

# Bank's Loans' Management and Credit Bureau Services in Nigeria

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DOI: <https://dx.doi.org/10.47772/IJRISS.2025.908000254>

Received: 04 August 2025; Accepted: 09 August 2025; Published: 05 September 2025

## ABSTRACT

This study evaluates the activities of credit bureaus in respect to non-performing loan and the quality of risk assets of commercial banks in Nigeria. The study finds out that Credit bureau reports play a significant role in making credit decision; there are adequate regulations or guidelines controlling the operation, licensing and non-performing loan publication of credit bureaus unit; inflation rate, loan-deposit ratio and small/medium loan ratio to total credit has positive effect on non-performing loan while lending rate had negative effect on dependent variable and recommended that federal government through National Identity Management Commission (NIMC) and Central Bank Nigeria (CBN) through current mandatory Biometric Verification Registration (BVR) should step up the process of ensuring that all individuals are issued a unique ID as obtainable in advanced countries; the credit bureaus association should work on a standardized (uniform) data format that will facilitate easy reporting of credit information by subscribers. The Central Monetary Authorities should closely monitor the activities and their existence is justified in terms of the ripple effects in the Nigerian economy.

**Keywords:** Credit Bureau Services, Banks' Risk Assets, Non-performing loans, Loan ratio

## INTRODUCTION

As cited by Michael, et. al. (2022) Management of banks all over the world are faced with two major decision areas, namely; liquidity decision and profitability decision. The two decision areas are not mutually dependent in nature, one must happen at the expense of the other, and the two of them are inversely related. Liquidity decision is meant to keep the bank afloat to so as to meet its short-term maturing obligations as they fall due while profitability decision is meant to maximise the value of the firm and shareholders' wealth.

To be liquid, a bank must hold cash and near cash instruments/securities in order to meet depositors/customers' needs for cash at short notices, but to be profitable, a bank needs to give out cash in forms of loans and overdrafts (that is, credits) in order to earn income so as to increase shareholders' wealth and attain a high market value for the bank. As it is, increase in liquidity tends to reduce profitability; but the attainment of these two opposing objectives is the principal duty of bank management – 'a great paradox.' Increase in liquidity means less credit to customers and consequently, low profit; increase in profitability means more credit and consequently less liquidity. More credit means more credit risk and consequently, the probability of either profit or loss increases. Where the credit risk is low, there is high profit but where credit risk is high, there is low profit and/or loss. Where there is profit, the value of the bank is enhanced but where there is loss or losses the value of the bank is eroded and this has a direct consequence on the shareholders' funds and return on asset of the bank involved.

Considering the impending negative impact of credit risks, banks management and credit officers are expected to exercise all known and perceived cautions necessary to avoid losses arising from bad loans and advances. Credit risk are unavoidable by banks as their future depends on the income/earnings that help boost their operations and credit risks appear to be the greatest risk faced by banks while other risks elements are subsequent to it. It is worthy of note that credit risks are not necessarily caused by events specific to the borrowing institution but to a great extent by the activities of the economic and global environments. Like the economic melt-down of 2007 and 2008 which swept across the world and impacted financial institutions in most part of the world; the policies of a domestic economy such as Nigeria, can cause business failures and consequently, inability of those businesses to repay banks loans and advances which then leads to credit risk and finally, losses and erosion of capital (in this case, shareholders' funds). Before 2005 when there was consolidation of banks in Nigeria, the

slogan ‘size is might’ was a sing-song in the banking sector and this slogan was believed to also lead to high profit by the “the big banks”.

