Journal of Economics and Sustainable Development
ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online)
Vol.8, No.15, 2017

The Impact of Credit Risk Management on the Performance of Private Commercial Banks in Ethiopia

ShibiruTade[1] Mebratu Negera[2]
1.Lecturer, Department of Accounting and Finance, Ambo University, Ethiopia
2.Lecturer, Department of Economics, Ambo University, Ethiopia

Abstract
The objective of study was to assess the impact of credit risk management on the performance of private commercial banks in Ethiopia. The sample in this study consisted of six private commercial banks for a 14 period (2000 to 2013) were collected from audited financial statement of respective banks and National Bank of Ethiopia. The collected data were analyzed by using panel data regression model and the result showed that credit risk management measures: capital adequacy ratio, total loan ratio, non- performing ratio, bank size and liquidity ratio have a significant impact on the performance(ROA and ROE) of Private commercial banks.The study recommended that the banks' credit risk management should give due attentionon capital adequacy and management of loan portfoliosin order to minimize the high incidence of non-performing loansand their negative effect on profitability of commercial banks.
Keywords: Credit Risk Management, performance, private Commercial Banks in Ethiopia.

Introduction

Credit risk management has been an integral part of the loan process in banking business. Commercial banks play a key role in improving economic efficiency of the country. They channel funds from resource surplus unit to deficit unit (Hussain&Bhatti, 2010). In less monetize countries, like Ethiopia; financial sector is dominated by banks. Banks are the major financial institutions in Ethiopia. They play an important role in accelerating economic growth of the country.

Once credit is made, however, there is a probability that the borrower or counterparty may fail to meet their obligations. Therefore, credit risk inbuilt in banking. The magnitude of credit risk depends on the probability of default by the counterparty. It is the most and obvious risk in commercial banks. (Afriyie&Akotey, 2011).

According to Catherine &Yussof (2009), credit risk management comprises the major functions of banks. Financial institutions' success is depends on whether the risks they take are sufficiently calculated, mitigated, managed and competence. Unfortunately, the task of management of credit risk is rendered difficult by government controls, political pressures, production difficulties, financial restrictions, and frequent instability in the business environment which undermines the financial condition of the borrowers.

The aim of credit risk management is to maximize a bank's risk adjusted rate of return by maintaining credit risk exposure within suitable parameter. So, credit risk management is essential to optimizing the performance of the commercial banks in every country, particularly in Ethiopia. This paper investigates the effect of credit risk management on the performance of Ethiopian private commercial banks for a period of 14 years (2000-2013).

Objectives of the Study

The main objective of the study was to examine theimpactof credit risk management on the performance of private commercial banks in Ethiopia during 2000 to 2013.

Research Hypothesis

(i) Capital adequacy ratio has positive and
Significant impact on private commercial banks performance.
(ii) Total loan ratio has positive and significant impact on the performance of private commercial banks.
(iii) Non- performing loan ratio has negative and significant impact on the performance of private commercial banks.
(iv) Bank size has positive and significant impact on private commercial banks performance.
(v) Liquidity ratio has positive and significant impact on private commercial banks profitability.
(vi) Total deposit ratio has positive and significant impact on private commercial banks performance.

Literature Review

There have been argument and controversies on the impact of credit risk management on the performance of banks. Some scholars both in developed and developing countries have carried out extensive studies on this topic and produced mixed results. From the studies on this subject matter presented some of the studies in this subsection.

Kargi (2011) studied the relationship between banks performance and credit risk management in Nigeria for

the period of 2004 to 2008. He employed panel data regression model and found that there is a significant relationship between banks performance and credit risk management.

Banks make a meaningful contribution to the economic growth of every country. They accept deposits from depositors and provide loans to deficit parties. Some scholars e.g.,(Bagehot, 1962), (Goosen et al., 1999), (Rose, 2002) and Basis and Ragavan(2003) amongst others put it, bans provide channel for banking those who have excess funds with those who are in need of funds.

Kolapo, Ayeni and Ojo (2012) used panel data regression for the period 2000 to 2010. They foundthat the effect of credit risk management 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.Also, Hosna, Manzura and Juanjuan (2009) also found similar result with Kolapo et al.,(2012). The result showed that Non- performing loan and capital adequacy ratios was inversely related to banks performance. Muhammed, Shahid, Munir and Ahad (2012) used regression techniques to study whether credit risk management affect banks performance in Nigeria from 2004 to 2008. Finally they found that creditrisk management has a significant impact on profitability of Nigerian banks.

