Asset Quality and Profitability of Commercial Banks: Evidence from Nigeria

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Abstract
This study examined the relationship between asset quality and the profitability of the fifteen (15) quoted commercial banks in Nigeria from 1980 – 2013. The objective was to investigate the relationship between CAMELS criteria for asset quality and the profitability performance of Nigerian commercial banks. Secondary data were sourced from annual reports of the quoted commercial banks. Return on Investment (ROI) was modeled as the function of percentage of non-performing loans to Total Loans (NPL/TL), percentage of Non-performing Loans to Total Customers' Deposit (NPL//TCD), percentage of Loan Loss Provision to Total Loans (LLP/TL) and percentage of Loan Loss Provision to Total Asset (LLP/TA). Multiple regressions with econometric view statistical package were used as data analysis method. The Ordinary Least Square properties of Augmented Dickey Fuller Test, Co-integration and Granger Causality test were employed to determine the short and long –run relationship between the dependent and the independent variables. Findings from the regression result proved that percentage of non-performing loans to Total Loans and percentage of non-performing Loans to Total Customers' Deposit have positive relationship with Return on Investment while percentage of Loan Loss Provision to Total Loans and percentage of Loan Loss Provision to Total Asset have negative relationship with Return on Investment of the commercial banks. The Unit Root test shows stationarity of the variables in order of 1(1), the co-integration reveal long run relationship between the variables while the granger causality reveals no causal relationship among the variables. The model summary proved that the independent variables can explain 65.5% variation on the dependent variables while the F-statistics of 12.508477 and the probability of 0.000008 proved that the model is significant. The study concludes that there is significant relationship between asset quality and the profitability of the commercial banks. It recommends that bank lending environment should be well examined before and after credit and the regulatory authorities should ensure sound bank lending environment to avoid the incidence of non-performing loans to enhance the profitability of commercial banks in Nigeria.
Keywords: Asset Quality, Commercial banks, Profitability

1.   INTRODUCTION
Banks are financial institution whose business involves the management of assets and liabilities. Unlike other business organizations such as the manufacturing firms that stock tangible goods as inventory, the stock of the banking industry is money; this means that banks trade on money. By its nature banks face number of challenges within internal and the external business environment, the nucleus of banks is known with risks which include credit risk, market risk, interest rate risk, default risk, operational risk, exchange rate risk (Aruwa & Musa, 2014). Basically, banks operate with three basic objectives which are profitability, growth of assets and customer base.

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.

In Nigeria, Banks and Other Financial Institution Act (BOFIA) 1990 as amended regulates banks operations and restrict bank lending to avoid the issue of non-performing loans and ensure assets quality, for instance section 18 prohibit any personal interest in any loans and advance of bank staff without declaration of the nature of interest while section 20 restrict loans and advance to the rate 20 percent of shareholders fund to a single obligor. This is complemented by the provisions of BASEL I, II and III. The challenges of Nigerian banks in the past have been the mismatch of assets and liabilities. Banking sector crisis over the years has been blamed on the poor quality of assets. Central Bank of Nigeria examination team in 2009 reveals that four years after the consolidation, Nigerian commercial banks has non-performing loans greater than the capital base of the

banks, this led to the injection of ₦620 billion in the banking sector (Akani & Lucky, 2014) and the establishment of Assets Management Cooperation of Nigeria (AMCON), the above question the relevance of capital adequacy rather than management and assets quality of the banks. Only few studies of citable significance have dealt on the problem of asset quality and the profitability of Nigeria commercial banks using the CAMELS specification for measuring asset quality which this study intend to examine. The rest part of this paper are as follows; section two discuses empirical studies on effect of the effect of asset quality on profitability of commercial banks, section three discusses the methods adopted in the study, section four presents and analyze results while section five concludes and make recommendations from the findings .

2.   LITERATURE REVIEW
Micro and Macro Prudential Determinants of Assets Quality in Commercial Banks
Empirical studies over the years have shown that asset quality of commercial banks is a linear function of micro and macro prudential environment. Beck, Demirguc-Kunt, and Levine (2005) examined the inter-linkage between bank concentration and banking system fragility where they have established that higher bank concentration is associated with lower profitability. Lis, *et.al.* (2000) have found that Gross Domestic Product growth, bank size and Capital had negative effect on Non-Performing Assets while Loan growth, collateral, net interest margin, debt-equity, market power and regulation regime had a positive impact on Non-Performing Assets. Babihuga (2007) analyses the relationship between selected macroeconomic and Financial Soundness Indicators (FSI) for 96 countries for the period 1998 -2005. The determinants of asset quality were model following an approach adopted by Demirguc Kunt and Huizinga (1999), using a parsimonious model with the share of non-performing loans in total loans as a function of macroeconomic variables. They find a collapse in business credit worthiness and the subsequent deterioration in the value of collateral are the main mechanism of a macroeconomic shock to bank's portfolio. Deposit insurance on Non-performing Loans (NPLs). They find that unlimited Insurance scheme create moral hazard incentives that encourage banks to take excessive risk and it also caused a remarkable increase of Nonperforming Loans (NPLs).