Size, here, was determined by capital base and the profit declared by the banks at the end of their financial year. In those times, spurious debits (charges) were made to customers’ non-performing loans accounts by banks in order to increase their profits even when there was no likelihood of recovery. Then, profits were considered more than liquidity such that even banks that declared so much profit failed supervisors’/regulators’ stress test as in 2009 when eight out of twenty-five Deposit Money Banks (DMBs) failed Central Bank of Nigeria’s (CBN) stress test which led to the removal of MDs/CEOs of the affected banks. The value of a business is the worth of that business. In most cases we talk about net worth which means total assets less total liabilities, which represents the owners’ contribution to the business. In banks, owners’ contribution is called shareholders’ funds and it consists of equity capital, reserves, share premium, and retained earnings, among others. The roles of capital in a bank include defending the bank against risk of failure, providing a base for growth and expansion, making resources available to get a new bank started, and enhancing public confidence in the management of the banks and shareholders. The broad objective of this study is to evaluate the impact of loan management of banks on credit bureaus in Nigeria. Therefore, the below null hypotheses are formulated from the specific objectives and research questions:

- H<sub>01</sub>:** There is no significant relationship between the ratio of small/medium enterprises credit to total credit and non-performing loans in banks;
- H<sub>02</sub>:** Inflation rate has no significant relationship with non-performing loans;
- H<sub>03</sub>:** There is no significant relationship between lending rate and non-performing loan;
- H<sub>04</sub>:** There is no significant relationship between loan-deposit ratio and non-performing loan.

This study highlights the relevance of credit bureau in enhancing banks' risk assets quality in Nigeria. Despite the sharp growth in credit to private sector reported in Nigeria by banks as recently reported by CBN, there has been renewed concern over banks' assets quality. In fact, Fitch recently pointed out that rapid credit growth in the country's banking sector may give rise to weakened assets quality and higher impairment charges if left unchecked. It is expected that banks and regulators should take drastic steps to finally arrest the re-emergence of high non-performing loan (NPL) ratio. Experts are also of the opinions that bank and other financial services providers would profit from the reduced transaction cost and improved portfolio quality if they engage the services of credit bureaus in their operation.

Credit bureau can be said to be a library of credit information, providing a centralized database of credit behavior of individuals and institutions, that is, they show how well banks' customers manage credit commitments. Although various credit bureaus licensed by the CBN have been complementing the services of deposit money banks since 2009, industry operators do not believe that they are efficient enough in terms of guaranteeing a ready pool of customers data needed for taking crucial decision before credit approvals are given to prospective customers. To what extent can the activities of credit bureau bring out the voracious debtors that move from one bank to another? We hope they will complement the existing credit status enquiry and CBN CRMS credit bureau in reducing the NPL ratio considerably. It is expected that this study will throw more light to the activities of credit bureaus, their functions, their current and future challenges and proffer solutions to their problems. The study will also establish relationship between services of credit bureaus and banks' risk assets quality and probe into the activities, operation, licensing and regulations of private credit bureaus from 2007-2023. It looks at the past, present and future of the new initiative of using credit bureau services to complement the existing CBN CRMS search report. The impact of loan management on credit bureau services in Nigeria will also be looked into. Furthermore, this study covers credit bureau services and aggregate performance of commercial banks in Nigeria with focus on effective management of loan.

## LITERATURE REVIEW

The credit risk management bureau of the CBN that provides information on prospective borrowers can be a viable medium for credit risk mitigation. The information from the bureau is intended to assist lending officers

in forming opinions as to the credit worthiness of intending borrowers. Unfortunately, some banks have refused to avail themselves of the services provided by the medium. Similarly, such banks fail to provide credit information to the bureau. It is obvious that the services provided by the bureau, which in any case is owned by bankers, are to assist banks to fight the menace of 'professional' borrowers who move from bank-to-bank securing credit facilities with no intention to repay. There is also the use of risks quality ratings of both internal and external rating systems to provide some information on the risk quality of bank borrowers (Owojori, et. al., 2011).

