

Effect of Risk Management on Profitability of Banks in Nigeria

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Abstract

This study assessed the effect of risk management on profitability of banks in Nigeria and suggested measures towards mitigating their effects on the banking sector in Nigeria taking a case of fourteen selected banks. The study covered a 13-year period from 2008 to 2020. The data for the study were obtained from secondary sources including the annual reports and financial statements of the selected banks and Central Bank of Nigeria (CBN) Statistical bulletin. The study used the Panel Data Regression model. The results revealed that loan loss provision was positive and significant, loan to deposit ratio was positive and insignificant, while both capital adequacy and non-performing loans were negatively insignificant to profitability. As such, commercial banks should embark upon upgrading their risk management strategies.

Keywords: Capital adequacy, Deposit to loan ratio, Loan loss provision, Non-performing loans, Profitability,

1. Introduction:

The major role of banks in any country is their ability to mobilize funds from surplus sectors to deficit ones, through lending activities. When the lending activity is followed by prompt repayment of principal and interest, motivation for further lending to existing and future customers is facilitated.

In an imperfect capital market like that of Nigeria, risk of default exists. Credit risk was identified by Basel, (2001) as the major risk affecting banks. This risk arises from poor evaluation and inadequate appraisal of credit requests of customers by banks credit officers, as well as deceit and undisclosed information by customers at the point of making request. The consequence of risk is

non-payment of principal and interest as and when due. This non-payment of loan granted after 90 days or more of maturity is known as non-performing loan, which is the greatest threat to banks' profitability and survival. (Kajola, Olabisi, Adedeji, & Babatolu, 2018). Non-performing loans hinder banks from attaining their set goals and lead to bankruptcy of such banks (Kolapo, Ayeni & Oke, 2012).

The nature of banking business contains an environment of high risk. So risky in the sense that it is the only business in which the proportion of borrowed funds is far higher than the owners' equity (Owojori, Akintoye & Adidu, 2011).

The banking business, in comparison to other types of human endeavor is

significantly exposed to risks. Banks no longer simply receive deposits and make loans; they also operate in a rapidly innovative sector with a lot of pressure mount for profit which urges them for continuous product or service development to cross-sell and up-sell to satisfy customer.

Banks management acknowledge the fact that mitigating the occurrence of the risk of non-performing loans is having a well-structured credit management strategies such as risk assessment and follow up mechanism (Pondel, 2012). In assessing financial system stability, loan-loss provisioning policy is critical; it is a key contributor for fluctuations in banks profitability and capital positions, which has a bearing on banks supply of credit to the economy.

Loan loss provision enable banks to recognize the estimated loss from a particular loan portfolio in their profit and loss account, even before the actual loss can be determined with accuracy and certainty as events unfolds.

The level of loan loss provision should be able to cover the whole spectrum of expected credit losses, if such provisions will serve as a true measure of credit risk. A well-established bank ought to have less loan loss provision and higher profitability. For assessing bank's liquidity, loan to deposit ratio is expressed as a percentage by

comparing the banks' total loans to their total deposit for the same period. If the ratio is high, it implies that the bank may not have enough liquidity to cover any unforeseen fund requirements. Conversely, if the ratio is low, it implies that the bank may not be earning as much as it should be earning. The ideal loan to deposit ratio is 80 to 90%. This implies that the bank reserves 10 to 20% for the risk of unexpected liquidity needs.

Liquidity management is critical for the success of commercial banks. Bordeleau and Graham (2010) maintained that liquidity was one of the main causes for the world financial crisis experienced in 2008.

Central bank of Nigeria guidelines on regulatory capital requirements for banks demand that they are required to maintain regulatory capital adequacy ratio of 15% with international authorization and systemically important banks (SIB), while a Capital adequacy ratio of 10% with National and Regional banks (Ofeimun & Akpotor, 2020).

Capital is a major asset of banks' strength and buffer to absorb unanticipated losses from bank operations, and in the event of problems, capital enables the bank to continue to operate in sound and viable manner (Igbinsosa & Aigbovo, 2016).

Olalekan and Adeyinka (2013) opined that the minimum ratio of capital to total risk-

weighted assets should remain at 10% as prescribed in circular BSD/11/2003 dated 4th August, 2003. The circular also stated that at least one half of a bank's capital should comprise paid-up capital and reserves, while every bank should maintain a ratio of not less than 1:10 between its adjusted capital and total credit net provisions. Consequently, banks in Nigeria are advised to maintain a higher level of capital that is commensurate with their risk profiles (Ofeimun & Akpotor, 2020).

