Impact of Credit Risk Management on Banks Performance: A Case Study in Pakistan Banks

Syed Muhammad Hamza

Banking and finance department, GC university Faisalabad

Abstract

This study captured the impact of credit risk management on performance of commercial banks in Pakistan. A fundamental research proposal was accepted in this study, and this was facilitated by the use of secondary data which was obtained from the SBP publications on banking sector survey, official websites and KSE. The pooled regression has been adopted to determine the impact of credit risk management on two performance methods. The findings revealed the fact that credit risk management is inversely associated with bank performance. For return on asset (ROA) analysis revealed that capital adequacy ratio (CAR), Loan loss provision ratio (LLPR), liquidity ratio (LR) and Non-performing loan ratio (NPLR) variables have significant impact on return on assets (ROA). The Loan loss provision ratio (LLPR), liquidity ratio (LR) and Non-performing loan ratio (NPLR) have negative while the capital adequacy ratio (CAR), loan and advances (LAR), and SIZE have positive impact on the return on assets.In relation to return on equity , the CAR, LAR and LLPR variables have significant impact on ROE. In this model the LLPR, NPLR and LR variables have negative and CAR, LAR and SIZE variables have positive impact on the dependent variable.

Keywords: credit risk management, financial performance, commercial banks.

Introduction

Commercial banks are of essential consideration and importance because they play a dominant role to accelerate the economic activities and growth in any country. Barth, Caprio and Levine (2000) a banking system not functioning well hinders the economic growth, aggravate poverty as well as up swells the odds of negative shocks for the entire economy while the well-functioning ones outpace the economic growth which ultimately eradicate the roots of poverty. Being financial intermediary their role in the economy is just like blood arteries in the body of human beings.

No one can deny from the role being played by the banks in the economy and the importance of services they render. Especially the services rendered and functions performed for the business world by the commercial banks are dominant and of paramount importance. Business world largely depends on banks to fulfill their running finance requirements as well as the payment or receiving the amount of transactions or to make up the shortage of funds for the completion of transaction or performing any other business operation.

A person or company can run business when he has enough capital to invest but what will happen when one has nothing to invest or shortage of funds? It's the time when banks facilitate through credit provision because the commercial banks deals in the business of accepting deposits and provision of money to the people or sectors who have thirst for it. At this stage bank provides them credit to maintain the proper functionality of their business.

A question developed by Kashyap, Rajan and Stein (2002) related to response of the people with this scenario a lot "Has your firm ever required financing for seasonal or unexpected short term credit needs? If so, to what source does the firm first look for financing these needs?" more than 70% of the respondents replied a bank as the basic means to finance such types of needs of the firm.

Now it has been clearer that the banks are essential and are of paramount importance in credit provisioning to the investors. Richard, Chijoriga, Kaijage, Peterson and Bohman (2008) credit facilitation has been and still is the backbone of commercial banks and specifically in the economies who are in transition or developing, the former statement is more true because the capital markets in such countries are not well organized and developed.

About credit creation and credit facilitation, Boahene, Dasah and Agyei (2012) have also supported the views that have been presented formerly, credit creation remains the primary objective and business of every bank in the world because income earned by the banks through interests charged on loans and advances formulate a substantial part of assets of the banks. Some similar words have been described by Kargi (2011) in support of the view that the credit facilitation is the major income generation source for the banks.

Review of literature

This section deals with the prior studies conducted regarding credit risk management and its impact on the performance of organization or about some of the variables used as proxy for credit risk. Author has included the studies either that is regarding the credit risk management or about a single variable of credit risk to get a true picture of the past result so that an expectation and theory can be made regarding the results of this research.

Njanike (2009) stated the poor credit risk management as the major reason behind banking crisis during 2003-2004. Hosna, Manzura and Juanjuan (2009) recent global financial crisis have made this clear that the parameters and practices adopted by the financial institutions in regard of risk management are not adequate enough to meet the requirements of contemporary and complex financial system. Achou and Tenguh (2008) for the long run survival and sustainability of financial institutions such as banks, to manage the credit risk adequately are critical. Musyoki and Kadubo (2012) management of credit risk is of paramount importance for banks because it's an integral part of loan facilitation. Credit risk management maintains the credit risk exposure and thus enhances the risk adjusted rate of return of banks.