Credit Bureaus are set up to gather information about people's loan performance. The information gathered include previous loans that has already been paid, new loans that have just been collected, how the loans have/are being serviced and if there are any outstanding balance(s). It also includes contact addresses of the borrower. It keeps all this information on a borrower both positive and negative, and it is from this database that lenders can access the credit history of a loan applicant. Individuals who would like to see their credit report can also apply to the Bureau to assist in viewing it (CRC credit bureau, 2017). The concept of having a credit bureau is not a new phenomenon. In developed countries, it is an established practice for individuals and organizations to carry out credit checks before engaging in any credit agreement. The core functions of credit bureaus by (CRC credit bureau, 2017) are:

- **To maintain a database of borrowers from lending institutions:** Data collected include contact address details of individuals and companies. It also includes a history of loans that has been received; if they were paid on time, how many days late they were paid, or if there were any bounced cheques submitted. It also includes information like bankruptcy and court judgments.
- **To provide a central storage for all the information collected:** Credit Bureaus have sophisticated and reliable technology that enables them store the large quantity of data collected over a long period of time without it getting lost, stolen, or altered. This gives lenders a long-term access to information that they cannot store themselves.
- **To provide credit information upon request:** When credit information is provided by a Bureau, it comes in the form of a report, so it is called a Credit Information Report. This is the major product that the Bureau sells to its members, and it usually contains information spanning a period of 3 years.
- **To eliminate/reduce information discrepancy in the lending industry:** When countries establish credit bureaus, their main aim is to reduce and possibly eliminate the gaps in information shared between lenders and borrowers. For instance, without these bureaus, a borrower could use different identity information/addresses to obtain loans from different lenders. He can use loans from banks A and B to service that of Bank C, or simply accumulate loans from the three banks at different times without repaying them.
- **To allow increased access to credit:** Using Nigeria as a case study, a lot of factors affected lending before credit bureaus were established. For example, only borrowers with large collaterals, or those who know senior officers in the lending institutions were usually granted loans. There was also the fact that because someone is not well known at a bank for example, they can refuse your loan application. This is due to the fact that they have no way of knowing if you will pay back or not. With credit reports now, even someone that the bank has never seen before can now get a loan. They just need to check his report from the Bureau.

## Concept of Asset Quality

Asset quality is an aspect of bank management which entails the evaluation of firm assets in order to facilitate the measurement of the level and size of credit risk associated with its operation. Asset quality is micro prudential determinants commercial banks soundness and profitability. It relates to the left-hand side of a bank balance sheet and focused on the quality of loans which provides earnings for a bank (Abata, 2014). It is seven out of twenty-five core principles of effective banking supervision by BASEL Committee on banking supervision in 1997. Sustaining sound assets quality involves careful granting of loans that must be examined and compliance

to banking rules. As a micro determinant of profitability, poor assets quality affects the financial performance and the soundness of the banking system.

### **Non-Performing Assets (NPA)**

Bawa, et. al. (2018) defined non-performing assets (NPAs) as assets that no longer generate income by earning interest on the principal amount of the loan and repaying the principal amount of the loan. Vikram, et al (2018) refer to nonperforming assets as assets of a borrower that are classified as substandard, loss-making, or doubtful by a financial institution according to asset classification guidelines. Nonperforming assets occur when the borrower intentionally defaults on the loan or is unable to repay the loan due to poor economic conditions affecting its business. According to Banerjee et al. (2017), non-performing assets reflect the extent of existing credit risk associated with loan and investment portfolios. Non-performing assets are non-performing loans where borrowers do not meet their repayment obligations (Nzota, 2015). Nonperforming assets exist when interest and principal payments are 90 days or more past due. Ibrahim, et al (2014) defined a nonperforming loan as a credit facility where interest and/or principal payments are "past due" for a specified period of time.

### **Theoretical Framework**

A theory is a system of interconnected ideas that condense and organize knowledge about the world (Neuman, 2006). The theoretical framework shapes the direction of a research.