Profitability is a key to measuring performance and stability of banks in Nigeria as profit is the key determinant of growth and employment in the medium term. Increase in profitability is a key contributor to economic progress, since profit has influence on investment and savings decisions of banks. Profit increases the cash flow position of companies and offers greater flexibility in the source of capital for investment.

Most of the banking studies have noticed that the capital ratio, loan loss provision, loan to deposit ratio, control over non-performing loans and expense control are important drivers of high profitability. (Kolapo, Ayeni & Oke, 2012)

In a study carried out by Ashby and Diacon (1998) and cited in Gerald and Mars (2000), it was discovered that the practice of risk

management in commerce stems largely from the need to avoid contractual, tortuous or statutory liability which has the capacity to dent the image of the organization. The danger of capital misallocation and imprudent risk taking has become the leading source of problem in the banking industry; this has crippled many banks, thus, there is need to identify, measure, monitor and control all inherent risk in their day to day business transactions.

Statement of Problem

The first indigenous bank in Nigeria, African Banking Corporation that was established in 1982, failed the same year partly due to undercapitalization, that is inadequacy of capital to meet its obligations as and when due. Over the years Nigerian banks have experienced varying degrees of failures with subsequent harsh effects on the financial system and stability of the economy (Ofeimun & Akpotor, 2020).

The central bank of Nigeria (CBN) as the apex regulator of the banking sector increased the minimum capital base for commercial banks to N25 billion in 2005 during the consolidation exercise, due to the fact that most of the existing eighty-nine (89) banks before 2005 did not have the capacity to compete with their peers outside the country, among other reasons. Some of the 25 banks that emerged after the exercise

started to have one problem or the other. There were debacles in Spring Bank, Wema Bank, Afribank, Bank PHB, and later Skye Bank and Diamond bank started to have serious liquidity problems. On this basis, CBN stepped in and approved their acquisitions by other stronger banks. (Ofeimun & Akpotor, 2020).

Global economic crisis and structural lapses in Nigerian stock exchange with Nigerian banks having over 65% of stock market capitalization, collapsed, causing Nigerian banks' exposure to increase non-performing loans (Abiola & Olausi, 2014).

Economic challenges confronting Nigerian banks include declining deposits, increased non-performing loans, lower income of depositors, lack of investors' confidence in banks, falling oil prices, declining stock market, undercapitalization, rising unemployment among others (Atuche, 2009).

The banking institution has been plagued by several challenges as highlighted by the (Central Bank of Nigeria's code of corporate governance for banks in Nigeria, post consolidation, January 5, 2006). Such challenges include conflict of interest between boards and managements giving rise to board squabbles, ineffective board oversight functions, fraudulent and self-serving practices among members of the

board, managements and staff overbearing influence on chairman or MD/CEO especially in family-controlled banks. In addition, the CBN code of corporate governance for banks in 2006 (www.google.com) also emphasized that weak internal controls, non-compliance with laid-down internal controls and operation procedure, poor risk management practices resulting in large quantum of non-performing credits including insider-related credits, abuses in lending, and many others were the challenges faced by banks. These have led to the declining state of the industry (Central Bank of Nigeria's code of corporate governance for banks in Nigeria, post consolidation, January 5, 2006, section 2.5 (www.google.com)).

Therefore, the following mirage of problems facing Nigerian banks such as non-performing loans, inadequate capital to meet financial obligations as and when due, too high loan to deposits ratios resulting in banks giving out all deposit received as loans, inadequate provision for loan loss, negatively influence profitability of banks (Ofeimun & Akpotor, 2020; Abiola & Olausi, 2014; Atuche, 2009; CBN Corporate governance code, 2006; Kolapo, Ayeni & Oke, 2012; Bordeleau & Graham, 2010; Igbinosa & Aigbovo, 2016).

Based on these, this study investigates the effects of risk management on the profitability of banks in Nigeria by examining the effect of loan loss provision, deposit to loan ratio, capital adequacy and non-performing loan on banks profitability in Nigeria. These variables are justifiably used based on existing theoretical literature and empirical evidence from prior studies, such as Gabriel, Victor & Innocent (2019); Ozurumba (2016) and Ugoani, (2016) all of whom have tried to examine the adverse effect of non-performing loans on banks profitability in Nigeria, using only three commercial banks. Gizaw, Kebele & Salvaraj (2015) as well examined the impact of credit risk on profitability of eight commercial banks in Ethiopia using non-performing loan, loan- loss provision, loan to total deposit and capital adequacy as proxies for risk management and return on Asset (ROA) as proxy for profitability.

