

Economics and Business Quarterly Reviews

Gunen, J. J., Duru, M. C., & Njiforti, P. P. (2023). Impact of Credit Risk Pricing on Commercial Banks' Loan Performance in Nigeria. *Economics and Business Quarterly Reviews*, 6(4), 292-299.

ISSN 2775-9237

DOI: 10.31014/aior.1992.06.04.554

The online version of this article can be found at:
<https://www.asianinstituteofresearch.org/>

Published by:
The Asian Institute of Research

The *Economics and Business Quarterly Reviews* is an Open Access publication. It may be read, copied, and distributed free of charge according to the conditions of the Creative Commons Attribution 4.0 International license.

The Asian Institute of Research *Economics and Business Quarterly Reviews* is a peer-reviewed International Journal. The journal covers scholarly articles in the fields of Economics and Business, which includes, but is not limited to, Business Economics (Micro and Macro), Finance, Management, Marketing, Business Law, Entrepreneurship, Behavioral and Health Economics, Government Taxation and Regulations, Financial Markets, International Economics, Investment, and Economic Development. As the journal is Open Access, it ensures high visibility and the increase of citations for all research articles published. The *Economics and Business Quarterly Reviews* aims to facilitate scholarly work on recent theoretical and practical aspects of Economics and Business.



ASIAN INSTITUTE OF RESEARCH
Connecting Scholars Worldwide



Impact of Credit Risk Pricing on Commercial Banks' Loan Performance in Nigeria

James Joel Gunen¹, M. C. Duru², P. P. Njiforti³

^{1,2,3} School of Postgraduate Studies, Ahmadu Bello University, Zaria, Nigeria

Abstract

The impact of credit risk pricing on commercial banks' loan performance was investigated to find out whether credit risk pricing of commercial banks can be used to achieve stability of loan performance in Nigeria. Variables like interest rate (maximum and prime lending rates), total loan and advances (TL/A), the ratio of loan and advances to total deposit (LA/TD), non-performing loan ratio (NPLR), risk premium (RP), gross domestic product (GDP), inflation rate (INFR) proxy by consumer price index, and exchange rate (EXR), were estimated using VAR model with lag one period as the optimum lag length. Generally, the result for cointegration shows the existence of a long-run relationship between the variables. The VECM was also estimated for short run analysis and the result shows that the past values of RP and FXR have positive and significant impact in explaining the current/future path of NPLR in the short run in Nigeria while the past value of MLR have negative and significant impact in explaining NPLR in the current period at 5% level of significance. However, the VAR model result for bank specific factors show that only the past period NPLR is positive and statistically significant in explaining the current/future path of commercial banks' loan performance proxy by NPLR at the 10% level of significance. Whereas for macroeconomic factors, the result of the VAR model shows that the value of FXR is negative and that of NPLR is positive and statistically significant in the past periods in explaining the current/future path of NPLR in Nigeria at 5% and 10% level of significance respectively. This may perhaps imply that commercial banks in Nigeria at the time of lending to their clients play down on these variables in building up their price for credit (interest rate). This may be as a result of the existence of relationship banking and compliance failure by banks in performing their astute functions. Hence, the variables can be used to determine the impact of credit risk pricing on commercial banks' loan performance in Nigeria. The paper recommends that the risk premium should not be made only to capture market expectations but also the volatility and asymmetry involved in their hidden activities of relationship banking which have taken a central stage in Nigeria's banking business. The CBN should also develop a more robust and practical risk pricing model peculiar to the Nigerian environment aside the template existing.

Keywords: Credit, Credit Risk, Credit Risk Pricing, Loan Performance, Non-Performing Loans Rate, Interest Rate, Commercial Banks

1. Introduction

Financial institutions perform a crucial role of intermediating between deficit and surplus financing units. This role cannot be under-emphasized because they mobilize savings of potential lenders (surplus units) and allocate them efficiently across the investment projects of potential borrowers – deficit units (Ayo, 2002; Somoye, 2010;

and Adolphus, 2011). This shows that commercial banks by their very nature exist not only to accept deposits of customers but also to make funds available in form of loan and advances to their prospective customers, thereby making them catalyst for economic growth and development. Nonetheless, while carrying out this function, there is always a probability that some customers will not keep to the terms and conditions of repayment at a maturity date; and this may imply that such commercial banks are bound to face credit risk.