### **Information Sharing Theory**

Research on information sharing is relatively recent and growing. Earlier papers analyzed the effect of information sharing in a market with asymmetric information, either moral hazard or adverse selection (Gehrig et. al., 2005). In moral hazard setups, information sharing may provide borrowers with higher incentives to perform: because information becomes available to competitor banks, borrowers are happy to perform better because they no longer fear being held-up by the lender-monopolist (Padilla et. al., 1997). Second, borrowers do not want to (strategically) default, because this will be publicly known: when default information is shared, borrowers will face an increase interest rate and a decrease in access to finance not only by the current bank, but by the rest of banks in the market - the so-called disciplinary effect (Padilla et. al., 2000). More-over, information sharing resolves adverse selection problems when banks have ex ante informational advantage, as in Pagano et. al., (1993), and Padilla et. al., (2000). By sharing information, banks may learn about those good and bad borrowers of the competitor banks who (exogenously) switched from the previous banks. Gehrig et. al., (2001), however, identify a dark side of information sharing. Rather than starting with ex-ante informational advantage, their adverse selection model considers a two-period competition with symmetric knowledge in period one. In their location model, when banks have less incentives to acquire information for too many customers in period one, when they know, they will have to compete away rents on them by sharing information in period two. They show that if information about borrowers' true becomes known to other banks, second-period competition will be higher and first-period interest rates will have to go up. As a result, information sharing can lead to welfare losses.

### **Commercial Credit Theory**

This theory was developed by Adam Smith in England in the 18th century (Sanghani, 2014). It was developed in the nineteenth century (Sanghani, 2014). The commercial credit theory or the real bills doctrine states that a commercial bank should only make short-term, self-liquidating productive loans to firms that improve the commercial bank's profit situation through interest on the loan. Loans to finance the production and development of goods in the successive stages of production, storage, transportation and distribution are considered self-liquidating loans (Rajan 1998). Basically, this is an asset management theory that emphasizes liquidity; the doctrine states that banks should limit their earning assets to real bills and short-term self-liquidating loans for commercial purposes. In this way, it has been argued, banking institutions could maintain the liquidity necessary to meet deposit withdrawal requirements on demand (Casu, 2006). This theory also states that whenever commercial banks make short-term, self-liquidating productive loans, the central bank should lend to banks on the basis of these short-term loans in order to make more loans to loss-making units, which in turn increases the financial capacity of banks. This ensures that an adequate level of liquidity is available to each bank and an

adequate amount of money is available to the economy as a whole, thereby improving bank lending and performance. (Merris, 2002).

### **Risk and Return Theories**

Theories on risk and return projects that risk or return as an output result from diverse sources that can be classified main into micro (unsystematic or firm specific) and macro factors (systematic). For instance, the Capital Asset Pricing Model (CAPM) shows the relationship between risk and expected (required) return as a function of risk-free (represented as government treasury bills) and a premium base on the systematic risk. The higher the systematic risk, the higher the return investors require on their investment. The underlying logic behind this model and its relevance in this study is based on the fact CAPM views the total portfolio risk or return as a function of systematic risk and unsystematic risk. The systematic risk is attributable to factors that affect the market as a whole such as government policies, changes in the economy and the political climate. The unsystematic risk is specific to a particular company such as industrial relations, quality of firm's management or a new competitor in the industry. Systematic risks cannot be avoided through diversification. However, unsystematic risk can be eliminated or reduced through diversification. Although the Capital Asset Pricing Model describes the Capital Asset Pricing Model (CAPM) describes stock and portfolio risk, it can be adopted and applied to firms. It proposes that when the market is at equilibrium, a security is expected to provide return commensurate with its systematic risk. Investors should not be rewarded for unsystematic risk as it presumes that rational and risk-averse investors will diversify the unsystematic risks.

### **Empirical Review**

Haruna, et al., (2020) studied Credit risk and financial performance of quoted deposit money banks. The study adopted an expo-facto research design. The population of the study consisted of the twenty-three (23) quoted deposit money banks (with an international authorisation) that were operational as of December 31, 2019. Census sampling techniques were used to select all the sampled frames for the study. Secondary data were extracted from annual reports and accounts of these banks. Multiple regression techniques were used in analyzing the combination of time series and cross-sectional data. The findings, among others, indicated that the ratio of non-performing loans to return on asset, liquidity rate, exchange rate and interest rate have a significant positive effect on the return on asset (financial performance) of quoted deposit money banks in Nigeria. Bercoff, et. al., (2020) in their study of Argentinean banks tried to measure Non-Performing Assets by using the various bank related parameters as well as macroeconomic parameters. Bank specific parameters in their study were Ratio of Net worth to Net Assets, Banks exposure to peso loans, and type of banks such as foreign, private or public. Macroeconomic factors in this study were credit growth, reserves adequacy, foreign interest rate and monetary expansion. They have established that variables such as operating cost, exposure to peso loans, credit growth, and foreign interest rate had a negative effect on Non-Performing Assets. The macroeconomic variables such as money multiplier and reserve adequacy had a positive impact on Non-Performing Assets.

