather by anticipating the borrower's income. In effect, this theory assumes that banks should make loans on the basis of the borrower's expected income rather than on his present value. The study of Kolapo, Ayeni, and Oke (2012) also propounded that one noteworthy thing with this theory is its future-oriented view point to bank loans and advances also referred to as "cash flow approach" to lending. Properly understood, this theory was in competition with

commercial loan theory, not the shift ability theory. It does not call into question the shift ability view that secondary reserves is a bank's most fundamental source of liquidity. Rather, it again once again centered its focus on the types of loans appropriate for a bank to make but reached a different conclusion than that reached by the commercial loan theory advocates (Moti,Masinde, & Mugenda, (2012). This study therefore will focus on this anticipated income theory because when information on the income of a borrower is available and this income can be anticipated and known, the risk associated with such a loan can be significantly lessened or mitigated and other necessary actions can be taken to reduce its future occurrence.

3. Research Methodology

This study adopted Ex-Post Facto research design in conducting the research work and covered a period of ten years from 2010 to 2019. The population of this study consists of the nineteen listed DMBs in Nigeria banking sector as at 31st December, 2020. To achieve the research objectives, the study used purposive sampling to focus on all first tier Listed Deposit Money Banks on the Nigerian Stock Exchange (NSE). As at December 31, 2020, a total number of five (5) banks enjoy first tier listing on the Nigerian Stock Exchange. The study made use of all the five (5) first tier Listed Deposit Money banks on Nigeria Stock Exchange as the sample size. Based on the above criteria five (5) banks met the study requirement. Thus, these five banks (5) form the study population. The five banks are First Bank, United Bank for Africa, Zenith Bank, Guaranty Trust Bank and Access bank. Data collected from the sample banks were analyzed using OLS regression and other descriptive statistics. The study measured Nonperforming loans using nonperforming loan ratio; capital adequacy was measured with the capital adequacy ratio; Loan impairment charges was measured with ratio of total Loan impairment charge to total loan and financial performance was measured with return on asset.

3.1 Model Specification

To examine the effect of credit risk on financial performance of selected deposit money banks in Nigeria. This model will be used for this study as derived from the panel regression equation which combined both regular time-series and cross section regression with the used of double subscript (it) attached to each variable. The study therefore specified the general form of panel data model compactly as follows:

$$Y_{it} = \alpha_{it} + \beta_1 X_{1it} + \beta_2 X_{2it} + \ldots\ldots\ldots \beta_n X_{nit} + \mu_{it}$$

Subscript "I" is used to denote the cross-sectional dimension and "t" to represent the time-series dimension. In this equation, Y_{it} represents the dependent variable in the model, which is the firm performance; X_{it} contains the set of explanatory variables in the regression model; and α_i is constant over time "t" and is specific to the individual cross-sectional unit i. The final model for this study is designed with the expectation that it better explained the relationship and prediction of the study.

The model used to test the hypothesis formulated for this study is as below.
$$ROA_{it} = \beta_0 + \beta_1 NPL_{it} + \beta_2 CAR_{it} + \beta_3 LIC_{it} + \beta_3 BSZ_{it} + \varepsilon_{it} \ldots\ldots\ldots\ldots\ldots (Eqn\ i)$$
Where β_0 is a constant term,
$\beta_1 - \beta_3$ coefficients of independent variables
ROA is a dependent variable which is expressed as net income / total asset

NPL is Non-performing loan ratio
CAR is Capital Adequacy ratio
LIC is loan impairment charges
BSZ is bank size. The study is using bank size as a control variable.