In finance, credit risk is the probability that an existing borrower may fail either willingly or unwillingly to honour his or her obligations as they fall due. This failure to honour such debt obligation is often accompanied by the variation in some macroeconomic factors which render the credit function of commercial banks ineffective (Kargi, 2011). This incompetence exposes the banks to credit risk. Since credit risk determines the internal performance of commercial banks, the inability of commercial banks to minimize or avoid its occurrence implies that they will have to contend with non-performing loans (NPLs) in their balance sheets. These non-performing loans (NPLs) in commercial banks' balance sheet are capable of triggering financial or banking crisis. In fact, banking and financial crisis with its devastating effect is now considered of utmost priority globally to regulators, policy makers and the academia due to its eminent impact on the global economy as a whole. These crises had occurred in the past with the 'Great Depression' of the 1930s, to the interest rate regime fluctuations of the early 1990s, to the crude oil market crisis of the early 2001/2002 and finally to the recent financial melt-down of the late 2007 – 2009. These are all the result of the credit function of commercial banks (CBN, 2012). In addition, the banking sector in Nigeria was not isolated from the banking crisis as the effects of the global financial crisis led to the collapse of about six commercial banks in 2011 which were later bailed out by the CBN with the sum of N620 billion. The global economic melt-down also resulted to the collapse of the Nigerian stock market in 2008/2009, with many banks incurring huge losses amounting to N1.6 trillion (Sanusi, 2010; 2012). As a result of this, commercial banks non-performing loans (NPLs) increased from 5.6% in 2008 to 36% in 2009 (Rewane, 2010). This risk-taking behaviour by banks according to Soludo (2009) is the major cause of the global financial crisis which started as a banking problem in the United States (U.S), spreading to other countries and resulting in a global melt-down. Thus, these financial irregularities informed an immediate need to assess the impact of credit risk pricing strategies on commercial banks loan performance generally.

The pricing of credit risk by banks vary in pattern on the basis of the client's risk profile. This may involve charging different prices (interest rates) for each loan application to minimize the risk of default. However, the pricing of risks in the financial industry (credit risk, insurance risk or asset risk) pose great challenge to both financial regulators, supervisory bodies and the academia with the sudden outburst of the recent global economic melt-down.

According to Feldblum (1990), in the banking subsector, the challenge is to determine an appropriate interest rate to include in a lender's rate that covers the cost of funds and the risk of default should in case the borrower defaults in repayment at a specified maturity date.

These problems led us to ask the question: What is the impact of credit risk pricing on commercial banks' loan performance?

It is on this note that Ansari (2013) in his study provided a theoretical and empirical analysis of optimal loan pricing by the commercial banks in India with regulatory requirement. He investigated the commercial banks' loan pricing decisions which could be influenced by a host of factors, using dynamic panel data methodology and annual accounts data of 33 commercial banks over the period 1996 to 2011. The determinants of loan interest rate and spreads were classified into: regulatory and policy variables such as banks prudential regulatory variables, repo rate; bank specific variables pertaining to capital adequacy, asset quality, managerial efficiency, earnings, liquidity, bank size, loan maturity, cost of funds, competition and macroeconomic variables including the rate of growth of GDP and WPI inflation rate. The result showed that bank spreads are positively impacted by the policy indicators. At the same time, loan interest rate is influenced by various market structures, bank specific and macroeconomic factors. It also showed that more competition reduces transmission by reducing the loan rate but a positive policy shock increases the cost of fund and reduces the spread. The interaction between policy rate and the competition in the banking sector had a negative and highly significant coefficient, which is the impact of

competition on interest rate pass-through. Regarding the bank specific variables, loan interest rates and their spreads showed statistically significant positive relationship with operating cost, profitability and capital adequacy, loan maturity, asset quality, bank size and liquidity indicators. Macroeconomic variables such as GDP growth and inflation rate showed positive impact on loan interest rates. Reforms had mixed effects, while managerial inefficiency raises rates and spreads and product diversification reduces both. Costs of deposits are passed on to loan rates. Regulatory requirements raise loan rates and spreads. Hence, these findings highlight the roles of operating efficiency, risk aversion, asset-liability management, and credit risk management in commercial banks loan pricing decisions.