The review of related studies is not presented in chronological order but it has been arranged according to the variables addressed in the studies. First of all the studies which have addressed the nonperforming loans are presented soon after that the studies regarding loan and advances ratio (LAR) have been presented.After explaining the literature about NPLs and LA (loan and advances) the literature about capital adequacy and its impact on performance has been explained then the studies about loan loss provision has been written. Afterward the studies regarding the liquidity ratio and its association with bank performance are presented. At the end, the literature reviewed about the bank size and its relative impact on firm performance has been explained in the literature.

Prior studies (Nawaz et al., 2012; Musyoki & Kadubo, 2012; Poudel, 2012) have suggested the NPLs ratio and LA ratio as the variables of paramount importance and of substantial affects to assess the credit risk and asset quality of any bank. The level of NPLs defines the quality of assets and shows the riskiness of any bank regarding its credits disbursed to the counterparty. Here are some studies that have addressed this issue and resulting consequences of credit risk on the performance of banks.

Achou and Tenguh (2008) conducted a study to find the answer of the question that how credit risk is managed by the banks. They analyzed the 5 years (2001-2005) financial data of Qatar Central Bank. The results of regression model exposed that credit risk management and bank performance have significant relationship. Moreover, findings revealed that the ratio of NPLs/TL has significant negative association with profitability which was measured by return on assets (ROA) and return on equity (ROE).

Joseph, Edson, Manuere, Clifford, and Michael (2012) by conducting a descriptive study found the causes of NPLs. Thirty questionnaires were sent to 30 respondents of CBZ bank Ltd. whereas they found the causes of NPLs; they also revealed that the NPLs have significant negative relationship with the profitability. This negative association has indicated that higher the NPLs lower the profitability and in severe case it can lead the bank toward demise. Badar and Javid (2013) NPLs are an epidemic disease that severely damages the two major parts of the body of banks. The major components affected by the NPLs are liquidity and profitability. Increasing trend of NPLs requires banks to maintain higher amounts of provision which ultimately causes a decrease in earnings. On the other side, mismatch between the maturities of deposits and loans arises liquidity issues for the banks which deteriorate the functioning of banks and spoils the bank image.

Musyoki and Kadubo (2012) studied the impact of credit risk management on the financial performance of banks. The sample was consists of 10 banks and the data was collected for the period of 7 years (2000-2006). The parameters used for credit risk management were default rate, bad debts cost and cost per loan asset while the profitability was measured by ROA. Descriptive, correlation and regression results showed that all above mentioned parameters have statistically significant and negative impact on financial performance of banks. Further results showed that the default rate (NPLs/TL) is the major predictor of bank's financial performance.

Poudel (2012) explored some parameters related to credit risk management as it affects the bank profitability. The parameters studied were default rate (DR), cost per loan asset and capital adequacy ratio. By analyzing the financial reports of 31 banks for the period of eleven years (2001-2011) he revealed that all these ratios have inverse impact on banks financial performance. Moreover, he found default rate as the major predictor of banks financial performance while cost per loan asset does not predict bank's financial performance significantly.

Boahene et al. (2012) measured the relationship between credit risk and profitability of Ghanaian banks. NPLs rate, net charge off rate and a pre provision profit as a percentage of net total loans and advances used as explanatory variables of credit risk while three variables such as bank size, bank growth and bank debt capital were used as control variables. The results of fixed affect model revealed that non-performing loans rate, net charge off rate and the pre provision profit as a percentage of net total loans and advances have a positively significant association with bank profitability. These results showed that the Ghanaian banks earned a high profitability in spite of the higher credit riskiness.

