CREDIT RISK AND ECONOMIC GROWTH IN NIGERIA

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ABSTRACT

Lending and borrowing are the life wire of economic growth. Every economic activity pivot on the facilitation and the inter-relatedness of lending process by the financial intermediation role of Banks and other similar institutions. The lubrication of the economy via lending and borrowing is associated with risk of defaults which is either in part or in full. This risk of default may be attributed to bad business forecast and analysis or other unforeseen circumstances emanating from the business environment which may either be internal or external. The lender bears the brunt of this default at every interval. This study therefore examines the effect of credit risk on economic growth in Nigeria. The Johansen cointegration, Granger causality and the error correction mechanism techniques were adopted in the data analysis given that the variables are integrated of order one I(1). The result of the study shows the credit risk affect economic growth negatively. The implication is that an inverse relation exists between economic growth and credit risk. The Granger causality test shows that there is a bidirectional relationship between credit risk and economic growth in Nigeria. Given the above findings the paper recommends proper credit risk management as to reduce the risk associated with lending and borrowing. It also recommends the Central Bank of Nigeria should reduce the prevailing interest rate so as to minimize the risk of default and encourage more investment.

Keywords: Credit risk, credit creation, default risk, Business risk, economic growth.

INTRODUCTION

The financial service provided by banks is a prerequisite for economic growth of a given nation. Financial institutions play a role as financial intermediaries that lubricate the economy resulting in economic growth. Financial stability is vital for any nation hence the financial institutions need to be properly managed. The speed of loan making in an economy significantly influences the creative activities in a nation (Afriye&Akkotey 2011). The primary objective of a financial institution is to convey monies from the surplus area to the deficit area in a gainful and viable manner. Interest on loans and advances are the key sources of revenue for a commercial bank, by loaning out funds, financial institutions are open to diverse kinds of risks for instance liquidity risk, credit risk, etc. (Kargi, 2011) In order to tackle the credit risk management issues in the country, the Central Bank of Nigeria (CBN) in 1987 entered into an agreement identified as Basel I and Basel II accords. Individually the accords stressed the prominence of capital adequacy for alleviating credit risks, which buffers the impact of unexpected financial losses on financial institutions (Iwedi, & Onuegbu, (2014)).

Credit risk or default risk is one of the utmost common of risks that financial institutions are exposed to. Its occurrence is often attributed to moral hazard in the credit market since some
Debtors may not even disclose all information relating to the use of credit facility extended to them. Credit risk therefore needs to be carefully managed by banks otherwise, as Mullings (2003) opined, failure to manage credit risk might lead to failure of the banks, thus create instability in the financial system. Credit risks are varied in every macroeconomic system. According to Wallace (2008), financial risks that creditors face include market risk, credit risk, liquidity risk and operational risk.

Consequent upon the risk of contagion of financial risks within an economy and beyond, stakeholders in the finance industry globally have agreed to set some minimum standards based on which the financial industry should be governed. Accordingly, the Basel Accords (I, II and III) was introduced in 1988, which are rules relating to minimum capital adequacy or minimum capital banks are required to maintain against credit risk exposure. Basel (II) prescribes tools that can be used by financial managers e.g. Vasicek’s loan loss distributions (1991) for reducing the probability of default in the banking industry by controlling the amount of held capital. According Lamb and Perraudin (2008), banks regulated under Basel (II) should calculate the regulatory capital they must maintain against exposure to credit risk based on default probabilities and loss given default. Thus, banks using the Basel (II) prescriptions are considered safer than others in terms of default risks.

Given the significance of credit risks and possible contagion of these across countries, financial managers are duty-bound to constantly monitor these risks, not only for their own position, but also for the overall economic environment (Huseynov, 2011). Consequently, management of credit risks has become an issue of research concern in the financial market literature (Caouette et al., 1998; Broll et al., 2004; Servigny & Renault, 2004). Thus, using several different techniques and method, researchers have examined credit risk estimation and management has from different perspectives, for example, micro vs macro level perspective, short vs long term perspective.