Rakesh, et al., (2019) examined the determinants of asset quality in Indian banks. The study used a time series research design. Secondary data from 2000 to 2014 were used. The results of the descriptive statistics showed that bank-, industry-, and macroeconomic-specific factors were responsible for the increase in nonperforming loans in Indian commercial banks. The study recommends that nonperforming asset forecasting models should consider macroeconomic and industry-specific factors in addition to bank-specific factors. Aspal, et al., (2019) used capital adequacy, asset quality, and return on assets as one of the variables in their study on bank-specific characteristics and bank performance. The secondary data were from 2008-2014 and the multiple regression showed that capital adequacy does not have a significant effect on return on assets, but asset quality has a significant effect on return on assets.

Oba (2018) investigated the impact of capital adequacy on asset quality of deposit-taking banks in Nigeria. The study used secondary data from 2008 to 2010. The results of the regression analysis showed a positive and significant relationship between capital adequacy and asset quality of banks. The study recommended that banks should maintain optimal capital ratios given their influence on asset quality. AbdulGafoor, et al., (2018) studied how board structure affects banks' asset quality. The study relied on secondary data from 2001 to 2014, and the regression results showed that the proportion of independent directors and financial experts has a significant

positive impact on asset quality. The size of the board of directors, the number of board meetings, and the dual role of the CEO were found to have no significant effect on asset quality.

Maxwell, et al., (2016) investigated the impact of credit risk management on the performance of deposit money banks in Nigeria. The findings demonstrated succinctly that the selected credit risk management indicators under study significantly impacted the performance of deposit money banks measured as return on equity, return on total assets, and return on shareholders' fund respectively. However, the findings reported no evidence of a significant granger causality relationship between the various credit risk management indicators and the various measures of performance except for a unidirectional granger causality relationship from ROE to RNPD and from ROTA to RNPS respectively. Based on the findings, it was recommended that deposit money banks in Nigeria should always pay particular attention to their credit risk management policies to significantly improve the performance of these banks. Vighneswara (2015) examined the determinants of bank asset quality and profitability in India using panel data techniques from the period from 1997–2009. The findings of the study reveal some interesting inference contrary to the established perception. Priority sector credit was found not to be significant in affecting the non-performing assets contrary to the general perception and similar is the case with rural branches implying that aversion to rural credit is falsely founded perception. Bad debts are dependent more on the performance of the industry than other sectors of the economy. Furthermore, Capital adequacy and investment activity significantly affect the profitability of commercial banks apart from other accepted determinants of profitability; assets size has no significant impact on profitability.

Abata (2014) conducted a study on asset quality and bank performance. The study was conducted on commercial banks in Nigeria. The study used loan loss ratio (classified loans and receivables/total loan portfolio) and total investment to total assets ratio (total loans/total assets). Secondary data were collected from 1999 to 2013 from the annual reports of selected banks. The data were subjected to regression and correlation analysis, and the results showed that asset quality has a statistical relationship and influence on bank performance. The study recommended measures to promote revenue diversification, minimize credit risk, and encourage banks to minimize their liquidity holdings. Arora (2014) in a study of 54 commercial banks operating in India during 1991 to 2007 found that least efficient banks had higher levels of non-performing assets implying a positive relationship between asset quality and efficiency.