Resti (2002) examined corporate bond recovery rate abducing to bond default rate, macroeconomic variables such as Gross Domestic Product and growth rate, amount of bonds outstanding, amount of default, return on default bonds, and stock return wherein it was established that default rate, amount of bonds, default bonds, and economic recession had negative effect, while the Gross Domestic Product growth rate, and stock return had positive effect on corporate recovery rate. Lis, *et.al.,*(2000) used a simultaneous equation model in which they explained bank loan losses in Spain using a host of indicators, which included Gross Domestic Product growth rate, debt-equity ratios of firms, regulation regime, loan growth, bank branch growth rates, bank size, collateral loans, net interest margin, capital-asset ratio (CAR) and market power of default companies. They found that Gross Domestic Product growth, bank size, and CAR, had negative effect while loan growth, collateral, net-interest margin, debt equity, market power, regulation regime and lagged dependent variable had positive effect on problem loans.

Sergio (1996) in a study of non-performing loans in Italy found evidence that, an increase in the riskiness of loan assets is rooted in a bank's lending policy adducing to relatively unselective and inadequate assessment of sectoral prospects. Interestingly, this study refuted that business cycle could be a primary reason for banks' Non-Performing Assets. Das and Ghosh (2003) established relationship between Non Performing Loans of India's public sector banks in terms of various indicators such as; asset size, credit growth and macroeconomic condition and operating efficiency indicators. Bercoff, Giovanniz and Grimardx (2002) 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.

Chen *et al.* (1998) study the relationship between the risks and the ownership structure, and it appears that a negative correlation exists between the managers' shareholdings and the risks faced by the financial institution. That means that if the managers' shareholding percentage increases, the financial institution will reduce its owns risk behavior. Berger and De Young (1995) mention that a management team with poor operating capability is unable to correctly appraise the value of collateral, which means that it is difficult for it to follow up on its supervision of the borrower, its poor credit-rating technology will result in management being unable to control and supervise the operating expenses efficiently, thus leading to a significant increase in Non-Performing Loans.

Bodla and Verma (2006) have emphasized that financial sector reforms have brought in greater competition among the banks and have brought their profitability under pressure. Singh (2005) argues that

globalization of operations and development of new technologies are taking place at a rapid pace and this has led to the increase in resource productivity, increasing level of deposits, credits and profitability and decrease in Non-Performing Assets.

Rajaraman and Vasishstha (2002) in their empirical study have proved that significant bivariate relationship exists between Non-Performing Assets of the public sector banks and the inefficiency problems. Das (1999) has contrasted the different efficiency measures of public sector banks by applying data envelopment analysis model and concluded that the level of Non-Performing Assets has significant negative relationship with efficiency parameters. Kwan and Eisenbis (1997) have examined the relationship between problem loans and bank efficiency by employing Granger-causality technique and found that high level of problem loans cause banks to increase spending on monitoring working out and or selling off these loans and possibly become more diligent in administering the portion of their existing loan portfolio that is currently performing. Ranjan and Dhal (2003) attempted an empirical analysis of the Non-Performing Assets of Public Sector banks in India and probed the response of Non-Performing Assets to terms of credit, bank size, and macroeconomic condition and found that terms of credit have significant effect on the banks' Non Performing Assets in the presence of bank size and macroeconomic shocks. Kargi (2011) found in a study of Nigeria banks from 2004 to 2008 that there is a significant relationship between banks performance and credit risk management. He found that loans and advances and non performing loans are major variables that determine asset quality of a bank.