2.0: Literature Review:

2.1: Conceptual Review

2.1.1 Bank's Profitability

Bank's Profitability is very crucial to shareholders and investors in particular as well as the economy in general. Maximization of shareholders wealth and enhancing the value of the firms constitute significant objective of banks and this could be achieved through efficient use of bank's available resources such as human capital,

money, machines, entrepreneurial capabilities and skills, all of which need proper and continuous appraisal and evaluation, which is done systematically to determine the attainment of the bank's objectives (Amelia, 2002).

Return on assets is used as proxy for the dependent variable, profitability, because ROA is the most sustainable measure of efficiency and also suitable in revealing how efficiently and effectively available total assets of the bank can be utilized. Profitability facilitates the function of banks as the engine of financial development in a nation (Gizaw, Kebele & Salvaraj, 2015).

2.1.2 Risk Management.

Risk Management is the process of identifying and evaluating risks as well as selecting and managing techniques to adopt for risk exposures. It is the practice of adjusting exposures for the firm's position or portfolios. It tries to stabilize variability of returns while trimming large – dominant – net exposures as well. Risk management can also be used to secure more favorable financing for inventories or pricing of securities or commodities. According to Soludo (2005), approaches to risk have apparently changed across organizations and the whole globe. This involves the recognition by many business leaders that risks are no longer mere hazards to be

avoided but they are also in many cases and constitute opportunities to be embraced

2.2. Banking Risk Characteristics

Nwankwo (1990) explained that bank management is conterminous with risk management. That is to say that bank management is nothing other than managing risks. Bank management is always trying to reduce the level of risks associated with (i) credit (default leading to non-performing loans), (ii) liquidity (leading too high loan to deposit ratio), (iii) operations, (iv) market, (v) system and (vi) interest rate and foreign exchange. These six specific kinds of risk form the core risks associated with banking and are discussed below.

- (1) **Credit Risk** Credit risk arises whenever a lender is exposed to loss from borrower, who fails to honor their debt obligations, as they have contracted, leading to non-performing loan after 90 days of default.

According to Owojori, Akintoye & Adidu (2011), available statistics from liquidated banks clearly showed that inability to collect loans and advances extended to customers and creditors was a major contributor to the distress of liquidated banks in Nigeria. When this occurred, a number of banking licenses were revoked by the Central Bank of Nigeria (CBN).

Credit Risk Management

The objectives of credit risk management is to minimize the risk and maximize bank's risk adjusted rates of return by assuming and maintaining credit exposure within the acceptable parameters. This risk can be reduced with valuable collaterals collected by the bank officials from customers at the point of request and loan appraisal, post disbursement monitoring, limiting sector exposure, inserting covenants and risk-based pricing (Ngwu, 2006).

2.3 Risk Management and Bank Profitability

Risk management is a process that identifies loss exposure faced by an organization and selects the most appropriate techniques for treating such exposures.

2.4 Credit Risk Management and Bank's Profitability

The profit function of a bank includes the size and composition of its credit portfolio. Ordinarily, loans generate revenue through interest and increase bank profits; hence, a large credit portfolio ought to imply improved profitability. However, since substandard credits are a source of heavy financial losses to a bank and have actually been held responsible for numerous bank failures, it follows that a large credit portfolio could also result in reduced bank

profitability if it mainly comprises substandard credits.

2.5 Empirical review

Idowu and Awoyemi (2014) investigated the impact of credit risk management on the profitability of seven commercial banks in Nigeria for the period 2005-2011. A panel regression model was used as an estimation technique. The results revealed that non-performing loan (a measure of credit risk) has a negative and significant influence on the profitability of Nigerian deposit money banks.

Ozurumba (2014) examined the impact of non-performing loans on the performance of some selected commercial banks in Nigeria using secondary data for three banks from 2000 to 2013 as well as using multiple regression techniques for its analysis. Findings indicated that return on asset and return on equity have an inverse relationship with non-performing loan as well as with loan loss provision respectively.