However, credit generation is the key revenue creating activity of financial institutions (Korgi, 2011), notwithstanding its risk exposure to banks, it exposes financial institutions to credit risk. Credit risk and interest rate risk are inherently correlated but it must be emphasized that growing amount of non-performing loan in the Bank credit portfolios is unfavorable to its objectives. According to Ahmed and Ariff (2007), Non-performing loan is the percentage of loan amount that are not paid for three months and beyond.

The credit squeeze of the late 1990’s heightened the interest and concern for management of default risk in Nigeria. For instance in 1995, 60 out of the 115 operating banks’ non-performing loans was about 67%. The percentage declined to 70% in 1996 and 82% in 1997. By December 2002, the license of 35 of the stressed financial institutions had been withdrawn. In January 2006, another 14 more bank licenses were withdrawn by the Central Bank of Nigeria. At the time these licenses were withdrawn, some of the financial institutions had ratio of performing credit of lower than 10% of loan portfolios. This further decreased to 21.22%, 21.59% and 23% in the year 2002, 2003 and 2004 respectively (NDIC Annual reports of various years). Between 2009 and 2010, Central Bank of Nigeria (CBN) and Asset Management Company of Nigeria (AMCON) has taken over management of five banks (Oceanic Bank, Bank PHB, Afri bank, Spring Bank and Union Banks). These developments were occasioned by bad loans or failed credit by the Banks. Several scholars have studied the effects of credit risk on the profitability of the commercial banks now known as deposit money banks (alshatti, 2015, Abiola & Olausi, 2014, Aruwa & Musa, 2014).
Thus, main objective of this study is to investigate the effects of credit risk on Nigerian economic growth.

Conceptual Clarification

Credit Risk
Credit Risk essentially means the risk that you will not have the ability to meet your contractual due obligations (Npower, 2010). Credit risk has acquired novel and greater attention since the last financial crises. It seems to be not just the customary risk that banks shun when advancing funds, but it has develop to a financial instrument transacted around the globe (Beem, 2010).

Credit risk can be categorized into Default risk and Solvency risk, though default risk refers to the risk that the debtor may not to meet his promised financial contract towards his creditor. Solvency risk, on the other hand, is the risk that the supposed creditworthiness of the debtor or the counterparty might decline, without default being inevitable (Bruyere. et al., 2006).

Regulation of Credit Risk- BASEL
The Basel Committee on Banking Supervision steered a forum for constant collaboration on banking regulatory matters. The goal of the Basel committee is to enhance the quality of banking regulation globally by interchanging information on general regulatory issues, methods and techniques, with a view of stimulating mutual understanding. At the same time the Committee established rules and regulatory standards in the finance sector, for instance, principles on capital adequacy, Core standard for Effective Banking Regulation, and on cross-border banking regulations.

Base III is the second of which was issued in 2004, and covers the recommendations on banking laws and guidelines published by the Basel Committee on Banking Regulation. Basel II presented one of the Committee standards for banking supervisors in order to regulate the amount of capital that financial institutions require to put aside to safeguard against the possible financial and operational risks that financial institutions face (Bank for International Settlements, 2004). So, Basel II tried to realize this by introducing risk and capital management requirements to guarantee that banks have sufficient capital for the risk which either financial institutions opens itself to through its lending or by its investment practices. In other words, possible risks that the bank is opened to will regulate the amount of the capital requirement, so the higher the volume of capital the financial institution requires to hold to maintain its creditworthiness and general economic stability for the higher risk.

Criticisms on Basel Committee
Though, increasing bank stability is one of the primary goals of enforcing the Basel Accords and its risk-based capital requirements, there has been varied empirical proof of the direct effect of the Basel Accords. Considering the fifty nations, opponents have discovered poor outcomes that minimum capital requirements are positively associated to the financial sector’s stability. Also, Latin America exhibits higher sensitivity of loan growth equated to other nations applying Basel as a result of previous losses in equity. Critics maintain there is a small positive association between minimum capital requirements and stability connected with lower likelihood of crisis (Barajas, Chami, and Cosimano, 2005).