Furthermore, the empirical study by José and Wilson (2012) explores the risk-based pricing strategy of banks issuing credit cards in the United States (U.S). They used a database which combines both the risk of cardholders (demand side) and terms and conditions of credit cards (supply side) offered. Their results suggest that the annual percentage rates paid per unit of long-term risk decrease, implying that high-risk cardholders pay lower interest rates than their low-risk counterparts. This effect is more pronounced for sub-prime cardholders. However, under stressed conditions, it seems that issuer banks have increased their interest rates to account for the high prevailing level of short-term risk observed in the market. On a general note, their findings suggest that the risk-based pricing strategies employed by banks in the U.S do not sort effectively cardholders in terms of risk. Hence, the non-price characteristics of credit cards (such as network affiliation, issuer brand and reward program) play an important role in complementing the risk-based strategies.

AL-Jarrah (2012) also evaluates the riskiness of the banking sector of Jordan using a panel data regression analysis. He engaged various accounting variables that measure overall risk, leverage risk, credit risk and liquidity risk to discern those accounting measures that significantly explained the various measures of risks. His conclusion was that; the systematic risk dominates the non-systematic risk in the banking sector of Jordan. Hence, neither the managers of the banks under study nor the regulatory authorities should be blamed for these risks because they are non-controllable and their impact are uniform despite any precautionary procedures that might have been undertaken.

In addition, Al-Khouri (2011) assessed the impact of bank's specific risk characteristics, and the overall banking environment on the performance of 43 commercial banks operating in 6 of the Gulf Cooperation Council (GCC) countries over the period 1998-2008. Using fixed effect regression analysis, the results showed that credit risk, liquidity risk and capital risk are the major factors that affect bank performance when profitability is measured by return on assets while the only risk that affects profitability when measured by return on equity is liquidity risk. Ben-Naceur and Omran (2008) in attempt to examine the influence of bank regulations, concentration, financial and institutional development on commercial banks' margin and profitability in Middle East and North African (MENA) countries from 1989-2005 found that bank capitalization and credit risk have positive and significant impact on banks' net interest margin, cost efficiency and profitability.

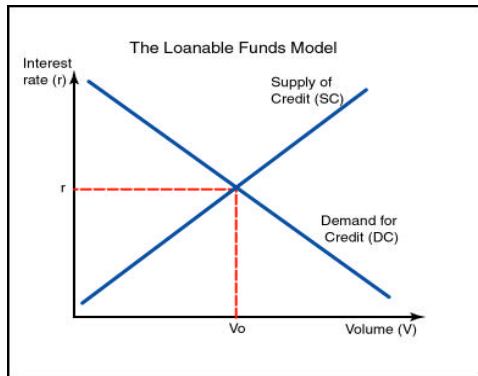
Kayode, Obamuyi, Owoputi and Adeyefa (2015) in their study investigate the impact of credit risk on banks' performance in Nigeria. A panel estimation of six banks from 2000 to 2013 was done using the random effect model framework. The result shows that credit risk is negatively and significantly related to bank performance, measured by return on assets (ROA). This suggests that an increased exposure to credit risk reduces bank profitability. We also found that total loan has a positive and significant impact on bank performance. Therefore, to stem the cyclical nature of non-performing loans and increase their profits, the banks should adopt an aggressive deposit mobilization to increase credit availability and develop a reliable credit risk management strategy with adequate punishment for loan payment defaults.