Abiola & Olausi (2014) explored the impact of credit risk management on the profitability of banks in Nigeria from 2005 – 2011. The research used financial statements of the seven selected banks and employed panel regression model for analysis. Return on Asset (ROA) and return on equity were used as indicators for profitability, while capital adequacy ratio (CAR) and non-

performing loans (NPL) were used as indicators for credit risk management. Results indicated that credit risk management has strong influence on profitability of banks in Nigeria.

Gizaw, Kebele & Salvaraj (2015) investigated the impact of credit risk on the profitability of commercial banks in Ethiopia from 2003 – 2012 using eight commercial banks. The study used non-performing loan ratio, capital adequacy ratio, loan to deposit ratio and loan loss provision ratio as indicators for credit risk and return on Asset (ROA) and return on equity (ROE) as proxies for profitability. The results showed that credit risk measures, loan loss provision and capital adequacy ratio have significant influence on the profitability of banks in Ethiopia.

Imola (2012) examined financial risk analysis for commercial banks in Romania banking industry and found out liquidity risk such as loan to deposit ratio has a negative relation with profitability, measured by return on Assets (ROA).

Kassim (2009) examined credit risk and banks' performance in Egypt and Lebanon banks in the 1990s. He found that liquidity variable is insignificant across all banks and not related to profit.

3.0 Research Method

3.1 Research Design: This study adopted descriptive research design to collect the data from 2008 to 2020 about fourteen money deposit banks.

3.2 Population: The population of the study consists of 21 Deposit Money Banks listed on the Nigerian stock exchange as at 2020.

3.3 The Sample and Sampling Technique

Sampling Filtering – The sampling technique was purposive since the banks were included in the sample if they meet the criteria for selection. These criteria were based on:

- 1) the companies were quoted on the Nigerian Stock Exchange from 2008-2020,
- 2) there was access to their annual financial reports within the period, and
- 3) newly listed and delisted banks were excluded from the study. Therefore, only banks that had all the relevant data due to continuous existence were included.

- 4) The final sample size was arrived at based on the availability of relevant data for thirteen years for all the research variables. Only 14 banks that met the criteria were used as sample for this study.

This is based on the belief that the sample is a representative data and there is no basis to think that sample selection biases will affect the results arrived at.

3.4 Data Collection The study relied mainly on secondary data obtained from the annual reports of 14 Deposit Money Banks for a period of 13 years (2008-2020) and analyzed using panel regression model.

3.5. Variable Measurement and Model Specification:

The empirical frame work for the investigation of the link between credit risk management indicators and deposit money banks' profitability based on existing empirical evidence from prior studies, is given as follows:

VARIABLES	NATURE	MEASUREMENT	SOURCE/S
Return on Asset (ROA)	Dependent Variable	Net Income/ Total Asset	Gizaw, Kebele & Salvaraj (2015)
Non-performing Loan Ratio	Independent Variable	Non-Performing loans/ Total Loans	Kargi, (2011); Kajola et al., 2018
Loan Loss Provision	Independent Variable	Loan Loss Provision/ Classified Assets	Kolapo, Ayeni, & Oke (2012)
Capital Adequacy Ratio	Independent Variable	Total equity/ Total Assets	Berger (1995)' Ngo, (2006).
Loan to Deposit RATIO	Independent Variable	Total loans/Total deposits	Kargi, (2011); Kajola et al., 2018

Source: Author's Compilation, 2022.

Model Specification

The model for the study is represented in the following regression equation:

$$ROA_{it} = \beta_0 + \beta_1 LLP_{it} + \beta_2 LTD_{it} + \beta_3 CA_{it} + \beta_4 NPL_{it} + u$$

Where:

ROA is a dependent variable which represents bank profitability; ROA is a better measure to determine the profitability of a company, as higher ROA means more asset efficiency. Some of the independent variables will vary over time and cross sections, whereas others will only vary across sections.

The Independent variables are:

LLP = Loan loss provision (Measurement and definition are as stated in above table)

LTD = Loan to total Deposit
,

CA = Capital Adequacy

NPL = Non performing loan
,

U = Error term

β_0 = is the intercept (constant term)

4.0: Presentation and Analysis Of Results

4.1: Introduction

We conducted fixed and random effect panel data regression, because the data collected have time and cross-sectional attributes and the Hausman test was also conducted to select between fixed and random effect models.