Critics guesstimate that regardless of high sensitivity to capital ratios, financial institutions are not certainly becoming more subtle to issues such as credit risk since it has merely
secondary effects on the worth of bank assets. On the other hand, there has also been proof that loan development in Latin America has become more delicate to risk factors, as anticipated from risk decreasing conducts of banks exposed to higher supervisory examination (Barajas, Chami, & Casimano, 2005). On the other hand, critics are anxious that the enlarged sensitivity to loan growth, which may constrain lending, may frustrate the intents of the accords of nurturing a financial atmosphere favorable to sound banking transactions. A negative impact of high financial growth is that banks can theatrically lower their risk-weighted assets as a result of cutting-edge financial instruments accessible or take advantage of weak implementation of regulations (Barajas, Chami, & Casimano, 2005). As a result, they may end up quickly growing their loan portfolio in order to please the Basel Accord regulations (Barajas et al., 2005).

Though, financial institutions may get more positive ratings from the international rating agencies when they act in accordance with the Basel Accords, the reliability of credit ratings as gauges of bank risk is in context. In fact, it has been recommended that tougher compliance with the philosophies associated to enhanced regulation is in reality related with riskier banks (Demirguc-Kunt and Detragiache, 2010). Joseph Stiglitz’s censures of Basel go beyond to include the possible discrimination against emerging economies. Insufficient representation in the Basel Committee causes Basel’s investigation and suggestions to look inadequate and prejudiced in different aspects. This causes a challenge for worldwide approval of the recommended standards and in application by the non-inclusive nations, generally less financially advanced (Stiglitz, 2010). Stiglitz recommends that a more broad and suitable representation in the Banks for International Settlements would permit for not merely a nondiscriminatory system but similarly in better applied regulation, and therefore a more steady international financial system.

**Stress Testing Credit Risk Models**

Stress testing can be defined as a procedure of identifying and managing the conditions that might create unusual losses. Lorion (2007), and Cihak et al., (2007) stated that stress testing involves six steps which are: the detection of particular susceptibilities of concern, the scenario creation, to establish the output of the scenario in a certain way which could be applied for different financial reports of the organization, the performance of the numerical analysis, to look for any side effects for a second period, finally summarizing the results and reporting them.

In the financial sector, stress tests offer information on an organization’s possible losses under unique but likely shockwaves, assisting policymakers to evaluate the import of the organization’s susceptibilities (Fiori et al., 2009). The main aim of stress testing is to evaluate the pliability of the financial system to adversative incidents (Ceca and Shijaku, 2011). The output of macroeconomic credit risk models can be applied for stress testing and also is useful for Central Banks in managing and controlling banking systems’ financial stability.

Two simple kinds of models are normally employed for credit risk modeling; namely, individual credit risk model and macroeconomic credit risk model which consider the general macroeconomic environment. Generally, these kinds of models are applied to evaluate the default rate based on macroeconomic figures (Jakubik, 2006:5). The commonly used macroeconomic indicators are GDP growth, real and nominal interest rates, inflation rate and public debts (Kattai, 2010).
Wilson (1997a, 1997b) developed a credit risk model that overtly relays macroeconomic factors to commercial sector default rates. This model is used as an input for stress testing. The process of stress testing can be summarized in order to calculate the default rate, to use credit risk model in order to estimate model for default rate. Actual default rates can be calculated in different ways. Non-Performing Loans (NPL), Loan-Loss Provisions (LLP), bankruptcy rate can be used as dependent variables in estimation of macroeconomic credit risk models. As macroeconomic variables, GDP, rate of exchange, interest rate, unemployment rate, etc. can be evaluated. Blaschke, Jones, Majnoni and Peria. (2001), Cihak, Hermanek, Hlavacek, (2007), Alessandri, Gai, Kapadia, Mora and Puhr., (2009), Marcucci and Quagliriello (2008), Jakubik and Hermanek (2008), Kattai (2010) used NPL for calculating the actual default rate in their works. Lehman and Manz (2006), Jimenez and Mencia (2009), Fiori, Foglia and Iannotti, (2009) used LLP (Loan Loss Provision) to estimate default rate. Bankruptcy is another variable that may be used in calculation of default rates.