The results of former study are contrary to the theory shown by the previous studies which have shown the view that higher credit risk causes a decrease in profitability of banks. Author of that study argued that such profitability can be because of exorbitant interest rates due to higher credit risk and fees or commissions charged by the banks. However these are the strangest results for the researcher because this study has shown the results which are against the general concept that NPLs causes decrease in profitability.

Campbell (2007) has explained an opposite view to that of Boahene et al. (2012) he argued that if the banks increase their interest rates on the amounts they lend it will become more difficult for the borrowers to repay because now they will have to pay back higher amounts to the banks. When the borrowers are already not repaying them the smaller amounts, how is it possible that they will be able to repay huge of amounts of interest now? The results of the former study have raised so many questions and calls for further research.

Ahmad and Bashir (2013) made an attempt to find the explanatory power of some bank specific (internal) variables as determinants of NPLs in the banking sector of Pakistan. In order to obtain the intended objective of the study 6 years (2006-2011) panel data of 30 banks was taken. The results of the study showed that the NPLs have positive and significant association with ROA while insignificant and negative relationship with ROE.
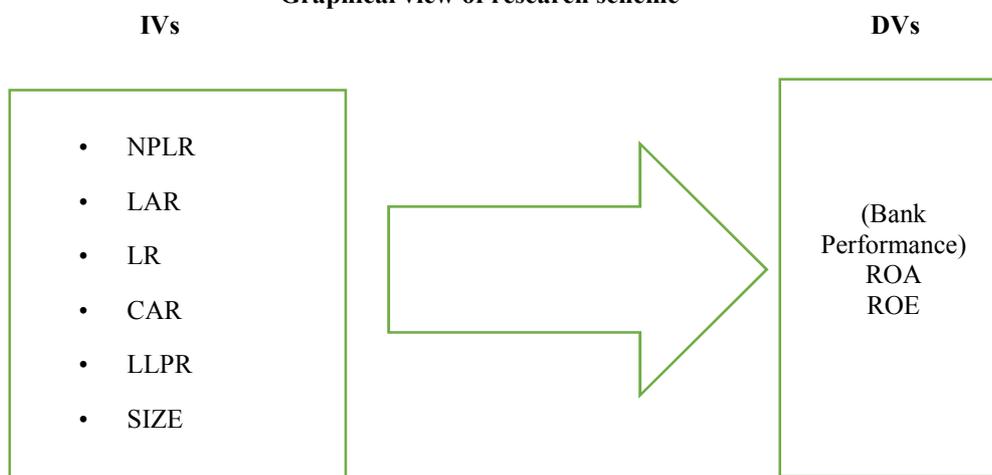
The results regarding the association between NPLs and ROE is linked with the results of some prior conducted studies while the results of relationship between NPLs and ROA are contrary with the general view about NPLs and profitability in the previous studies. The reason behind positive relationship between NPL and ROA was described by them as it's because of that the banking management in order to rise short term earning of the bank depicts counterfeit picture of future earnings and probability of positive returns to the investors.

H_0 = Credit risk management has no impact on bank performance in Pakistan.

H_1 = Credit risk management has impact on bank performance in Pakistan.

Theoretical model
Graphical view of research scheme

IVs		**DVs**

IVs:
- NPLR
- LAR
- LR
- CAR
- LLPR
- SIZE

DVs:
(Bank Performance)
ROA
ROE

Methodolgy

There were 25 banks listed at Karachi Stock Exchange. By following the above mentioned criteria 13 banks have been selected. In order to extract the most appropriate sample for the study from a population of 25 banks listed at Karachi Stock Exchange. The study used a balanced panel data research design to determine the said objective of the study. As described by Baltagi (cited in Olweny & Shipho, 2011) the panel data provides the benefit of controlling for the individual heterogeneity, lower multicollinearity in variables and tracks trends in data that time series and cross sectional data might not be able to provide. Quantitative research approach is applied in this study to get the intended results. The data collected from the financial statements of banks is analyzed through descriptive statistics, correlation matrix and through regression models. For the calculations purposes E-views 7 software is used.