Beger(2000), Manmeet*et al*. (2008) and Morutu (2011) found that negative relationship between capital adequacy and bank performance. They suggested a bank with higher capital may face a higher probability of bad loans and loan default which may result in a lower profitability. A comparison study made by Hakim &Naeime (2002) in Egypt and Lebanon banking. They examined the Performance and credit risk of banks. Regression model was employed and lastly they concluded that liquidity and capital adequacy have positive and significant impact on the profitability of banks. However, credit has insignificant relation with profitability of banks.

Achou&Tenguh (2008) declared their paper on performance and credit Risk Managementin case of Qatar banks. Return on Equity and return on asset are used as performance indicators and loan loss performance as credit risk management parameter in their study.Finally, they concluded that there is a significant relationship between bank performance (ROE and ROA) and credit risk management. Better credit risk management results in better bank performance.

Kithinji (2010), Musyoki&Kadubo(2011) and Fredrick(2011), examined the effect of credit risk management on profitability of commercial banks in Kenya between 2004 to 2008. Regression model was employed to establish relationship between amount of credit and profitability of banks. The findings revealed that the profits of commercial banks are not influenced by the amount of credit and non- performing loans.

Afriyie&Akotey (2011), Kargi (2011), Fusno*et al*. (2012 and Kaaya&Pastory (2012), employed Panel regression model to develop the relationship between the credit risk and performance of banks. Lastly the study found that all credit risk proxies are negatively affecting the profitability of the banks except impaired loan is positively affect performance of the banks.

Some related studies were conducted by few researchers in Ethiopia. Specifically, Teferaand Mekasha(2011). Multiple regression model was employed. They argued that credit risk Capital adequacy and non- performing loan ratios have negative impact on the profitability of commercial banks

In Costa-Rica, Epure and Lafuente (2012) applied regression analysis to study the presence of credit riskon bank performance over the period of 1998 to 2007. They discovered that performance improvements led to regulatory changes and thatcredit risk accounts for differences in bank performance, while non-performing loans inversely affect efficiencyand return on assets (ROA) and the capital adequacy ratio (CAR) has a positive influence on the net interestmargin.

Recently, the paper of Charles & Kenneth (2013), Kurawa and Garba(2014), examined the impact of credit risk management and capital adequacy on Nigerian banks financial performance.They used panel data regression technique to undertake their study. Liquidity, non- performing loans, capital adequacy ratio and loan ratio are used as credit risk management indicators. The findings established that credit risk management as measured by independent variables except liquidity ratio had significant positive effect on the profitability of Nigerian banks.

Research Methodology

This section deals with the methods of data collection and the methodology employed in the research analysis.Secondary data were collected for the purpose of empirical analysis.The six private commercial banks were selected by purposive sampling technique are first Awash International Bank, Dashan Bank, Bank of Abyssinia, Wegagen Bank, United Bank and Nib International Bank of Ethiopia.Panel data regression analysis was used to investigate the impact of credit risk management on the performance of private commercial banks in Ethiopia in the period between 2000 to 2013.

Sample Selection

As the National Bank of Ethiopia 2012/2013 annual report shows Ethiopia has a total of nineteen banks. Out of which sixteen were privately owned commercial banks and three were state owned banks. The target population of this study was Ethiopian privately owned commercial banks and a sample of six private commercial banks

was selected by using purposive sampling technique. Data for the study were obtained from the audited financial statement of six out of sixteen private commercial banks operating in Ethiopia as at December 2013. In order to ensure uniformity in presentation, some banks were excluded because of the following factors. First, banks which were established during the period covered in the study were excluded. Lastly, banks that had not provided their financial statement in the succeeding fiscal year were not included in this study. In all, six private commercial banks with complete data for the period 2000-2013 were used for the study.

Model Specification

This study is modeled according to the work of Kenneth and Charles (2013), which investigated the impact of credit risk management and capital adequacy on the financial performance of Nigerian banks. Kanneth &Charles(2013) used ROA as a dependent variable in their model, but we used ROA and ROE, the two most common indicators of performance in two different models. Moreover, we modified the model on the right side by adding the bank size as exploratory variable. Thus, the dependent variables in this study, performance were measured by rate of return on Asset (ROA) and Return on equity(ROE).The independent variables, Credit risk Management(CRM) was measured by the capital adequacy ratio(CAR),Non-Performance loan ratio(NPLR), Liquidity ratio(LR) , Bank size(natural logarithm of total assets) and total deposit to total loan).