Yixin Hou (2005) used Regression model and find that non – performing loans have non linear negative effect on banks' lending behavior, when banks have non performing loans lower than the threshold, they are less regressive in increasing lending. However when non performing loan rates are under the threshold level, non performing loans have positive impacts on banks' lending behaviour with a statically significant positive coefficient. Ezeoha (2011) used panel data from 19 out of a total 25 banks operating in Nigeria; where he uses a multivariate constant coefficient regression model to test weather consolidation heighten incidence of non-performing credit in a fragile banking environment. He find that there is deterioration in asset quality and the deterioration in asset quality and increased credit crisis between 2004 and 2008 was exacerbated by the viability of bank to optimally use their huge asset capacity to enhance their earnings profiles. This implies that excess liquidity syndrome and relatively huge capital bases fueled reckless lending by banks portfolio ironically helped to mitigate the level of nonperforming loans within the studied period.

Hu, Li and Chiu (2004) examined how ownership structure affects Non-performing Loans (NPLs). Their findings revealed that an increase in the governments' shareholding facilitates political lobbying. On the other hand, private shareholding induces more Non -performing Loans (NPLs). Kolapo, Ayeni and Ojo (2012) using panel data regression for the period 2000 to 2010 found that the effect of credit risk on bank's performance measured by the Return on Asset (ROA) of banks is cross sectional invariant. They concluded that the nature and managerial pattern of individual firms do not determine the impact. Hosna, Manzura and Juanjuan (2009) reemphasized the effect of credit risk management on profitability level of banks. They concluded that higher capital requirement contributes positively to bank's profitability. Muhammed, Shahid, Munir and Ahad (2012) used descriptive, correlation and regression techniques to study whether credit risk affect banks performance in Nigeria from 2004 to 2008. They also found that credit risk management has a significant impact on profitability of Nigerian banks.

EMPIRICAL REVIEW

Musyoki and Kadubo (2011) also found that credit risk management is an important predictor of bank's financial performance; they concluded that banks success depends on credit risk management. Onaolapo (2012) while analyzing the credit risk management efficiency in Nigerian commercial banking sector from 2004 through 2009 provides some further insight into credit risk as profit enhancing mechanism. They used regression analysis and found rather an interesting result that there is a minimal causation between deposit exposure and bank's performance. Kithinji (2010) analyzed the effect of credit risk management (measured by the ratio of loans and advances on total assets and the ratio of non-performing loans to total loans and advances on return on total asset in Kenyan banks between 2004 to 2008). The study found that the bulk of the profits of commercial banks are not influenced by the amount of credit and non performing loans. The implication is that other variables apart from credit and non performing loans impact on banks' profit.

Abata (2014) examined assets quality and bank performance of six largest banks quoted in Nigeria stock exchange using secondary data sourced from the annual reports of the commercial banks for fifteen years (1999 – 2013). The study adopted the use of ratios as a measure of bank performance and asset quality since it is a verifiable means for gauging the firms level activities while the data were analyzed using the Pearson correlation and regression tool of the SPSS 17.0. The findings revealed that assets quality has a statistically relationship and influence on bank performance. Muhammend, Shahid, Munir and Ahad (2012) examined the relationship between credit risk and performance of Nigerian Banks. The study used descriptive, correlation and regression management has a significant impact on the profitability of the banking industry. Beahene, Daseh and

Agyu (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. Fredrick (2010) demonstrated that credit risk management has strong impact on bank's financial performance in Kenya. Jackson (2011) used CAMEL indicators as independent variables and Return on Equity as proxy for bank performance. He found that the variables impact on the financial performance of the commercial banks. None of the above findings really captured the CAMELS criteria for asset quality of commercial banks which this study intends to examine.

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.

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. The result further support the hypotheses that the higher the quality of the loan processing activities before loan approval, the lower the non-valued-added activities that is required to process problematic loans, and thus the higher the banking operating performance will be.

3.   RESEARCH METHODS

The study made use of secondary data sourced from the Annual Reports of the 15 quoted commercial banks in the Nigerian Stock Exchange over the period covered in this study. The estimation techniques used to test the relationship between the variables are the Augmented Dickey Fuller Unit Root Test, Johansen co-integration and causality test. The time series data was processed with E-view statistical package, the dependent variable is profitability measure of Return on Investment while the independent variables are CAMELS indicators for Asset Quality.