4. Results/Findings
4.1 Descriptive Statistics

Variables	Mean	Std. Dev	Min	Max
ROA	0.0142274	0.0240083	-0.1068	**0.0594**
NPL	3.136721	0.8426401	2.291638	**4.065473**
LIC	0.664671	0.3796824	0.385812	**0.498028**
CAR	0.946396	0.3191129	0.079442	**0.7612**

Source: Researcher's computation 2022, Stata output

The mean of Nonperforming Loan Ratio (NPLR) was 3.136721 percent with a standard deviation of .8426401 percent. This implies that deposit money banks under the period of the study could not recover 3.136721 percent of every loan provided to the borrowers. The highest nonperforming loan for these banks was 4.065473 percent and the minimum for the year was 2.291638 percent. The mean value of Loan impairment charges is 0.6646716 percent with the corresponding value of maximum and minimum of 0.498028 percent and 0.384821 percent respectively. The value of standard deviation is 0.3796824**.** The mean value of Capital Adequacy Ratio (CAR) ranges from percent maximum 0.7612 percent to 0.079442 minimum with the average value of 0.946396 percent. The value of standard deviation from the mean is very low stood at 31.9%.

4.1.1 Correlation Result
The correlation matrix explains the strength of relationship between explanatory variables and outcome variable in a regression model.

Table 2: Correlation Matrix

Variables	ROA	NPL	LIC	CAR
ROA	1			
NPL	-0.5446	1		
LIC	-0.4229	0.0924	1	
CAR	0.0537	0.1001	0.0212	1

Source: Researcher's computation 2022, Stata output

From the table it is evident that the correlation coefficients between the explanatory variables are quite low. According to Gujarati and Porter (2009), a correlation coefficient between two explanatory variables above 0.8 is considered excessive and may indicate the presence of multicollinearity among the variables. However, the correlation coefficient is generally less than an average value of 80%. The result of correlation coefficients matrix indicates that there is no existence of multicollinearity between the research explanatory variables,

where the maximum correlation coefficient of -0.5446 or 54.46% is found via a correlation between Nonperforming Loans (NPL) and ROA, the researcher considers this percent within the acceptable limits. This implied that there is absence of multicollinearity among the variables under study. Hence, we could reject the null hypothesis. Further test would also be carried out to affirm and be sure that there is absence of multicollinearity among the explanatory variables.

4.1.2 Panel Regression Result
Table 3: Random Regression Result

Variables	Coefficient	Std.Error	Z- statistics	P-Value
NPL	-0.2057459	0.0331361	-6.21	**0**
LIC	-0.6233986	0.1407731	-4.43	**0**
CAR	0.1028713	0.1027682	1	**0.317**
Constant	34.01411	2.561701	13.28	**0**
Overall R-Square	0.7817			

 Source: Researcher's computation 2022, Stata output

The results of the Random effect model as shown in the table above indicates that the overall coefficient of determination R2is 0.7871 which implies that the predictor variables explained 78.7% of the variations in the outcome variable. This indicates a strong relationship between the outcome variable, bank performance as measured by ROA and predictor variables in the listed deposit money banks in Nigeria. The value of adjusted R2 is 0.7797. This implies that the study explanatory variables jointly explain the outcome variables by 77.97%, while the remaining 22.03% is explained by other variables which are not included in our model.

The results further show that F=108.38 and P-value = 0.000 which is less than 5% conventional level. This shows that the overall model is significant statistically. It further implies that the study explanatory variables are fit enough to predict the level of variation in the outcome variable in the Nigeria banking sector.
4.2 Test of Hypotheses

4.2.1 Hypothesis One
H$_{01}$: Non-performing loans has no significant effect on the financial performance of listed deposit money banks in Nigeria

The result from the regression table shows that the coefficient of NPL has significant negative effect on financial performance of listed deposit money banks; this indicated from the p-value 0.000 less than 0.05 significance level. The study therefore infers that NPL as a proxy for credit risk has significant effect on financial performance Listed Deposit Money Bank in Nigeria. Hence, based on the findings above, the study rejects the Null hypothesis.

4.2.2 Hypothesis Two

H$_{01}$: Loan impairment charges have no significant effect on the financial performance of listed deposit money banks.

The result from the table also shows that loan impairment charges has significant but negative effect on the financial performance of listed deposit money bank in Nigeria given the P-value of 0.000 less than 5% conventional level. This implies that ratio of total Loan Impairment charge to total loan has effect on the financial performance of listed deposit money bank in Nigeria. Therefore, based on the above findings the study rejects the null hypothesis.