Odunga, et. al., (2013) while studying operating efficiency of commercial banks in Kenya found that the credit risk ratios had a significant impact on operating efficiency of the banks. This they argue implied that in a bid to minimize credit risk, banks should ensure that the agency problems between shareholders and management were minimized. They recommended that experienced and superior management should be employed to manage credit risk affairs of banks. Boahene, et. al., (2012) used regression analysis to determine whether there is a significant relationship between credit risk and profitability of Ghanaian banks. They used Return on Equity as measure of bank performance while ratios of non-performing loans to total assets were proxy for credit risk management. The study found empirically that there is an effect of credit risk management on the profitability level of Ghanaian banks.

Poudel (2012) appraised the impact of credit management in bank's financial performance in Nepal using time series data from 2001–2011. The result of the study indicates that credit risk management is an important predictor of banks financial performance. Khalid (2012) examined the impact of asset quality on the profitability of private banks in India using Return on Asset as profitability variable for the period 2006–2011, operating performance of the sample banks is estimated with the help of financial ratios. Multiple regression models were employed to examine if banks asset quality and operating performance are positively correlated. The result showed that a bad asset ratio is negatively associated with banking operating performance after controlling for the effect of operating scale, traditional banking business concentration and the idle fund ratio. Muhammend, et. al., (2012) examined the relationship between credit risk and performance of Nigerian Banks. The study used descriptive, correlation and regression management had a significant impact on the profitability of the banking industry.

## Gap in Literature

Astute risk management is critical for businesses; both large and small, because an immeasurable number of

financial decisions tend to hang critically in a firm's ability to manage its risk exposures. Research on credit risk has blossomed in the last five years (and in the new millennium) with several scholars researching and writing on various aspects of risk management. Notable research on credit risk in the last five years have included Haruna, et al., (2020); Berkoff, et. al., (2020); Rakesh, et al., (2019); Aspal, et al., (2019); Oba (2018). The research on impact of credit bureau services on bank's risk asset quality in Nigeria is rather limited and this study attempts to fill this research gap by examining how credit bureau services affect bank's risk asset quality in Nigeria.

## RESEARCH METHODOLOGY

According to Asika (2009), research design addresses the planning of scientific inquiry, designing a strategy for finding out something. The research design used in this study is the ex-post facto which considers the past to produce explanations for things that had already occurred. Secondary data (quantitative method) was employed for this research. The data for the analysis which spanned from 2007 to 2023 was sourced from World Bank Statistics publications, 2023. Ordinary Least Square co-integration analytical tools and the Granger Casualty test were used in analysing the data.

### Model Specification

The study modified the model of Haruna, et. al., (2020), the ARDL model is specified as:

$$NPLR = F'(EXGR, INFR, LDR, LNR, SMEL) \text{-----} (1)$$

$$\Delta NPLR_t = \beta_0 + \beta_1 \Delta NPLR_{t-i} + \beta_2 \Delta INFR_{t-i} + \beta_3 \Delta LDR_{t-i} + \beta_4 \Delta LNR_{t-i} + \beta_5 \Delta SMEL_{t-i} + \sum_{i=0}^p \beta_6 \Delta NPLR_{t-i} + \sum_{i=0}^p \beta_7 \Delta INFR_{t-i} + \sum_{i=0}^p \beta_8 \Delta LDR_{t-i} + \sum_{i=0}^p \beta_9 \Delta LNR_{t-i} + \sum_{i=0}^p \beta_{10} \Delta SMEL_{t-i} + ECM + \mu_t \text{-----} (2)$$

Where:  $\Delta$  = the Difference Operator

NPLR = Non-Performing Loan Ratio proxy as dependent variable

INFR = Inflation Rate; LDR = Loan to Deposit Ratio;

LNR = Lending Rate; SMEL= Small/Medium Enterprises Loan ratio to Total Credit

"F" is a function of

$\beta_0$  = Intercept;  $\beta_1, \beta_2, \dots, \beta_{12}$  = Partial Slopes of the Linear regression model

ECM = Error correction model;  $\mu$  = Stochastic error term

## 4. Data Analysis and Discussion of Findings

The section presents the empirical findings resulting from the analysis of data gathered in order to address the research questions and hypotheses. The analysis was secondary data and analysed using e-view 12 statistical package.