ROA$= \beta + \beta1 \ EQ/TA + \beta2 \ LAR_{i,t} + \beta3 \ CA/CL_{i,t} + \beta4 \ LLP/CL_{i,t} + \beta5 \ SIZE_{i,t} + \beta6 \ NPL/LA_{i,t} + \mu \ . \ . \ . \ .1$

ROE$= \beta + \beta1 \ EQ/TA + \beta2 \ LAR_{i,t} + \beta3 \ CA/CL_{i,t} + \beta4 \ LLP/CL_{i,t} + \beta5 \ SIZE_{i,t} + \beta6 \ NPL/LA_{i,t} + \mu \ . \ . \ . \ . \ 2$

Where:

ROA = Return on Assets

ROE = Return on Equity

β_0 = Constant Parameter or Intercept

$\beta_1 - \beta_6$ = Coefficients of Independent Variables

NPL = Non-Performing Loans

LA = Loan and Advances

TD = Total Deposits of the Bank

LLP = Loan Loss Provision

CL = Classified Loans (nonperforming loans)

EQ = Shareholder's Equity

TA = Total Assets
NLTA = Natural Logarithm of Total Assets
µ = Error/Noise Term
When
NPLR = NPL/LA
LAR = LA/TD
LLP = LLP/TL
CAR = TC/TA
Liquidity Ratio (LR) = TD/LA
Size = NLTA
The equation 1, 2 can be written as under:
$ROA = \beta_0 + \beta_1 \, CAR_{i,t} + \beta_2 \, LAR_{i,t} + \beta_3 \, LR_{i,t} + \beta_4 \, LLPR_{i,t} + \beta_5 \, SIZE_{i,t} + \beta_6 \, NPL_{i,t} + \mu \ . \ . \ . \ 3$
$ROE = \beta_0 + \beta_1 \, CAR_{i,t} + \beta_2 \, LAR_{i,t} + \beta_3 \, LR_{i,t} + \beta_4 \, LPLR_{i,t} + \beta_5 \, SIZE_{i,t} + \beta_6 \, NPL_{i,t} + \mu \ . \ . \ . \ 4$
These are the regression models which have been used for regression analysis.

Regression Results of ROA

Variable	Coefficient	Std. Error	T-Statistic	P-value
CAR	0.10908	0.034746	3.139486	0.0022
LAR	0.09664	0.122058	0.791812	0.4302
LR	-8.92376	3.410942	2.616216	0.0101
LLPR	-13.1172	1.762438	-7.44264	0.0000
SIZE	0.26938	0.212220	1.269360	0.2070
NPLR	-3.62397	1.257768	-2.88127	0.0048
R-squared			0.876540	
Adjusted R-squared			0.856520	
Durbin Watson Stat.			1.915564	
Total panel (balanced) observations			130	

Source: E-views 7 regression output

The table has shown the regression results of pooled regression model. In table the values for variable coefficients, standard error, t-values and probability values for independent variables have been explained. Furthermore, R-squared, adjusted R-squared, Durbin Watson statistics and number of observations have been presented.

In the table number the value of R-squared is 0.876540 which shows that 87.6540% of variability in return on asset can be explained by the explanatory variables. The value of R-squared is considerably high and can be said that predicted a significant proportion of the dependent variable. It can be said that 87.6540% variability in dependent variable (ROA) is predicted by independent variables while the remaining 29.3596% variation in the ROA is predicted by some other variables which have not been considered in this study.

Thus, such significant value of R^2 shows that the prediction level of dependent variable by explanatory variables is reasonable enough. Just below the R^2 the value of adjusted R^2 0.856520 exists in the table that provides a more accurate picture of overall explanatory power of independent variables by omitting the overestimation impact of the addition of more variables in the model. The value of adjusted R-squared is showing that almost 85% of the ROA is explained by the independent variables, which is a significant level.

The most important thing to remember about R-squared is that R^2 only indicates the strength of overall association between independent and dependent variables and does not predict about individual variables; that how any explanatory variable is associated with the dependent variable ROA.