Jakubik (2006), Trence and Benyovszki (2008), used bankruptcy in order to calculate the default rates. So, default rate can be gotten by dividing the total of insolvency proceeding companies by the total of active firms for the duration of the time period (Trence and Benyovszki, 2008).

Review of Empirical Literature

Boss (2002) used a credit risk model in his work. He applied the model on Austrian commercial sectors’ total data. The model facilitates estimation of anticipated and unanticipated losses for a demarcated credit portfolio based on prevailing macroeconomic conditions. He applied a stress scenario in two cases. The first case analyzed the differences in host country risks, while the second case represents a worst case that deliberately exceeds historical shocks. It was discovered that, the Australian banking system is not put at a risk by the hypothesized crisis despite the dramatic worsening of the economic environment implied by the scenario.

Emecheta and Ibe (2014) investigated the effect of bank credit on economic development in Nigeria employing the revised form of Vector Auto Regression (VAR) method and employing time series data from 1960 to 2011. Existing Gross Domestic Product (GDP) was applied as the dependent variable and alternative for economic growth, while bank Credit to Private Sector (CPS) to GDP ratio and broad money (M2) to (GDP) ratio were substitutes for financial gauge and financial depth respectively. Testing the stationary of the variables applying the Augmented Dickey Fuller (ADF) and Phillips Perron (PP) unit root test, all the variable were incorporated at order one, that is, 1(1). Findings indicate that there is a substantial positive relationship between bank credit to the private sector and economic development.

Also the VAR granger causality test outcome specifies no causal relationship with GDP as the dependent variable. However, there is a unidirectional causal relationship when credit to private sector is applied as the dependent variable. The direction of the causality is from gross domestic product to bank credit and to private sector.

In a similar study of Kolapo, Ayene and Oke (2012), which investigated the Quantitative impact of Credit Risk on the commercial banks performance in Nigeria over a Period of 11 years (2000 – 2010). Five Banks were chosen on a cross sectional basis for eleven years. The Customary Profit Theory was used to frame profit, gauged by Return on Asset (ROA) as a function of the percentage of Non-Performing Loan to Loan and Advances (NPL/LA)
percentage of Total Loan and Advances to Total Deposit (LA/TD) and percentage of loan loss provision to classified loan (LLP/CL) as gauge of credit risk. Panel Model Analysis (PMA) was applied to evaluate the determinants of the profit function. The outcome indicates that the impact of credit risk on Bank Performance gauged by the Return on Asset of Banks is cross sectional invariant. That is, the impact is identical across Banks in Nigeria. But although the level to which individual Banks are affected is not captured by the technique of the evaluation used in the research. A hundred percent rise in non-performing loan decreases profitability by 6.2% whereas a hundred percent rise in loan and advances grows profitability by about 9.6%. They suggested that Banks in Nigeria must improve their competence in Credit Analysis and Loan Administration while the supervisory authority should give more attention to Banks’ compliance with pertinent provisions of the Bank and Other Financial Institutions Act (BOFIA, 1999) and prudential guidelines.

Iwedi and Onuegbu (2014) examine the impact of credit risk and performance of banks in Nigeria over a period of 15 years (1997-2011) with chosen five banks from current twenty banks in Nigeria applying sampling techniques. Data were obtained from the annual reports and accounts statements of the banks in the sample. The data includes of time series and cross-sectional data which were pooled into a panel data and assessed employing panel data regression method. The outcome indicates that there is a positive relationship between percentage of non-performing loan to loan and advances (logNPL) and banks performance (logROA). Similarly, there exists a positive relationship between percentage of loan and advances to total deposit (logLA) and bank performance (logROA). This was significant at 1%. Arise in Loan and Advances rises Bank performance through interest income. They suggested that Management of Banks in Nigeria should improve their competence in Loan Administration and Credit Analysis.