**Table 1: Augmented Dickey Fuller (ADF) Unit Root Test at Stationary Points**

Variables		ADF		Order of integration
	t-statistics	Critical values @5%	Prob.	
NPLR	-4.304591	-3.081002	0.0053	I (1)
INFR	-4.425592	-3.098896	0.0047	I (2)

<b>LDR</b>	-3.466713	-3.098896	0.0262	I (2)
<b>LNR</b>	-4.441288	-3.081002	0.0041	I (1)
<b>SMEL</b>	-3.959585	-3.098896	0.0108	I (1)

The ADF URT test as shown in the table 4.1 provided evidence that inflation rate and loan to deposit ratio were stationary at second difference while non-performing loan ratio, lending rate and ratio of total credit to small/medium enterprise loan were all stationary at first difference. However, exchange rate has no long-run relationship with the dependent variable (NPLR) as it was non-stationary at second difference. Therefore, EXGR would be excluded in the analysis as we proceed further.

**Table 2: Selection of Optimal Lag Length**

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-231.4264	NA	4707809.	29.55330	29.79474	29.56567
1	-188.5999	53.53310*	614088.4*	27.32499*	28.77360*	27.39917*

Therefore, as a result of the result of the optimal lag length criteria, it is concluded that the most suitable lag length is 1 premised on the Akaike Information Criterion.

**Table 3: ARDL Bounds Test (Co-Integration Result)**

F-Statistics	Lower Bound (5%)	Upper Bound (5%)
13.5797	2.56	3.49

Table 4.3 provided evidence that the F-statistics is greater than the lower and upper bound at 5% significance level which shows that there exists a long-run equilibrium relationship between the dependent and independent variables.

**Table 4: ARDL Long Run Result Dependent Variable: EGR**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INFR	1.501548	0.338431	4.436796	0.0016***
LDR	0.170710	0.066607	2.562955	0.0305**
LNR	-2.749918	0.381173	-7.214354	0.0001***
SMEL	1.358418	0.585047	2.321897	0.0453**
C	12.67193	8.073736	1.569525	0.1510

\*, \*\*, \*\*\* indicates significance at 10%, 5% and 1% respectively

Table 4.4 revealed that inflation rate, loan-deposit ratio and small/medium loan ratio to total credit has positive effect on non-performing loan while lending rate had negative effect on dependent variable. This implies that an increase in either INFR, LDR and SMEL will increase non-performing loan while an increase in other variables will cause decline on the explained variable.

**Table 5: Diagnostic Tests (Post-Estimation Tests)**

Test Nomenclature	F-Statistics	Prob. Value
<b>LM Serial Correlation</b>	1.370958	0.3145



Heteroscedasticity	0.700167	0.6574
Normality (Jarque-Bera)	1.251410	0.5349

Evidence from table 4.5 containing the post estimation tests revealed that model has no problem of serial correlation, heteroscedasticity and normality test. This is because the probability value attached were higher than 0.05 in all cases.

**Table 6: Engle Granger Causality Test**

Null Hypothesis:	Obs	F-Statistic	Prob.
INFR does not Granger Cause NPLR	15	5.06058	0.0303**
NPLR does not Granger Cause INFR		1.34411	0.3041
LDR does not Granger Cause NPLR	15	7.88681	0.0088***
NPLR does not Granger Cause LDR		0.17794	0.8396
LNR does not Granger Cause NPLR	15	0.53826	0.5998
NPLR does not Granger Cause LNR		0.64890	0.5433
SMEL does not Granger Cause NPLR	15	0.03028	0.9703
NPLR does not Granger Cause SMEL		0.26865	0.7698

\*, \*\*, \*\*\* indicates significance at 10%, 5% and 1% respectively

The result of the Engle Granger causality test revealed that only inflation rate and loan to deposit ratio granger cause non-performing loan ratio as unidirectional causality was reported to run from each of both variables to non-performing loan ratio.