MODEL SPECIFICATION

The model specified in this study is based empirical studies on the effect of assets quality on the profitability of commercial banks.

$$ROI = f(NPL/TL, NPL/TCD, LLP/TL, LLP/TA) \dots\dots\dots\dots\dots\dots(1)$$

Transforming equation 1 above to econometrics model we have:

$$ROI = \beta_0 + \beta_1 NPL/TL, \beta_2 NPL/TCD, \beta_3 LLP/TL, \beta_4 LLP/TA + \mu \dots\dots (2)$$

Where:

ROI	=	Return on Investment of the 15 quoted commercial banks within the period of study.
NPL/TL	=	Percentage of Non Performing Loans to Total Loans
NPL/TC	=	Percentage of Non Performing Loans to Total Customer Deposits
LLP/TL	=	Percentage of Loans Loss Provision to Total Loans
LLP/TL	=	Percentage of Loans Loss Provision to Total Assets
μ	=	Error Term
β_0	=	Regression Intercept
$\beta_1 - \beta_4$	=	Coefficient of the Independent Variables to the Dependent Variable

Stationarity Test

Dickey and Fuller looked at the distribution of this kind of test statistic and found that OLS estimates are biased down (towards stationary) and OLS standard errors. Therefore, the study used the Augmented Dickey Fuller (ADF) test specified in Gujarati (2004) as follows.

$$\Delta y_t = \beta_1 + \beta_2 + \delta y_{t-1} + \alpha i \sum_{i-1}^{m} \Delta y_{t-1} + Et \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 3$$

Where:

Δy_t = change time t

Δy_{t-1} = the lagged value of the dependent variables

Σ_t = White noise error term

If in the above δ =0, then we conclude that there is a unit root. Otherwise there is no unit root, meaning that it is stationary. The choice of lag will be determined by Akaike information criteria.

Cointegration Test

To search for possible long run relationship amongst the variables, we employ the Johansen and Juselius (1990) approach as

$$\lambda_{max} = -TIn(1 - \lambda_{r+1}) \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots 4$$

It tests the null hypothesis of r Cointegrating Vectors against the alternative hypothesis of r + 1 Cointegration vectors.

Granger Causality

In case we do not find any evidence for Cointegration among the variables, the specification of the Granger causality will be a Vector Autoregression (VAR) in the first difference form. However, if will find evidence of Cointegration, there is the need to augment the Granger-type causality test model with a one period lagged error term. This is a crucial step because as noted by Engel and Granger (1987).

$$Y_t = \alpha_o + \sum_{i=1}^{n} \alpha_1^y Y_{t-1} \sum_{i=1}^{n} X_{a1} X\mu \dots\dots\dots\dots\dots\dots\dots\dots\dots 5$$

and

$$X_t = \beta_o + \sum_{i=1}^{n} \beta_1^y Y_{t-1} \sum_{i=1}^{n} X_{\beta1} XY_t \dots\dots\dots\dots\dots\dots\dots 6$$

4.   RESULTS AND DISCUSSIONS

The following results reveal the relationship between the dependent and the independent variables in this study as specified in the regression models.

(i)   Regression Result

Dependent Variable: ROI
Method: Least Squares
Date: 04/19/15   Time: 07:22
Sample: 1980 2013
Included observations: 34

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1237.131	503.7798	2.455698	0.0203
NPL_TL	0.545216	0.547903	0.995096	0.3279
NPL_TCD	0.026886	0.464825	0.057840	0.9543
LLP_TL	-0.643442	0.781645	-0.823190	0.4171
LLP_TA	-0.421863	0.576871	-0.731296	0.4705

R-squared	0.655380	Mean dependent var	594.4832
Adjusted R-squared	0.633535	S.D. dependent var	856.3951
S.E. of regression	883.1061	Akaike info criterion	16.53982
Sum squared resid	22616414	Schwarz criterion	16.76429
Log likelihood	-276.1770	Hannan-Quinn criter.	16.61637
F-statistic	12.508477	Durbin-Watson stat	1.673796
Prob(F-statistic)	0.000008		

From the regression results above, the coefficient of determination (R^2) proved that 65.5% and 63.3% variation in Return on Investment of the quoted commercial banks can be explained by variation in the independent variables in the model. The F-statistics of 12.508477 and the probability of 0.000008 proved the significant of the model and the Durbin Watson statistic of 1.673796 falls between 1.00 and 2.00; this means the presence of positive serial autocorrelation.

However, the β coefficient of the variables proved that non- performing loans to total loans and non performing loans to total customers deposit have positive effect on Return on Investment by the coefficient of 0.54521.6NPL/TC and 0.026886NPL/TC, while loans less provision to total loans and loan loss provision to total assets have negative effect on Return on Investment with the coefficient of -0.643442LLP/TL and -0.421863LLP/TA. The probability values and T-statistics show that the independent variables are statistically not significant. The positive and insignificant effect of the variables can be traced to the effect of bank management and the regulatory authorities for effective assets management in the banking industry, for instance the introduction of prudential guideline for licensed banks in 1991 and risk management in commercial banks.