The Models are expressed as follows:

ROA Model=$\beta_{0+}\beta_1(CAR_{it})+\beta_2(TLTA_{it})-\beta_3(NPLTL_{it})+\beta_4(LOTA_{it})+\beta_5(LR_{it})+\beta_6(TDTL_{it})+\varepsilon_{it}$…..(1)

ROE Model=$\beta_0+\beta_1(CAR_{it})+\beta_2(TLTA_{it})-\beta_3(NPLTL_{it})+\beta_4(LOTA_{it})+\beta_5(LR_{it})+\beta_6(TDTL_{it})+\varepsilon_{it}$....(2)

Where; ROA= return on asset, ROE= return on equity, CAR= Capital adequacy ratio, TLTA= Total loan to total asset, NPLTL= Non- performing loan to total loan, LR= liquidity ratio, LOTA= natural logarithm of total assets, TDTL= total deposit to total loan, β_0= intercept, $\beta_1$to β_6 are coefficients of explanatory variables and ε= error term. When;

$$CAR = \frac{Tier\ 1\ capial\ + Tier\ 2capital}{Risk\ weighted\ asset}$$

$$\text{TLR} = \frac{\text{Total Loan amount}}{\text{Total Asset amount}}$$

$$\text{NPLR} = \frac{\text{NPL amount}}{\text{TL amount}}$$

$$Bank\ size = Log.of\ TA)$$

$$\text{LR} = \frac{\text{Liquidassetamount}}{\text{Totaldepositamount}}$$

$$TDR = \frac{total\ deposit\ amount}{Total\ loans\ amount}$$

Description of variables

Variable	Description
Return on Equity	The amount of net income returned as a percentage of shareholder equity
Return on Asset	A ratio that measurescompany's netincome after tax against its total assets.
Capital Adequacy ratio	A ratio that measure a bank's financial strength and ability to undertake additional business.
Loans	This is a facility granted to a bank customer that allows the customer make use of banks funds which must be repaid with interest
Non- performing loan	Defaulted loans which banks are unable to profit fromand occurred as a result of poor credit risk management.
Bank size	Total assets of the bank measures bank size and the total assets of the banks are as a proxy for bank size.
Liquidity ratio	This is the ability of the bank to provide money on demand and observed as assets readily convertible to cash without loss
Deposit	This is banks' primary sources of funds that they can invest to generate profit.

The Results of Fixed Effect Regression Analysis

Table 1: ROA Model: Fixed Effect RegressionResult

ROA Model				
Variable	**Coef.**	**Std. Err.**	**T**	**P>|t|**
CAR	**.0481543**	**.0237685**	**2.03**	**0.046***
TLTA	**.0414224**	**.0131768**	**3.14**	**0.002***
NPLTL	**-.0364504**	**.0131786**	**-2.67**	**0.009***
LOTA	**.00625**	**.0010922**	**5.72**	**0.000****
LR	**.0141001**	**.0072263**	**1.95**	**0.047***
TDTL	**.0044528**	**.003369**	**1.32**	**0.191**
Cons.	**-.1513214**	**.034295**	**-4.41**	**0.000****

*R^2=0.54, F-static=16.85, prob. value = 0.000, source; Authors' computation. * and ** denotes significance level at 5% and 1% respectively; Mode 1:* $ROA=\beta_{0+}\beta_1(CAR_{it})+\beta_2(TLTA_{it}) - \beta_3(NPLTL_{it})+\beta_4(LOTA_{it})+\beta_5(LR_{it})+\beta_6(TDTL_{it})+\varepsilon_{it}$, *Model1* ROA = -.151 + .048X1 + .041X2 -.036X3 + .006X4 + .014X5 + .004X6.

Table 2: ROE Model: Fixed Effect Regression Result

ROE Model				
Variable	**Coef.**	**Std. Err.**	**T**	**P>|t|**
CAR	**.5200102**	**.185241**	**-2.81**	**0.006***
TLTA	**.2599252**	**.102708**	**2.53**	**0.014***
NPLTL	**-.4285866**	**.1062854**	**-4.03**	**0.000****
LOTA	**.0361595**	**.008512**	**4.25**	**0.000****
LR	**.1123379**	**.0563182**	**1.99**	**0.050***
TDTL	**.0117368**	**.0262634**	**0.45**	**0.656**
Cons.	**-.6976673**	**.2672796**	**-2.61**	**0.011***
R^2= 63%		**F- Statistic = 18.89**	**prob.(F- Statistic)= 0.0000**	

*R^2=0.63, F-static=18.89, prob. Value = 0.000, source; Authors' computation. * and ** denotes significance level at 5% and 1% respectively; Model 2:* $ROE=\beta_0-\beta_1(CAR_{it})+\beta_2(TLTA_{it}) - \beta_3(NPLTL_{it})+\beta_4(LOTA_{it})+\beta_5(LR_{it})+\beta_6(TDTL_{it})+\varepsilon_{it}$, *Model 2:* ROE = -.698 + .520X1 + .260X2 - .429X3 + .036X4 + .112X5 + .012X6.