Oluitan (2012) evaluated the import of actual bank credit in boosting real output growth in the case of Nigeria. The study identified that credit Granger creates outputs. In examining factors that activate credit it found that exports largely are negatively correlated to credit. But, while oil export is negatively correlated to credit, non-oil is positively correlated. Credit was as well positively related to capital inflows and imports. These results infer that bank credit is indissolubly related to the opening of the economy through international trade and capital flows in the non-oil sector.

In the work of Yakubu and Affoi (2012), analysis of the impact of commercial bank credit on the economic growth of Nigeria from 1992-2012 was made. In order to study the role bank credit perform in the economy, credits to the private sector of the economy was applied to evaluate the effect on Nigeria’s economic growth. This was represented by Gross Domestic Product; they employed the Ordinary Least Square (OLS) and established that Bank Credit has substantial impact on the Economic Growth of Nigeria. They suggested that robust and broad Legal Framework will to assist in checking credits and recovery of Bank Debts and that bank have to share information on credit risk amongst themselves.

Obademi and Elumaro (2014) study try to find the association between Banking Sector Development in Nigeria and Economic Growth, the Effects of Regulations of Bank on the Economy, the applicability of the Financial Repression Hypothesis to Nigeria and the course of the interconnection between Banks and Economic Growth over a period of forty one years. Their findings indicate that Banks have substantial positive effects on development in Nigeria in all the regulatory systems. The research recommended the maintenance of the existing policy of directed deregulation and implementation of entrepreneur friendly guidelines in
lending by Banks and intermittent assessment of different guidelines affecting Banks in Nigeria.

Akpansung and Babalola (2010) examine the association between Banking Sector Credit and Economic Development in Nigeria over a period of 1970-2008. The underlying relation between the sets of variables of interest were established applying Granger Causality test, while a two stage least square estimation technique was employed for the regression model. The outcomes of Granger causality test display proof of unidirectional index to GDP. Estimated Regression Model (ERM) shows that private sector credit affects Industrial Production positively and by extension, Economic Development over the period covered by the study. They recommended therefore, the requirement for more Financial Market Development that engender more credit to the Private Sector with marginal rate of interest to ignite Economic Growth.

Virolainen (2004) evaluated a macroeconomic credit risk model for the Finish corporate sector. He used Wilson’s model (Wilson, 1997a, 1997b) to examine industry-specific default rates. After developing the credit risk model, he applied macro stress testing. By stress testing of the credit risk model, he investigated the effect of stress scenarios on the credit risks of totaled Finish corporate credit portfolio. He established that the empirical outcomes infer a substantial and equally strong association between industry-specific default rates and key macroeconomic factors plus the GDP, interest rate and corporate sector indebtedness. He applied total GDP to examine industry specific credit risks. They stated that industry specific GDP would make it satisfactory to examine the effect of industry-specific shockwaves.

Jakubik (2007) examined the relation between macroeconomic growth and credit portfolio quality. He assessed a one-factor macro credit risk model for the Czech economy. The objective of his work was to generate a model which will assist to evaluate the anticipated percentage of Bad Loans in the Total Loan Portfolio of Banks in reaction to the development of key macroeconomic factors. He discovered that there is a very robust link between the Bank portfolio quality and macroeconomic environment in the Czech economy. Lastly, he applied the estimated credit risk model for examining the effects of macroeconomic shockwaves on the default rate of the banking portfolio at the aggregate level of the economy.

Jakubik and Hermanek(2008) conducted a comparative study between the German and the Czech economy. They applied macroeconomic credit risk models for corporate sector and the household entities in the both countries. Merton-type one Factor Credit Risk Model was applied to evaluate the total corporate and household default rates bon non-performing loans. He employed various methods to calculate observed default rates. Non-performing loans were used to calculate the default risk for both countries. He tested a number of macroeconomic variables and found that, nominal interest rate, real GDP growth, debt to GDP ratio are significant factors for credit risk model. They concluded estimation of credit risk models for the German and Czech Republic corporate and household sectors and used this model in stress testing of credit risks. They further reported that, modeling was important for the corporate sector but that was not so in case of the Household sector. Further stress testing reveal that the German economy was less impacted than the Czech.