Moreover, Ofonyelu and Alimi (2013) in their study on "Perceived loan risk and ex post default outcome: are the banks' loans screening criteria efficient?" using the standard correlation test methodology maintained that the estimated and ex-post default risk incidence differ (though not significantly). The study shows that Prospective borrowers from commercial banks are usually made to pass through stringent lending procedure; although screening procedure is intended to forestall likely default intents and reduce credit risks. This paper provides evidence that bank screening criteria do not effectively foreclose total default risk, and affirm that perceived and

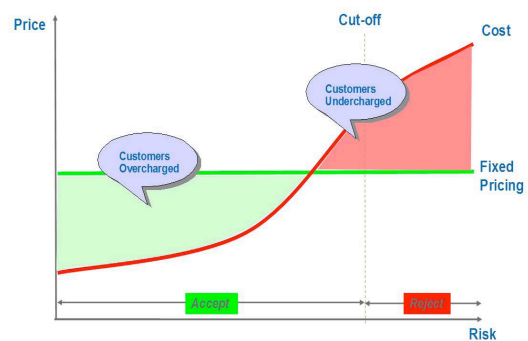
ex-post default risks differ. Using data obtained from a survey of investment loans made to 210 borrowers between 2000 and 2012 among 15 commercial banks in Nigeria, this study observed that the banks’ screening criteria was limited by the presence of information asymmetry. Adverse selection and moral hazard were observed to persist in the loan markets irrespective of the stringency of the banks’ screening measures. The observed difference between estimated and ex-post default risk incidence arise because of the presence of information asymmetry and other uncertainties in loan pricing

1.1. Theoretical Framework

The theoretical framework follows the classical loanable funds theory and the risk-based pricing model as shown below:



Source: Acebedo, L. and Durnall, J. (2013).



Source: Acebedo, L. and Durnall, J. (2013).

2. Research Methodology

2.1 Introduction

This chapter contains the description of the methodology adopted in conducting the study. It comprises the sources of data, estimation techniques, and model specification.

2.2 Sources of data

This study used mainly time series data obtained from CBN Statistical Bulletin, 2015/2016, CBN Annual Report and Statement of Account, NDIC Report and World Bank website on sampled Nigerian Banks covering a period of 21 years (between 1995 – 2015) comprising interest rate (maximum and prime lending rate), loan and advances (LA), the ratio of loan and advances (LA) to total deposit (TD), non-performing loan ratio as bank specific factors and risk premium as a measure of credit risk pricing. We also incorporate gross domestic product (GDP), inflation rate (INFR) proxied by consumer price index, and exchange rate (EXR) to show the effect of macroeconomic factors in credit risk pricing.

2.3 Estimation Techniques

This section describes the estimation procedure used by the study which includes; stationarity test, VAR test for co-integration, VAR estimates and vector error correction model.

The study conducts stationarity test to obtain a standard and reliable result. This is necessary because most time series variables may not be stationary at level and using non stationary variables to estimate a model may yield spurious result (Granger and Newbold, 1974). Hence, we employed the Augmented Dickey Fuller (ADF) unit root test specified below as:

$$\Delta y_t = \alpha_0 + \alpha_1 t + \phi y_{t-1} + \sum_{i=1}^p \beta_i \Delta y_{t-i} + \epsilon_t \dots \dots \dots 3.1$$

The Vector Autoregressive (VAR) approach to co-integration developed by Johansen (1999) was used to empirically determine the long-run relationships among the variables. To estimate the impact of credit risk pricing on loan performance of commercial banks in Nigeria, the following VAR model has been specified as:

$$\Delta \text{Log}(NPLR_t) = \alpha_0 + \sum_{i=1}^p \alpha_1 \Delta \text{Log}(RP_{t-i}) + \sum_{i=1}^q \alpha_2 \Delta \text{Log}(TL/A_{t-i}) + \sum_{i=1}^q \alpha_3 \Delta \text{Log}(L/D_{t-i}) + \sum_{i=1}^q \alpha_4 \Delta \text{Log}(NPLR_{t-i}) + \sum_{i=1}^q \alpha_5 \Delta \text{Log}(MLR_{t-i}) + \sum_{i=1}^q \alpha_6 \Delta \text{Log}(CPI_{t-i}) + \sum_{i=1}^q \alpha_7 \Delta \text{Log}(FXR_{t-i}) + \sum_{i=1}^q \alpha_8 \Delta \text{Log}(GDP_{t-i}) + \alpha_9 \text{Log}(RP_{t-1}) + \alpha_{10} \text{Log}(TL/A_{t-1}) + \alpha_{11} \text{Log}(L/D_{t-1}) + \alpha_{12} \text{Log}(NPLR_{t-1}) + \alpha_{13} \text{Log}(MLR_{t-1}) + \alpha_{14} \text{Log}(CPI_{t-1}) + \alpha_{15} \text{Log}(FXR_{t-1}) + \alpha_{16} \text{Log}(GDP_{t-1}) + u_t$$

.....3.2.