## DISCUSSION AND IMPLICATIONS OF FINDINGS

The ARDL long run result showed that inflation rate, loan-deposit ratio and small/medium loan ratio to total credit has positive effect on non-performing loan while lending rate had negative effect on dependent variable. This implies that an increase in either INFR, LDR and SMEL will increase non-performing loan while an increase in other variables will cause decline on the explained variable. This is good enough as the reduction in lending rate contribute significantly to the good performance. The inflation rate and loan-deposit ratio as well as small/medium enterprises loan ratio to total credit are major factors of poor loan as the three variables contributes to the increase in non-performing loan ratio. In other words, for credit bureau sector of the economy to perform better in reducing non-performing loan of commercial banks in Nigeria, government needs to ensure the inflation rate is brought low to single unit and encourage commercial banks to give out loan to sectors that needs such facilities.

Furthermore, the causality test revealed that only inflation rate and loan to deposit ratio granger cause non-performing loan ratio as unidirectional causality was reported to run from each of both variables to non-performing loan ratio. This connotes that the direction of the inflation rate and loan to deposit ratio will determine the direction of non-performing loan ratio and the significant activity of the credit bureau unit. This is in line with the commercial credit theory or the real bills doctrine states that a commercial bank should only make short-term, self-liquidating productive loans to firms that improve the commercial bank's profit situation through interest on the loan. This is possible as the risk assets is a major asset of the commercial banks which determines the capital or performance of the banks. The findings of this study agreed with the result of Haruna, et. al., 2020 and Bercoff, 2020 on Non-Performing Assets by using the various bank related parameters as well as macroeconomic parameters.

## CONCLUSION AND RECOMMENDATIONS

Based on the numerous findings that have emerged empirically and from the emerging trends from literature, it is concluded that credit bureau business activities in Nigeria significantly impact on quality of risk assets of banks in Nigeria. The key recommendation that follows from the findings of the analysis are financial sector development is the key to growth as it channels credit into private sector. The banks should be encouraged to extend more credit to the private sector. But the financial sector in conjunction with the government should educate the business entities about the need to invest such credits in productive ventures that will bring about significant development in the Nigerian economy; to sustain the envisaged economic growth also, it is recommended that policy makers in the Nigerian banking space should put in place good policies in an attempt to diversify the economy by encouraging huge investment by the financial sector by implementing expansionary fiscal and monetary policies in Nigeria in general. Lastly, the responsible agencies and the central monetary authorities should closely monitor the activities of the credit bureau business entities in Nigeria to ensure that such activities and their existence is justified in terms of the ripple effects on the Nigerian economy.

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## Appendix

Loan Management and Credit Bureaus Services					
Year	NPLR	INFR	LDR	LNR	SMEL
2007	9.50262	5.38801	83.26	9.50	0.85
2008	7.19359	11.5811	86.91	9.75	0.17
2009	37.2533	12.5378	84.30	6.00	0.17
2010	20.1431	13.7401	52.29	6.25	0.14
2011	5.77163	10.8261	44.77	12.00	0.16
2012	3.70522	12.2242	42.31	12.00	0.13
2013	3.39339	8.49552	37.56	12.00	0.13
2014	2.96313	8.04741	63.61	13.00	0.12
2015	4.86089	9.00943	69.58	11.00	0.10
2016	12.8151	15.6968	79.95	14.00	0.19
2017	14.8096	16.5023	72.84	14.00	0.22
2018	11.6745	12.0951	60.16	14.00	0.29
2019	6.03472	11.3964	58.73	13.50	0.71
2020	6.02452	13.246	<b>60.33</b>	11.50	<b>0.32</b>
2021	4.93379	16.9528	60.48	11.50	<b>0.38</b>
2022	4.01493	18.8472	61.70	16.50	0.36
2023	3.40019	28.9202	0.94	14.01	0.31
<b>Source: CBN Statistical Bulletin, 2023</b>					