4.2.0 The Panel Data Regression Results

Panel Regression Analysis:

The econometric techniques adopted in this study were the panel fixed and Random effect regression. The rationale for their usage is based on the following justifications:

The data collected have time and cross-sectional attributes that gives room for studying risk management factors over time (time series) as well as across the sampled banks (cross-section).

Panel data analysis normally involved two main models, and these are: fixed effect and random effect. To compare between fixed effect and random effect, the Hausman test is used. In this study, the random effect was used in the analysis, because the Hausman result is not significant, as such, random effect results are preferable to fixed effect results. Thus, the null hypotheses are therefore accepted.

4.2.1 ROA Model

The Return on assets model (ROA) panel data regression results examined how the risk management indicators affect the profitability of banks' and their ability to generate statistically significant positive return on assets (ROA). The results obtained are presented in Table 1.

Table 1: ROA panel regression results

	Expected Sign	ROA (Fixed Effect)	ROA (Random Effect)
C		0.733045 (0.315995) [0.7527]	0.782864 (0.418793) [0.6761]
LLPA	-	0.849369 (15.53536) [0.000]	0.869129 (16.42591) [0.0000]
LTD	+	0.002839 0.016323 0.9870	0.081649 0.491276 0.6241
CA	+	-0.019941 (-0.586838)) 0.5586	-0.020385 (-0.719640) 0.4731
NPLA	-	0.001482 0.032174 0.9744	-0.028121 (-0.696738) 0.4873
R-Squared		0.790713	0.700436
Adj-R-Squared		0.735749	0.687954
F-Statistic		14.38597 +0.0	56.1165 (0.00)
Hausman Test		-	5.33 (0.3774)
DW		2.982111	2.655467

Note: (1) Parentheses () are t-statistic while bracket [] are p-values

In testing the cause- effect relationship between the dependent and independent variables, the widely used panel data regression models (fixed effect and random effect panel data estimation technique) was estimated. The differences in these models are based on the assumption made about the explanatory variables and cross sectional error term.

As presented in Table 1 above, the results revealed difference in their coefficients magnitude signs but did not necessarily change the number of insignificant variables. In selecting from the two panel data models, the Hausman test was conducted and the result showed that we accept Ho (adopt random effect model and reject fixed effect model). 5.33 (0.3774), more than .05, not significant implied that random results are preferable. This means

that we should adopt the random effect panel regression results, since the chi-square probability is greater than 5%. In Table 1, it was observed that the random effect results showed that the R-squared and adjusted R-squared values were (0.790713) and (0.735748). This indicates that all the independent variables jointly explain about 79% of the systematic variations in the performance of return on assets (ROA) across the 14 quoted banks sampled in this study with over the 13 years period (2008-2020). This means that any model that includes the various risk management indicators may be appropriate in explaining bank profitability. The F-statistics (56.11650) and its p-value (0.0) show that the ROA panel random regression model generally significant at 1% and 5% levels. The Durbin-watson statistics (DW) of 2.65 also confirms the validity of the model and indicates the model is free from autocorrelation problems.

4.3 Hypothesis Testing and Discussion of Findings

4.3.1 Hypothesis One

Ho1: That there is no significant relationship between loan loss provision to total assets and bank profitability Following the above, it should be noted that random effect panel regression models provided the following results; loan loss provision to total assets (**LLPA**) based on the slope

coefficient (0.8691) have a positive impact on banks return on assets (ROA) a measure of profitability and was statistically significant at 5 percent, since the probability value of (0.000) is less than the significant level at 5%. This result rejects null hypothesis (Ho) which suggests that there is no significant relationship between loan loss provision to total assets and bank profitability and accept the alternative hypothesis H1 that there is positive and significant relationship between loan loss provision and deposit money banks' profitability. Therefore, we can conclude that loan loss provision to total assets has a positive and significant relationship with Nigeria banks profitability. This result agrees with the work of Gizaw, Kabele and Salvaraj (2015); Kajola et al., (2018) but contradicts the work of Kolapo, Ayeni and Oke (2012) and Ozuerumba, (2014) that reported an insignificant relationship between loan loss provision and banks' profitability. This result indicates that commercial banks with higher loan loss provision reserves will be able to give more loans and be able to contain losses that may result therefrom.