The probability value (P-value) of independent variables explains that how reliably a dependent variable is being predicted by this particular independent variable. The probability values of independent variables are compared with significance level which can be 1%, 5% or 10% but often it is considered 5%. An independent variable will be said influencing significantly to the dependent variable if the p-value of that particular variable is less than 5% otherwise its influence upon dependent variable will be considered insignificant.

The ratio of capital adequacy (CAR) is presented which carries a probability value "0.0022". The p-value for CAR is much lower from the significance level 0.05 that's why it can be concluded that CAR has significant impact on ROA. The regression coefficient is showing a positive sign which means the relationship between CAR and ROA is positive. The increase in CAR will improve the return on assets of the banks and support the view that banks having strong capital position are more able absorb losses occurred due to credit risk. Banks having higher capitalization ratio are stronger toward unforeseen happenings and they also have to face low funding costs that's why they will earn higher profits.

This result is supported by so many previous studies such as Athanasoglou et al. (2005), Staikouras and

Wood (2006) Athanasoglou et al. (2006), Vong and Chan (2009), Flamini et al. (2009), Ayele (2012), Swamy (2013) and Charles and Kenneth (2013). All these studies have shown positive and significant association between capitalization and bank profitability which was measured by ROA. Some of the studies have shown this association insignificant such as Bilal et al. (2013) and Al-Jafari and Alchami (2014) both of these studies have shown insignificant impact of capital adequacy on ROA however that was positive in nature.

The probability for LAR is 0.4302 which is greater than 0.05 that's why it can be said that LAR has insignificant association with the dependent variable which is the bank performance and is measured by return on asset (ROA). The sign of regression coefficient for LAR is positive which indicates the positive association between LAR and ROA. Means 100% increase in LAR will increase the return on asset by 0.096647%.

The positive association between LAR and ROA is also supported by some of the previously conducted studies such as Flamini et al. (2009), Ayele (2012), Kolapo et al. (2012) and Belete (2013) etc. All these studies have shown positive association between LAR and ROA..

The liquidity ratio possesses the p-value 0.0101 which is lower than 0.05 that's why it is statistically significant. The coefficient of LR is negatively associated with ROA which means that rise in LR will cause decrease in ROA and will also cause liquidity problems for the banks in Pakistan. The regression coefficient is indicating that the 100% increase in LR will decrease ROA by 8.923762%.

The negative association between LR and ROA is also supported by some previous studies. The results of this study are consistent with Naceur and Kandil (2006), Mustafa et al. (2012) and Charles and Kenneth (2013) whom also have shown negative association between LR and return on asset (ROA). The negative relationship between LR and ROA is indicating that increase in liquidity issues can raise problems for the banks which ultimately lead toward lower profitability.

The loan loss provision ratio (LLPR) carries the p-value 0.0000 which is less than from the significance level (0.05) hence it will call significant. The regression coefficient for LLPR is showing a negative sign which means that LLPR has a negative impact on dependent variable however that is not statistical significant impact. The results of negative association are consistent with Athanasoglou et al. (2005), Staikouras and Wood (2006), Athanasoglou et al. (2006), Vong and Chan (2009), Mustafa et al. (2012) and Kolapo et al. (2012). All these studies have shown the significant negative impact of loan loss provision on the profitability (ROA) of banks.

The size of the bank has insignificant p-value and the regression coefficient is showing positive value which means that size of the bank has strong positive impact on the performance of bank measured by ROA. This result revealed the fact that larger banks have more capability to utilize their assets in a better way and to generate high earnings through them which also supports the view of economies of scale theory that larger firms have cost advantages and are better able to utilize their resources. This finding is agreed with the results of some previous studies such as Athanasoglou et al. (2006), Alper and Amber (2011), Amare (2012), Ayele (2012) and Bilal et al. (2013). All these studies have explained positive impact of bank size on ROA.