Discussion on Regression Results

1. Capital Adequacy Ratio (CAR)

The result of regression on table 1 and 2 showed that CARhas significant positive impact on ROA and negative impact on ROE. and significant impact on ROA and ROE. Thus, the result was in accordance with the expected sign of the study. The value of the coefficients (i.e. 0.0481543 and .5200102) indicate that when capital adequacy ratio increased by one unit keeping the other thing constant, return on asset is expected to be increased by 0.048 units in the same direction and ROE decreased by 0.52units in the inverse direction. The study of the result was consistent with most past findings of Hakim &Naieme (2002), Li Yuqi(2007),Tsehay(2012), (Ani et al., 2012) and (Kenneth & Charles, 2013).They suggested that a bankwith adequate capital ratio had a capacity to meet the time liabilities and other risks such credit risk and operational risk.

In this respect, Ezike&Oke (2013) mentioned that holding capital beyond the optimal level would inversely affect the profitability of Commercial Banks. Though the minimum CAR requirement of commercial banks in Ethiopia is 8%. Taking the argument by Ezike and Oke(2013) the prevailing negative impact of CAR on performance(ROE) appears to result from having reserve beyond the necessary amount enough to handle unexpected risk in the banks may encounter. The study suggested that the negative effect of CAR on ROE is that maybe, there isgovernment interference, restriction policy and lack of well financial market in economic and financial activities may influence the activities of private commercial banks in Ethiopia.

2. Total Loan Ratio (TLTA)

Loans and advances are the main source of income and are expected to have a positive impact on banks performance. Accordingly, the regression result in table 1 and 2 indicates that total loan to total asset ratio has positive and significant impact on banks performance at 5% level of significance. This implies that one unit increase or decrease in total loan to total asset increases or decreases ROA and ROE by0.41 and 0.26 units respectively in the same direction.

This research finding is consistent with the prior empirical evidenceof Ahmed et al.(1998), Abreu & Mendes(2000) and Iloska(2014),Fusnoet al.(2012) andRufai(2013).They found that credit risk management in terms of loans and advances has significantly positive impact on banks performance.

3. Non- Performing Loan Ratio (NPL/TL)

The result of ROA and ROE on NPL/TL show that non- performing of the bank is significantly negatively impact on the performance at 5% and 1% significant level (Table 1 and 2). That is one unit increase in NPLR decreases ROA and ROE by 0.036 and 0.43 units respectively. This result largely supported by Kargi (2011) in Nigeria. He argued that improper credit risk management reduce the banks' performance.The study suggested that banks with higher proportion of NPLR exhibit higher inefficiency levels of credit risk management and poor monitoring over loan portfolios in Ethiopian private commercial banks during the study.This research finding is in line with the prior findings of Achou&Tenguh (2008), Hosna*et al*. (2009), Mekasha (2011), Tefera(2011), and Kargi (2012). They observed that the negative effect of NPLs on the performance of banks is the symptom of ineffective credit risk management in banks.

4. Bank Size(LOTA)

As predicted in the hypothesis of the study, the bank size has positive and statistically significant impact on the performance of private commercial banks(p-value= 0.0000) at 1% level of significance in both ROA and ROE models. This implies that as bank size increased by one unit keeping the other thing constant result in increased level of return on asset by 0.006 units and return on asset by 0.036units in the same direction. Apparently, bigger banks perform better than smaller banks. Most of larger banks earn more profit than the smaller banks. Benefits associated with bank size if managed properly, include economies of scale, high bargaining power and stronger brand image of market power are also the main reasons behind the positive impact of size of large banks (Iloska, 2014). This is what the results seem to reflect in Ethiopian banking industry.