4.3.2 Hypothesis Two

Ho2: There is no relationship between loan to deposit ratio and profitability of banks in Nigeria

Loan to deposit ratio based on the slope coefficient 0.081649 has a positive and insignificant relationship with profitability since the probability value of 0.6241 (62.41%) is greater than 5 level of significance. This result accepts the null hypothesis (Ho), which suggests that there is no significant relationship between loan to deposit ratio and profitability of banks in Nigeria. Therefore, we can conclude that loan to deposit ratio has a positive and insignificant relationship with Nigeria deposit money banks' profitability.

This result agrees with the work of Imola (2012), and Kassim (2009) that reported insignificant relationship between loan to deposit ratio and banks' profitability but contradicts the work Gizaw, Kabele & Salvaraj (2015); and Kajola et al., (2018). This result indicates that commercial banks with lower loan to deposit ratio will be able to cover loan losses and withdrawals by its customers.

4.3.3 Hypothesis Three

Ho3: There is no relationship between capital adequacy and profitability of Banks in Nigeria

Capital adequacy based on the slope coefficient of -0.020385 has a negative and insignificant relationship with profitability since the probability value of 0.4731 (47.31%) is greater than 5% level of

significance. This result accepts null hypothesis (Ho), which suggests that there is no significant relationship between capital adequacy and profitability of banks in Nigeria.

This result contradicts the work of Abiola and Olausi (2014) and Gizaw, Kabele and Salvaraj (2015) that reported positive and significant relationship of capital adequacy with profitability of banks. However, this result is corroborated by the work of Ngo (2006) that found out no satisfying significant relationship between capital adequacy and banks profitability.

4.3.4 Hypothesis Four

Ho4: There is no relationship between non-performing loan ratio to total loan and profitability of Banks in Nigeria

Non-performing loans based on the slope coefficient- 0.028121 have a negative and insignificant relationship with profitability, since the probability value of 0.4873 (48.73%) is greater than 5% level of significance. This result accepts the null hypothesis (Ho) which suggests that there is no significant relationship between non-performing loan and profitability of banks in Nigeria. This result is in line with the works of Adebisi and Matthew (2015); Kolapo, et al. (2012) and Ozurumba, (2014) who reported that non-performing loans have no significant relationship with return on assets.

This simply means that the level of firms' assets was not affected by the level of non-performing loans. This result however, contradicts the works of Gizaw, Kabele and Salvaraj (2015); Kajola et al. (2018); and Idowu and Awoyemi, (2014) who reported negative and significant relationship between non-performing loan and profitability.

5.0 Conclusion and Recommendations

The general objective of the study was to establish the effect of risk management on the deposit money banks' profitability and its specific objectives were to examine the relationship between profitability and the loan loss provision, loan to deposit ratio, capital adequacy and non-performing loans in Nigeria,. The findings indicated that the sampled banks' loan loss provision has a positive and significant relationship with Nigeria banks' profitability, their loan to deposit ratio has insignificant relationship with profitability, their capital adequacy were negative and insignificant to profitability, they have non-performing loans that are insignificant and negatively correlated to profitability.

Commercial banks are thus, advised to universally embark upon an upgrading of their risk management and control systems by establishing sound and competent strategies. These methods would improve

risk management, increase capital for sustainable liquidity and provide sound training on risk management staff on new developments in risk management units which are run by best practices in risk management, such as the institution of a clear loan policy and the adherence to underwriting authority and limits. If given, such training will enable them to identify, measure, monitor and control all inherent risk in their day to day business transactions.

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Appendix

Method: Panel Least Squares

Date: 02/12/21 Time: 04:50

Sample: 2008 2020

Periods included: 13

Cross-sections included: 14

Total panel (balanced) observations: 182

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.733045	2.319796	0.315995	0.7527
LLPA	0.849369	0.054673	15.53536	0.0000
LTD	0.002839	0.173940	0.016323	0.9870
CA	-0.019941	0.033980	-0.586838	0.5586
NPLA	0.001482	0.046052	0.032174	0.9744

Effects Specification

Cross-section fixed (dummy variables)

Period fixed (dummy variables)

R-squared	0.790713	Mean dependent var	0.949206
Adjusted R-squared	0.735749	S.D. dependent var	4.061594
S.E. of regression	2.087876	Akaike info criterion	4.497581
Sum squared resid	431.5635	Schwarz criterion	5.105356
Log likelihood	-256.3476	Hannan-Quinn criter.	4.744501
F-statistic	14.38597	Durbin-Watson stat	2.982111
Prob(F-statistic)	0.000000		