Ceca &Shijaku (2011) opined that, “Stress Tests are a very important tool for assessing the ability of Economic agents in order to offset the impact of large shocks on their wealth”. Thus they created a macro stress test for evaluating the effect of direct and indirect credit risk for the total Albanian economy. In order to create the credit risk model, they used Non-
Payable Loans (NPL’s) as a dependent variable whereas Interest rates, GDP and inflation rates were adopted as independent variables. Monte Carlo simulation was employed to simulate the spread of losses. Consequently, significant relationship was established between euro exchange rates and the Euribor interest rates as well as, GDP growth.

Research Methodology
Description of Research Variables
This study assesses the effect of credit risk on the Nigerian economic growth. Accordingly, the dependent variable is economic growth and proxy as the Real Gross Domestic product (RGDP). The independent variables included in this study are: Credit risk (CRR) Interest rate (IRR), trade openness (TOP) and inflation (INF) used as control variable. The data for the study were obtained from National Bureau of Statistics and Central Bank Statistical Bulletin various issues.

Model Specification
Economic Growth Model
RGDP = b₀ + b₁CRR + b₂IRR + b₃TOP + b₄INF

The variables in the model specified above are subjected to unit root test using the Augmented Dickey Fuller (ADF) test and the result shown in the table below.

Unit Root Test Result

<table>
<thead>
<tr>
<th>Variables</th>
<th>ADF @ level</th>
<th>ADF @ FIRST difference</th>
<th>Order of integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRR</td>
<td>-0.16253</td>
<td>-3.55866</td>
<td>I(1)</td>
</tr>
<tr>
<td>IRR</td>
<td>-1.53946</td>
<td>-3.99836</td>
<td>I(1)</td>
</tr>
<tr>
<td>INF</td>
<td>-2.71292</td>
<td>-3.42892</td>
<td>I(1)</td>
</tr>
<tr>
<td>GDP</td>
<td>-0.69941</td>
<td>-4.4144</td>
<td>I(1)</td>
</tr>
<tr>
<td>TOP</td>
<td>1.25101</td>
<td>-5.4365</td>
<td>I(1)</td>
</tr>
</tbody>
</table>

Source: Author’s computation using EViews 2018.

The outcome of the unit root test in table1 above indicates the variables integration at order one 1(1). This justifies use of Johansen cointegration technique to exam for the long run relationship of the variables adopted in the model.
The Johansen Cointegration test

**Table 2 : Johansen-Juselius Co-integration Test:**

**Economic Growth Model**

Trend assumption: Linear deterministic trend
Series: GDP CRR IRR TOP INF
Lags interval (in first differences): 1 to 3
Unrestricted Cointegration Rank Test (Trace)

<table>
<thead>
<tr>
<th>Hypothesized No. of CE(s)</th>
<th>Eigenvalue</th>
<th>Trace Statistic</th>
<th>0.05 Critical Value</th>
<th>Prob.**</th>
</tr>
</thead>
<tbody>
<tr>
<td>None *</td>
<td>0.892577</td>
<td>161.4950</td>
<td>85.75366</td>
<td>0.0001</td>
</tr>
<tr>
<td>At most 1 *</td>
<td>0.707828</td>
<td>150.0437</td>
<td>90.76589</td>
<td>0.0000</td>
</tr>
<tr>
<td>At most 2 *</td>
<td>0.635449</td>
<td>77.6794</td>
<td>67.85613</td>
<td>0.0000</td>
</tr>
<tr>
<td>At most 3 *</td>
<td>0.437392</td>
<td>19.04118</td>
<td>29.10707</td>
<td>0.0901</td>
</tr>
<tr>
<td>At most 4 *</td>
<td>0.411120</td>
<td>18.12379</td>
<td>24.49471</td>
<td>0.8012</td>
</tr>
</tbody>
</table>

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values”