At the end, NPLR has p-value 0.0048 which is less than 0.05 which indicates that it has a statistically significant impact on ROA. The regression coefficient for NPLR has a negative sign which shows that the relationship between NPLR and ROA is negative. in other words 100% increase in NPLR will lower the ROA by 3.62397%. These results are consistent with Achou and Tenguh (2008), Khan et al. (2011), Musyoki and Kadubo (2012), Poudel (2012), Kolapo et al. (2012), Qin and Pastory (2012), and Swamy (2013). All these studies have shown that the ratio of nonperforming loans has a significant negative impact on the bank performance which is measured by ROA. Some of the studies have shown insignificant impact of NPLR on ROA such as Kargi (2011), Nawaz et al. (2012) and Charles and Kenneth (2013) but one thing which is important, these studies also have shown the negative relationship between NPLR and ROA. The negative association between NPLR and ROA indicates that the increase in nonperforming assets can cause deterioration in profitability and performance of the banks. It can create delinquencies to manage the credit quality and hence damages the reliability of the banks.

Regression Analysis between ROE and Explanatory Variables
In this model for performance measure of Pakistani banks return on equity (ROE) has been taken as dependent variable. As for explanatory and control variables concern, those are the same as they were in first model. The following model has been applied to check whether the credit risk management affects bank performance or not.

$ROE = \beta_0 + \beta_1 CAR_{i,t} + \beta_2 LAR_{i,t} + \beta_3 LR_{i,t} + \beta_4 LPR_{i,t} + \beta_5 SIZE_{i,t} + \beta_6 NPL_{i,t} + \mu \ldots . . 4$

IISTE

Regression Results of ROE

Variable	Coefficient	Std. Error	T-Statistic	P-value
CAR	0.078624	0.010759	7.307769	0.0000
LAR	0.119732	0.049293	2.429002	0.0166
LR	-0.926468	0.920635	1.006337	0.3162
LLPR	-2.591886	0.661522	-3.91806	0.0001
SIZE	0.023911	0.034623	-0.69060	0.4911
NPLR	-0.274420	0.484610	0.566271	0.5722
R-squared			0.477899	
Adjusted R-squared			0.452431	
Durbin Watson Stat.			1.766653	
Total panel (balanced) observations			130	

Source: E-views 7 regression output

In this model the value of R-squared is 0.477899 which means 47.7899% of the variation in ROE is predicted by the dependent variables jointly and the remaining 52.2101% is explained by the other variables which have not been included in this study. The value of R-squared has not a significant enough level but it's reasonable.

The capital adequacy ratio has a p-value 0.0000 which is below from 0.05 therefor its statistically significant. The regression coefficient is showing positive value which means that the relationship between CAR and ROE is positive. In simple words there is a significant positive relationship between CAR and ROE. A 100% increase in CAR will cause 0.078624% increase in ROE. This shows that the capitalization strengthen the performance and risk absorption capacity of the banks.

This result is consistent with the studies of Athanasoglou et al. (2006), Hosna et al. (2009), Ayele (2012), Bilal et al. (2013), Swamy (2013) and Al-Jafari and Alchami (2014). All these studies have shown that the capital adequacy has substantial and positive impact on the bank performance (ROE). Therefor it can be concluded that capital adequacy empowers the capital base and improves the bank performance by making the banks more strong against unforeseen happenings.

The p-value of LAR is 0.0166 which is statistically significant. The regression coefficient carries a positive value thus it can be concluded that the loan and advances ratio has significant positive impact on the bank performance which is measured by ROE. The result revealed that 100% increase in LAR will increase the ROE by 0.119732%

The liquidity ratio has insignificant and negative association with ROE. Because the results are not significant that's why these are not conclusive. The result is agree with the results of Naceur and Kandil (2006), Mustafa et al. (2012) and Charles and Kenneth (2013) who have also found negative impact of liquidity ratio on the banking profitability.