(ii)   Stationarity Test

Variables	ADF Statistics	Critical Value 1%	5%	10%	Prob.	Order of Integration
ROI	-7.130811	-3.653730	-2.957110	-2.617434	0.0002	1(1)
NPL/TL	-5.889542	-3.653730	-2.957110	-2.617434	0.0000	1(1)
NPL/TCD	-10.71163	-3.653730	-2.957110	-2.617434	0.0000	1(1)
LLP/TL	-6.005536	-3.653730	-2.957110	-2.617434	0.0000	1(1)
LLP/TA	-13.31082	-3.653730	-2.957110	-2.617434	0.0000	1(1)

Source: Computed from E-view 7.0

The results of the stationarity statistics revealed that the ADF statistics is greater than the Mackinnon critical value at 1%, 5% and 10%, this means the variables are stationary in the order of 1(1) and the probability values are less than 0.05 critical value at 5%, this indicate the significant of the variables and the rejection of null hypotheses.

(iii)   Johansen Co-integration Test

Date: 04/19/15   Time: 07:44
Sample (adjusted): 1982 2013
Included observations: 32 after adjustments
Trend assumption: Linear deterministic trend
Series: ROI NPL NPL_TD NPL_TA NPL_TL
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.714342	96.27854	69.81889	0.0001
At most 1 *	0.534626	56.18379	47.85613	0.0068
At most 2 *	0.364649	31.70651	29.79707	0.0298
At most 3 *	0.289803	17.19203	15.49471	0.0275
At most 4 *	0.177196	6.241203	3.841466	0.0125

Trace test indicates 5 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 co-integration test proved at least four cointegrating equations. This implies that presence of long-run relationship between the dependent and the independent variables. The probability coefficients of the variables are less than the critical value of 0.05; this signifies the rejection of null hypotheses.

(iv) NORMALIZED COINTEGRATION EQUATION

VARIABLES	COEFFICIENT	STD	RELATIONSHIP (TYPE)	REMARK
ROI	0.000313		Positive	Expected
NPL/TC	98.43289	14.3090	Negative	Not Expected
NPL/TLD	-17.64537	9.87832	Positive	Expected
LLP/TL	102.0630	19.6694	Positive	Expected
LLP/TA	39.08164	13.3195	Positive	Expected

Source: Computed from E-view 7.0

Results from the normalized cointegration test proved that all the independent variables except non-performing loans to customers' deposits have positive long run effect on the dependent variable.

(v) Granger Causality Test

Pairwise Granger Causality Tests
Date: 04/19/15 Time: 07:41
Sample: 1980 2013
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
NPL_TL does not Granger Cause ROI	32	0.07756	0.9256
ROI does not Granger Cause NPL_TL		0.88264	0.4253
NPL_TCD does not Granger Cause ROI	32	0.19998	0.8200
ROI does not Granger Cause NPL_TCD		0.23271	0.7940
LLP_TL does not Granger Cause ROI	32	0.26016	0.7728
ROI does not Granger Cause LLP_TL		0.00748	0.9925
LLP_TA does not Granger Cause ROI	32	0.15897	0.8538
ROI does not Granger Cause LLP_TA		0.36870	0.6951

The results of the granger causality presented above proved no casual relationship that exists among the variables. The probability values of the variables are greater than 0.05 critical values. This implies the rejection of the alternate hypotheses.

5. CONCLUSION AND RECOMMENDATIONS

This study was motivated to examine the effect of Asset Quality on the profitability of Nigerian commercial banks. The time series data was sourced from the annual financial statement of the commercial banks within the period covered in this study. The variables in the study were aggregated in annual basis. The model summary found that 65.5% and 63.3% variation on Return on Investment of the commercial banks can be traced to the independent variables. The F-statistics of 12.508477 and the probability of 0.000008 proved the significant of the model. The study concludes that there is significant relationship between Assets quality and the profitability of commercial banks in Nigeria.

From the findings, the following recommendations were drawn:
1. Banks should comply with banking rules and regulations to avoid the increasing incidence of non-performing loans and the regulatory authorities should regularly access the lending behavior of the banking industry.
2. The bank lending environment should well be examined before and after credit and the regulatory authorities should put in place monetary and macroeconomic variables that can affect negatively the credit function of the commercial banks.
3. The credit policies of the commercial banks should be integrated with the profitability objectives of the commercial banks and sound credit culture should be introduced.
4. Credit management should be viewed as part of a co-ordinating group effort made by all department involved with customers to minimize bad debtors that affects negatively bank profit.

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