This approach uses the Trace test and Max-eigenvalue test for cointegration to see whether the variables in the equations are cointegrated which confirm the existence of a long run relationship among the variables.

3. Results and Discussion

3.1 Stationarity Test- ADF Unit Root Test

The stationarity test conducted is shown in table 3.1 below.

Table 3.1: Stationarity Test- ADF Unit Root Test

Variable	Level	1 st Diff	2 nd Diff	Inference
PLR	-3.339754**	----	----	I(0)
MLR	-2.836119	-4.728439*	----	I(1)
RP	-2.234832	-1.350127	-9.828679*	I(2)
TL/A	1.095224	-3.917095*	----	I(1)
L/D	-2.998148	-3.608406**	----	I(1)
NPLR	-2.300821	-5.393551*	----	I(1)
FXR	0.248245	-3.469782**	----	I(1)
CPI	6.770412	-1.088100	-5.617721*	I(2)
GDP	3.054760	-2.017694	-4.498361*	I(2)

Source: Author's computation

Note that: * and ** indicates 1% and 5% level of significance

The result in table 3.1 shows that the variables PLR is stationary at level and 5% level of significance. MLR, TL/A and NPLR are stationary at first order difference and 1% level of significance. Similarly, the variables; L/D, and FXR are stationary at first order difference and 5% level of significance. Also, the variables RP, CPI and GDP are stationary at second order difference and at 5% and 1% level of significance respectively.

3.2 Assessment of the Impact of Credit Risk Pricing on Commercial Banks Loan Performance in Nigeria.

In this section, the study assessed the impact of credit risk pricing on loan performance of commercial banks in Nigeria by estimating the long run relationship for the variables using the Johansen multivariate test for cointegration under the null hypothesis that the variables are not co-integrated and the result is presented in table 3.2a and 3.2b below:

Table 3.2a: Cointegration Test

LOG(NPLR) LOG(RP) LOG(MLR) LOG(FXR)							
Hypothesized No. of CE(s)	Trace Statistic	5% Critical Value	Prob.**	Max-Eigen Statistic	5% Critical Value	Prob.**	
None *	67.11489	47.85613	0.0003	35.69295	27.58434	0.0037	
At most 1 *	31.42194	29.79707	0.0322	24.35071	21.13162	0.0170	
At most 2	7.071226	15.49471	0.5694	7.063003	14.26460	0.4817	
At most 3	0.008223	3.841466	0.9273	0.008223	3.841466	0.9273	

Source: Author's computation

Both Trace test and Max-eigenvalue test indicates two co-integrating equations at 5% level of significance

Table 4.5: Vector Error Correction Model

Dependent Variable: D(LOG(NPLR))				
	Coefficient	Std. Error	t-Statistic	Prob.
ECT(-1)	-1.085284	0.388249	-2.795333	0.0189
D(LOG(NPLR(-1)))	0.163994	0.341012	0.480905	0.6409
D(LOG(RP(-1)))	4.130454	1.322275	3.123749	0.0108
D(LOG(MLR(-1)))	-10.76715	3.701357	-2.908972	0.0156
D(LOG(FXR(-1)))	11.86553	5.348867	2.218326	0.0508
C	-0.702154	0.289752	-2.423297	0.0359
R-squared	0.549633			
F-statistic (Prob)	2.440819 (0.1077)			
Durbin-Watson stat	2.038248			

Source: Author's computation

LM test = 0.5865 (0.5785), Heteroskedasticity test = 0.9672 (0.5242), Normality test = 0.9255 (0.6295)