The LLPR ratio has a statistically significant impact on ROE because its p-value is 0.0001 which is far away lower than significance level. The regression coefficient for LLPR carries negative sign. Now it can be concluded that LLPR has a negative and significant impact on bank performance which is measured by ROE. This result is consistent with the results of Athanasoglou et al. (2006) and Al-Jafari and Alchami (2014) which have described that loan loss provision ratio has negative impact on ROE.

The bank size has positive and insignificant impact on ROE, its p-value is 0.4911. The finding of positive association is consistent with some of the previously conducted studies such as Athanasoglou et al. (2006), Alper and Amber (2011), Ayele (2012) and Bilal et al. (2013). All of these have shown positive impact of bank size on return on equity.

At the end, non-performing loans has a statistically insignificant probability value which is 0.5722 the value is far away from 0.05 thus it can be said that the NPL has a insignificant association with ROE. The regression coefficient for NPL has a negative sign that means the relationship between NPLR and ROE is negative.

Conclusions

In this fast economic world the banks are considered as backbone for the acceleration of economic activities because they play pivotal role but banks have to face several types of risks because risk is inherited to banking operations and the most severe one is credit risk. The continuity of business of the banks is only possible if the business of the bank is not damaged by the negative winds of credit risk. Unfortunately the banking sector of Pakistan is in the scenario where they have to face huge credit risk because the level of NPLs is much higher relative to other developed and developing countries. Thus there is a need to manage the credit risk so that the functions of the bank can run smoothly.

The objective of the study is to analyze the impact of credit risk management on the performance of commercial banks of Pakistan. For this purpose the secondary data of 13 commercial banks for the period of

2005 to 2014 is collected. In order to evaluate the impact on performance two profitability measures; ROA, ROE were used as dependent variables. On the other hand to detect the impact of credit risk 6 explanatory variables. The independent variables include the non-performing loans ratio (NPL), loan and advances ratio (LAR), liquidity ratio (LR), ratio of loan loss provision (LLPR) capital adequacy ratio (CAR) and bank size.

The pooled regression has been adopted to determine the impact of credit risk management on two performance measures. The findings revealed the fact that credit risk management is inversely associated with bank performance.

From the above mentioned results it can be concluded that the credit risk management have inverse relationship with bank performance. Thus the management needs to be cautious about nonperforming loans, loan and advances and liquidity ratio because these ratios are severely affecting the profitability of banks. Moreover, capital adequacy contributes positively in bank performance so it should be managed.

REFERENCES

[1] Barth, J. R., Caprio Jr, G., & Levine, R. (2000). Bank regulation and supervision: What works best?. World Bank Working Paper.

[2] Kashyap, A. K., Rajan, R., & Stein, J. C. (2002). Banks as liquidity providers: An explanation for the coexistence of lending and deposit‐taking. The Journal of Finance, 57(1), 33-73.

[3] Richard, E., Chijoriga, M., Kaijage, E., Peterson, C., & Bohman, H. (2008). Credit risk management system of a commercial bank in Tanzania. International Journal of Emerging Markets, 3(3), 323-332.

[4] Boahene, S. H., Dasah, Dr. J., & Agyei, S. K. (2012). Credit risk and profitability of selected banks in Ghana. Research Journal of Finance and Accounting, 3(7),

[5] Kargi, H. S. (2011). Credit risk and performance of Nigerian banks (Unpublished Thesis). Ahmadu Bellu University, Zaria, Nigeria

[6] Njanike, K. (2009). The impact of effective credit risk management on bank survival. Annals of the University of Petrosani, Economics, 9(2), 173-184.

[7] Hosna, A., Manzura, B., & Juanjuan, S. (2009). Credit risk management and profitability in commercial banks in Sweden Sweden. . Journal of Banking & Finance, 21(6), 849-872.

[8] Achou, T. F., & Tenguh, N. C. (2008). Bank performance and credit risk management (Unpublished Master's Thesis). University of Skovde, Sweden.

[9] Musyoki, D., & Kadubo, A. S. (2012). The impact of credit risk management on the financial performance of banks in Kenya for the period 2000-2006. International Journal of Business and Public Management, 2(2), 72-80.