4.2.3 Hypothesis Three

H$_{01}$: Capital adequacy ratio has no significant impact on the financial performance of listed deposit money banks in Nigeria.

The result further, shows that Capital Adequacy Ratio (CAR) has no significant positive impact on financial performance of listed deposit money bank in Nigeria. This is indicated from the coefficient of 0.102875 with the corresponding p-value of 0.317 greater than 5% critical level. The study therefore infers that CAR as a proxy for c r e d i t r i s k has no significant effect on financial performance of listed deposit money bank in Nigeria. Therefore, based on the above results the study fails to reject the null.

Table 4: Summary of the Hypotheses

ROA	Coefficient	Standard Error	Z-value	P-value
i. NPL= ROA	-0.2057459	-0.0331361	-6.21	0
ii. LIC=ROA	-0.6233986	-0.1407731	-4.43	0
iii. CAR=NPL	0.1028713	0.1027682	1	0.317

Source: Researcher Computation, 2022

5. Discussion of Findings

The broad objective of this study was to examine the effect of credit risk on financial performance of listed deposit money bank in Nigeria. Based on the previous empirical studies, this section discussed the general findings obtained from random effect estimate. From the finding in the table 3, the NPL turned out with a beta coefficient of -.2057459 meaning that it was negatively related to financial performance of listed deposit money bank in Nigeria. These findings show the higher nonperforming loans ratio, the lesser the return on asset, suggesting the need for strong credit risk management in order to keep the level of NPL as low as possible, thereby helping banks maintain high level of performance. The findings of this study is in line with the study of Echobu & Philomena, (2019).

Similarly, loan impairment charge has a beta coefficient of -0.6233986, implying a negative impact on bank performance. This variable is statistically significant given the p-value less than 5% critical level. This implies that LIC is a significant driver of financial performance in

the Nigeria banking sector. This finding shows that a unit percent increase in LIC would bring about 62.3% decrease in the value of ROA of the Nigeria banking sector. The finding reveals that as the bank LIC increases the greater the incident of low profitability in that particular bank. The outcome of the study is in consonant with the result of (Echobu & Philomena, 2019). Furthermore, capital Adequacy Ratio (CAR) as measured by value of teir-1 capital divided Total Risk Weighted Asset had a beta coefficient of 0.1028713 implying a positive impact on financial performance of selected deposit money banks. The findings also indicated that the variable is not statistically significant given the p-value of 0.317 greater than 5% significance level. This means that bank with the higher capital adequacy has seen positive effect on financial performance but the effect is negligible. The result from this study is in consistent with the work Bimaruci et al., (2020) and Afolabi et al., (2020)

5.1 Conclusion, Recommendations and Policy Implications of the Study
This study evaluated the effect of credit risk on the financial performance of listed deposit money banks in Nigeria between 2010 and 2019. The study used a sample of five first tier deposit money banks listed on the NSE as at 31 December 2020. From the panel least square regression results, the study concludes that non-performing loan and loan impairment charge have a negative and significant effect on financial performance of the deposit money banks in Nigeria; while the effect of capital adequacy was positive and insignificant for the period considered. Inferring from these conclusions, this study will recommend that the established rules and guidelines for granting loans be adhered to more strictly and review should also be done on the existing rules in order to better assess and evaluate the borrowers in line with the current economic situation. In other to better address the issue of credit risk, there should be periodic reviews of the rules governing banking processes and prudential guidelines to capture the most recent and effective ways to prevent default in repayment of loans.

References
Afolabi, T. S., Obamuyi, T. M., & Egbetunde, T. (2020). *Credit Risk and Financial Performance : Evidence from Microfinance Banks in Nigeria. 11*(1), 8–15. https://doi.org/10.9790/5933-1101070815

Afriyie, H. O., & Akotey, J. O. (2012). *Credit Risk Management and Profitability of Selected Rural Banks in Ghana.* Catholic University College of Ghana.