From the table 3.2a, the result shows that the Trace test and Max-eigenvalue test indicates two cointegrating equations at 5% level of significance. This implies that the variables are cointegrated in the long run. However, the VECM result in table 3.2b shows that the coefficient of error correction term is negative and statistically significant at 5% level of significance. This implies that the short run disequilibrium will converge to equilibrium in the long-run at a speed of about 109%. Also, the result shows that there is a positive and significant relationship between credit risk pricing (RP) and commercial banks' loan performance proxied by NPLR at 5% level of significance in the short-run in Nigeria. Similarly, the result shows that there is a negative and significant relationship between maximum lending rate (MLR) and NPLR at 5% level of significance in the short-run in Nigeria. The result further indicated that there is a positive and significant relationship between foreign exchange rate (FXR) and NPLR at 5% level of significance in the short-run in Nigeria.

3.3 Impact of Bank Specific/Macroeconomic Factors on Credit Risk Pricing in Nigeria

The study examined the relationship between bank specific factors on one hand and macroeconomic factors on the other hand on commercial banks' loan performance in Nigeria. The cointegration test conducted under the null hypothesis that the variables are not cointegrated was not rejected, meaning that the variables have no long run relationship. Hence, we estimate the VAR model for them and the results are presented in table 3.3a and 3.3b below:

Table 3.3a: Vector Autoregressive Model

Dependent Variable: D(LOG(NPLR))				
	Coefficient	Std. Error	t-Statistic	Prob.
LOG(NPLR(-1))	0.482642	0.242415	1.990976	0.0679
LOG(LD(-1))	1.293127	0.945799	1.367233	0.1947
LOG(MLR(-1))	0.257368	1.294748	0.198778	0.8455
C(4)	-4.902351	6.487182	-0.755698	0.4633
R-squared	0.516856			
F-statistic (Prob)	4.635691 (0.0204)			
Durbin-Watson stat	2.036957			

Source: Author's computation

Table 3.3b: Vector Autoregressive Model

Dependent Variable: D(LOG(NPLR))				
	Coefficient	Std. Error	t-Statistic	Prob.
LOG (NPLR(-1))	0.402182	0.202161	1.989420	0.0681
LOG (MLR(-1))	-0.390269	1.006505	-0.387747	0.7045
LOG (FXR(-1))	-2.213966	0.862160	-2.567928	0.0234

C(4)	13.36656	5.303214	2.520464	0.0256
R-squared	0.633360			
F-statistic (Prob)	7.485721 (0.0036)			
Durbin-Watson stat	2.0612			

Source: Author's computation

4. Conclusion

This study assessed the impact of credit risk pricing on commercial banks' loan performance and the following conclusions were drawn:

The variables estimated for the Johansen multivariate cointegration test from our VAR model shows that there is evidence of cointegration among the variables in the long run in Nigeria at 5% level of significance. This implies that the variables in the model move together in the long run as shown by the estimated values of the Trace test and Max-eigenvalue test. The Vector Error Correction Model (VECM) result shows that the coefficient of error correction term is negative and statistically significant at 5% level of significance. This implies that the short run disequilibrium will converge to equilibrium in the long-run at a speed of about 109%. The result of the finding also shows that there is a positive and significant relationship between credit risk pricing (RP) and commercial banks' loan performance proxied by NPLR at 5% level of significance in the short-run in Nigeria. Similarly, the result shows that there is a negative and significant relationship between maximum lending rate (MLR) and NPLR at 5% level of significance in the short-run in Nigeria. The result further indicated that there is a positive and significant relationship between foreign exchange rate (FXR) and NPLR at 5% level of significance in the short-run in Nigeria.

For bank specific factors, only the past value of NPLR is positive and statistically significant in explaining the current and future path of commercial banks' loan performance proxy by NPLR. This means that a one percent increase in the past value of NPLR will lead to a 0.48% increase in commercial banks' loan performance in the current period. However, the past values of loan to deposit ratio (L/D) and maximum lending rate (MLR) are statistically insignificant in explaining commercial banks' loan performance in the current period.