The Parsimonious Error Correction Mechanism Test

“**Table 5 : Parsimonious Estimate for ECONOMIC GROWTH Model**

independent Variable: D(GDPI)
Sample (adjusted): 7 45
Included observations: 39 after adjustments

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>23.42479</td>
<td>7.311989</td>
<td>-5.800111</td>
<td>0.0000</td>
</tr>
<tr>
<td>D(CRR(-1))</td>
<td>-0.369441</td>
<td>0.384009</td>
<td>0.962063</td>
<td>0.3443</td>
</tr>
<tr>
<td>D(CRR(-2))</td>
<td>-1.316063</td>
<td>0.429436</td>
<td>-4.626130</td>
<td>0.0070</td>
</tr>
<tr>
<td>D(IRR(-1))</td>
<td>-2.236788</td>
<td>54.07688</td>
<td>-3.678063</td>
<td>0.0010</td>
</tr>
<tr>
<td>D(IRR(-2))</td>
<td>-0.847296</td>
<td>128.8938</td>
<td>2.922691</td>
<td>0.0027</td>
</tr>
<tr>
<td>D(TOP(-2))</td>
<td>0.367245</td>
<td>111.5725</td>
<td>3.243202</td>
<td>0.0031</td>
</tr>
<tr>
<td>INF</td>
<td>0.84551</td>
<td>175.1280</td>
<td>-2.38128</td>
<td>0.0018</td>
</tr>
<tr>
<td>ECM(-1)</td>
<td>-0.682389</td>
<td>0.084299</td>
<td>-5.129223</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

R-squared 0.785527 Mean dependent var -34.36370
Adjusted R-squared 0.710359 S.D. dependent var 51.82308
S.E. of regression 35.09979 Akaike info criterion 10.19781
Sum squared resid 32170.33 Schwarz criterion 10.16702
Log likelihood -137.8573 Hannan-Quinn criter. 10.21616
F-statistic 9.708523 Durbin-Watson stat 2.123566
Prob(F-statistic) 0.000011”

Source: Author's computation, using E-views 9.0

Table 5 indicates that the explanatory variables establish 71 percent of the deviation in economic growth (RGDP), the remaining 29 percent is explained by variables not considered in the above specified model. Durbin-Watson Statistics of 2.12 shows the absence of
autocorrelation. The model specification above is well specified having the F-statistic probability value of 0.000011. The ECM value -0.6823 has the appropriate sign and also shows a fast adjustment process of about 68 percent.

The parsimonious result shown in table 3 depicts that credit risk has a negative coefficient at lag period 2 and it is statistically significant. A percentage increase in credit risk at period 2 contributes about 1.31 percent reduction in economic growth (RGDP). This implies that credit risk is an inhibitor of economic growth. Given that areverse correlation exist in credit risk and economic growth, the higher the rate of default (credit risk) the more economic growth is retarded. The result is in collaboration with that of Miasca (2016). Interest rate (IRR) has negative coefficient at lag period 1 and lag period (2) and it is statistically significant. This infers that an inverse correlation exists in interest rate and economic growth. 1% increase in rate of interest affects economic growth by 2.23 % at lag period one and 0.84 at lag period two. This result shows that a higher level of interest rate is a cog in the wheel of economic growth. Inflation has a positive coefficient about (0.86) and it is statistically with a likelihood of 0.008. The consequence suggest a direct relationship in inflation and economic growth in Nigeria. This shows a moderate anchorage of inflation is required to achieve economic growth. This is supported by the study of Ekpo (2014). Trade openness has a positive coefficient and it is significant with a probability of 0.0031.

CONCLUSION

The result of the data analyzed shows that areverse relationship exists in credit risk and economic growth in Nigeria. The paper therefore, concluded that credit risk is an inhibitor of economic growth.

RECOMMENDATIONS

Based on the findings, the researcher recommended as follows:

1. Proper credit risk management should be encouraged as to reduce the risk associated with borrowing.
2. The apex bank (Central Bank of Nigeria) should be more proactive by reducing the rate interest as to manage the rate of default.

REFERENCES