[10] Nawaz, M., Munir, S., Siddiui, S.A., Tahseen ul ahad, Afzal, F., Asif, M., & Ateeq, M. (2012). Credit risk and performance of Nigerian banks. Interdisciplinary Journal of Contemporary Research in Business, 4(7),

[11] Joseph, M.T., Edson, G., Manuere, F., Clifford, M., & Michael, K. (2012). Non-performing loans in commercial banks in Zimbabwe. Interdisciplinary Journal of Contemporary Research in Business, 4(7),

[12] Badar, M., & Javid, A. Y (2013). Impact of macroeconomic forces on nonperforming loans: An empirical study of commercial banks in Pakistan. WSEAS Transactions on Business & Economics, 10(1),

[13] Poudel, R. P. Sharma (2012). The impact of credit risk management on financial performance of commercial banks in Nepal. International Journal of Arts and Commerce, 1(5),

[14] Boahene, S. H., Dasah, Dr. J., & Agyei, S. K. (2012). Credit risk and profitability of selected banks in Ghana. Research Journal of Finance and Accounting, 3(7),

[15] Tabari, N. A. Y., Ahmadi, M., & Emami, M. (2013). The effect of liquidity risk on the performance of commercial banks. International Research Journal of Applied and Basic Sciences, 4(6), 1624-1631.

[16] Flamini, V., McDonald, C., & Schumacher, L. (2009). The determinants of commercial bank profitability in Sub-Saharan Africa. IMF working paper WP/09/15

[17] Ayele, H. N. (2012). Determinants of bank profitability: An empirical study on Ethiopian private commercial banks (Unpublished Thesis). Addis Ababa University, Ethiopia

[18] Kolapo, T. F., Ayeni, R. K., & Oke, M. O. (2012). Credit risk and commercial banks' performance in Nigeria: A panel model approach. Australian Journal of Business and Management Research, 2(2), 31-38.

[19] Naceur, S. B., & Kandil, M. (2006). The impact of capital requirements on banks' performance: The case of Egypt. Available at SSRN 903655.

[20] Athanasoglou, P. P., Brissimis, S. N., & Delis, M. D. (2005). Bank specific, industry specific and macroeconomic determinants of bank profitability. Bank of Greece, Economic Research Department, (working paper no. 25)

[21] Staikouras, C. K., & Wood, G. E. (2011). The determinants of European bank profitability. International Business & Economics Research Journal (IBER), 3(6),

[22] Vong, P. I., & Chan, H. S. (2009). Determinants of bank profitability in Macao. Macau Monetary Research

Bulletin, 12(6), 93-113.

[23] Mustafa, A. R., Ansari, R. H., & Younis, M. U. (2012). Does the loan loss provision affect the banking profitability in case of Pakistan?. Asian Economic and Financial Review, 2(7), 772-783.

[24] Kolapo, T. F., Ayeni, R. K., & Oke, M. O. (2012). Credit risk and commercial banks' performance in Nigeria: A panel model approach. Australian Journal of Business and Management Research, 2(2), 31-38.

[25] Amare, B. T. (2012). Determinants of commercial banks profitability: An empirical evidence from the commercial banks. Australian Journal of Business and Management Research, 2(2), 31-343

[26] Bilal, M., Saeed, A., Gull, A. A. & Akram, T. (2013). Influence of bank specific and macroeconomic factors on profitability of commercial banks: A case study of Pakistan. Research Journal of Finance and Accounting, 4(2),

[27] Khan, F., Anuar, M. A., Choo, L. G., & Khan, H. (2011). Determinants of bank profitability in Pakistan: A case study of Pakistani banking sector. World Applied Science Journal, 15(10), 1484-1493.

[28] Qin, X., & Pastory, D. (2012). Commercial bank profitability position: The case of Tanzania. International Journal of Business and Management, 7(13),

[29] Swamy, V. (2013). Determinants of bank asset quality and profitability- An empirical assessment. Munich Personal RePEc Archive, (MPRA) Paper No. 47513.