From the empirical findings of this study, we recommended the following:

- 1) That the risk premium should not be made only to capture market expectations but also the volatility and asymmetry involved in their hidden activities of relationship banking which have taken a central stage in Nigeria's banking business.
- 2) The CBN should also develop a more robust and practical risk pricing model peculiar to the Nigerian environment aside the template existing.

Author Contributions: All authors contributed to this research.

Funding: The research was funded privately by the author (Gunen James Joel). No external funding was received.

Conflict of Interest: The authors declare no conflict of interest.

Informed Consent Statement/Ethics Approval: Not applicable.

Acknowledgement: This study is supervised by Prof. M.C Duru and Prof P.P Njiforti

References

Acebedo, L. and Durnall, J. (2013). Risk Based Pricing: When does it work and when does it not? An Adverse Selection Approach. An Experian White Paper, NG2 Business Park Nottingham. www.experian.co.uk

- Bexley, J. B. and J. James (1999). Risk Management in Pricing a Financial Product. Retrieved from <http://www.sbaer.uca.edu/research/sribr/1999/07.pdf>
- Black, F., M. Jensen and M. Scholes, (1972), Capital Asset Pricing Model: Some Empirical Tests, in Michael Jensen, ed.: Studies in the Theory of Capital Markets (Praeger, New York).
- Bonfim, D. (2009). Credit Risk Drivers: Evaluating the Contribution of Firm Level Information and of Macroeconomic Dynamics. *Journal of Banking & Finance*, 33, 281–299.
- Brownbridge, M. (1998). The Causes of Financial Distress in Local Banks in Africa and Implications for Prudential Policy. A United Nations Conference on Trade and Development (UNCTAD) Discussion Paper No. 132 March, 1998. UNCTAD/OSG/DP/132
- Curak, M., S. Pepur and K. Poposki (2013). Determinants of Non-Performing Loans – Evidence from Southeastern European Banking Systems. *Banks and Banking Systems*, Volume8, Issue 1
- Demirguc-Kunt, A. and E. Detragiache (1998). The Determinants of Banking Crisis in Developing and Developed economies. *IMF Staff Papers* 45 (1)
- Demirguc-Kunt, A. and H. Huizinga (1999). “Determinants of Commercial Banks Interest Margin and Profitability: Some International Evidence. *World Bank Economic Review* 13 (2) P. 379-408.
- Diette, M. D. (2000). How Do Lenders Set Interest Rates on Loans? A Discussion of the Concepts Lenders Use to Determine Interest Rates. www.Minneapolisfed.Org/research/pub_display.cfm?id=3030.
- Kargi, H. S. (2011). Credit Risk and the Performance of Nigerian Banks. Dept. of Accounting, Ahmadu Bello University, Zaria, Nigeria.
- Ofonyelu, C. C and R. S. Alimi (2013). Perceived Loan Risk and Ex Post Default Outcome: Are the Banks’ Loan Screening Criteria Efficient? *Asian Economic and Financial Review*, 2013, 3(8):9911002. <http://www.investorwords.com/955/commercialbank.html#ixzz3D7F6z4hX>
- Rewane, B. (2010). Nigerian Economic and Banking Industry Review and Outlook 2011. *Paper Presentation to Management of Union Bank of Nigeria at Management Retreat, Held in December, 2010 at Eko Hotel, Victoria Island, Lagos.*
- Sanusi, A. R. (2010). Interest Rate Pass-Through and the Efficiency of Monetary Policy in Nigeria. A Paper Presentation at the 1st National Conference on State of the Nigerian Economy Held at M. A. Auditorium, BUK, Kano, Nigeria.
- Duffie, D. and K. J. Singleton (2003). Credit Risk Pricing, Measurement, and Management. Princeton University Press. New Jersey.
- Horvath, R. and P. Podpiera (2012). Heterogeneity in Bank Pricing Policies: The Czech Evidence. *Published by Economic Systems* Vol. 36, Issue No. 1 P. 87 – 108 information@treasury.govt.nz
- Hou, Y. (2007). Non-performing Loans: Some Bank- Level Evidences. Research conference paper on Safety and Efficiency of the Financial System Organized with the support of the EU Asian Link Programme. cba.uupd.edu.ph/asialink/Hou_Dickinson.pdf 20/2/2014.