Almekhlafi, E., Almekhlafi, K., Kargbo, M. & Hu, X. (2016). *A Study of Credit Risk and Commercial Banks' Performance in Yemen: Panel Evidence. Journal of Management Policies and Practices,* 4(1), 57-69. https://doi.org/10.15640/jmpp.v4n1a4

Basel Committee on Banking Supervision. (2001). Risk Management Practices and Regulatory Capital: Cross Sectional Comparison. Retrieved from www.bis.org

Bimaruci, H., Havidz, H., & Obeng-amponsah, W. (2020). *Banking Industry Specific and Macroeconomic Determinant of Credit Risk. 6495*(1).

Cheng, L., Nsiah, T. K., Charles, O., & Ayisi, braham L. (2020). *Credit risk , operational risk , liquidity risk on profitability . A study on South Africa commercial. XXIX*(5), 5–18. https://doi.org/10.24205/03276716.2020.1002

Colquitt, J. (2007). Credit Risk Management: How to Avoid Lending Disasters & Maximize Earnings. 3rd Edition. McGraw-Hill. USA.

Echobu, J., & Philomena, O. N. (2019). *Credit Risks and Financial Performance of Nigerian Banking Industry. 4*(1), 44–57.

Garissa, M. K. O. (2013). *Assessing the factors contributing to non-performance loans in Kenyan banks. European Journal of Business and Management,* 5(32).

Greuning, H.V. & Bratanovic, S. B. (2009). Analyzing Banking Risk: A Framework for Assessing Corporate Governance and Risk Management. 3rd Edition. The World Bank. Washington, USA.

Gujarati, D. N., & Porter, D. C. (2009). Basic Econometrics. Boston, MA: McGraw-Hill Irwin.

Iswatia, S., & Anshoria, M. (2007). The Influence of Intellectual Capital to Financial Performance at Insurance Companies in Jakarta Stock Exchange (JSE). *Proceedings of the 13th Asia Pacific Management Conferenc, Melbourne.*

Kargi, H. S. (2011). *Credit Risk and Performance of Nigerian Banks. American Journal of Accounting, Economics and Finance,* 1(1), 7-14

Kithinji, A. M. (2010). Credit Risk Management and Profitability of Commercial Banks in Kenya. School of Business, University of Nairobi, Kenya. *Retrieved from:http://www.erepository.uonbi.ac.ke/handle/11295/40437*

Kolapo, T. F., Ayeni, R. K., & Oke, M. O. (2012). Credit risk management and commercial banks' performance in Nigeria: A panel model approach. *Australian Journal of Business and Management Research*, 2(2), 31–38.

Kumar, V., & Kishore, M. P. (2019). *Macroeconomic and Bank Specific Determinants of Non-Performing Loans in UAE Conventional Bank*. 2(1), 1–12.

Liargovas, P., & Skandalis, K. (2008). *Factor affecting firms' financial performance*: *The Case of Greece. Athens*: University of Peloponnese Press.

Luy, D. D. (2010). *Evaluation of Credit Risk Management Policies and Practices in a Vietnamese Joint-Stock Commercial Bank's Transaction Office. Business EconomicsandTourism Review*

Moti, H.O, Masinde, J.S, & Mugenda, N.G, (2012).Effectiveness of Credit Management Systems on loans performance: Empirical evidence from micro finance Sector in Kenya. *International Journal of Business, Humanities and Technology*, 2(16), 99-108.

Ndoka, S. & Islami, M. (2016). *The Impact of Credit Risk Management in the Profitability of Albanian Commercial Banks During the Period 2005-2015. European Journal of Sustainable Development*, 5(3), 445-452. https://doi.org/10.14207/ejsd. 2016.v5np445.

Ogboi, C. H. and Unuafe, O.K. (2013). *Impact of Credit Risk Management and Capital Adequacy on the Financial Performance of Commercial Banks in Nigeria, Journal of Emerging Issues in Economics, Finance and Banking*, 2 (3), pp. 703-717. Available: http://www.globalbizresearch.com.

Suganya, S. J., & Kengatharan, L. (2018). *Specific Factors and Financial Performance of Domestic Licensed Commercial Banks in Sri Lanka. SCMS Journal of Indian Management*, 15(2), 5-12. https://doi.org/10.18374/jife-18-1.6