5. Liquidity Ratio(LR)

Credit risk management in terms of liquidity ratio has significant positive impact on the performance of private commercial banks in Ethiopia at 5% level of significance. It indicates that as the level of liquidity ratio increased by one unit, and then ROA and ROE are increased by 0.014 and 0.112 units respectively in the same direction. The study suggested that a bank with holding a relatively high liquidity is likely to earn high profits and less exposed to credit risk and liquidity risk. The result is consistent with the prior study of Hakim &Naieme (2002), Kurawa&Garba (2011), Adorkwa (2011), Megeid (2013), and Iloska (2014). They observed that liquidity ratio has significant positive influence on the profitability of banks.

6. Total Deposit Ratio(TDTL)

Lastly, regression result shows that TDTL has positive, but insignificant impact on both ROA and ROE. This finding indicates that credit risk management in terms of TDTL has no significant impact on Ethiopian private commercial banks. The insignificant impact of TDTL on the performance of banks is largely consistent with the previous findings ofTsehay(2012), Kenneth & Charles(2013) and Iloska (2014). They suggested that the growth of loan has been relatively fast for the past few years and which is not fully covered by the deposit base.However, this finding is contradicted with the finding of Kargi (2011) who found negative correlation between deposits levels and profitability.

Conclusion and Recommendation

The paper tries to identify the impact of credit risk management on the performance of private commercial banks in Ethiopia.Even if the literature review indicated that credit risk management has significant impact on the profitability of the firm but there is still ambiguity regarding the appropriate variables that might serve as proxies for credit risk management as a whole. Previous studies in Ethiopia were very few and studies in general were inconclusive. Motivated to fill this gap a panel data regression analysis was employed on secondary data collected from 6 private commercial banks for 14 years period (2000-2013).

The regression result revealed that credit risk management measures: capital adequacy ratio, total loan to total asset ratio, non- performing loans ratio andbank size have a significant impact on the performance of private commercial banks in Ethiopia.

Private commercial banks of Ethiopia are thus recommended to establish sound and competent credit 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.

Based on regression results, having the significant overall impact of credit risk management on performance of private commercial banks in Ethiopia, it is recommended that commercial banks in Ethiopia should enhance their capacity in credit analysis and loan administration while the regulatory authority should pay more attention to banks' compliance to relevant provisions of the bank and other financial institutions act. Also, to establish sound and competent credit 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.

References

Achou, F.T&Tenguh, C.N, 2008. Bank performance and credit risk management, school of Technology and society, University of Skoved.

Adarkwa, O.R, 2011.Risk management and bank performance: A case study of first Atlantic Merchant Bank Ghana Limited, Master's thesis, Kwame Nkrumah University.

Afriyie&Akotey, 2010. Credit risk management and profitability of selected Rural&Community Banks in Ghana, Catholic university College of Ghana, pp. 10-12.

Alpera& Anbarb,2011. Bank Specific and Macroeconomic Determinants of Commercial Bank Profitability: Empirical Evidence from Turkey, *Business and Economics Resear Journal*, Vol. 2, No. 2, pp. 139-152.

Hosnaet al.,2009. Credit risk management and profitability in commercial Banks in Sweden, master's thesis, School of Business, Economics and Law, University of Gothenburg.

Al-Tamimi, H & Hassan, A,2010. Factors influencing performance of the UAE Islamic and conventional national banks, University of Sharjah.

Arunkumar, R &Kotreshwar, G, 2005.Risk management in commercial banks, A case study of public, pp. 151.

Agyei et al., 2012.Credit risk and profitability of selected banks in Ghana, *Research journal of finance and accounting*, Vol. 3, No. 7, ISSN 2222-1697.

Catherine &Yussof, 2009. A preliminary study on credit risk management strategies of selectedFinancial institutions in Malaysia, *journal Pengurusan* 28(2009), pp. 45-65.

Charles, O & Kenneth, O.U, 2013. Impact of credit risk management and capital adequacy of Financial performance of commercial banks in Kenya,*journal emerging issues in economics, finance and banking, ISSN: 2306-367X,* volume 2, No.3, pp. 703-717..

Epure,M&Lafuente, E, 2013. *Monitoring bank performance in the presence of risks*, Barcelona graduate school of economics, 2nd version, March, 2013.

Fredrick, O,2010. The impact of credit risk management on financial performance of Commercial banks in Kenya, Mombasa campus, *DBA African management review*, vol. 3, No.1,pp. 22-37.

Funsoetal.,,2012.Credit risk and commercial banks performance inNigeria, *Australian journal of business and management research*, vol.2, No.02, pp.31-38)

Hakim, S&Neaime, S, 2002. Performance and credit risk in Banking: A Comparison study for Egypt and Lebanon.

Iloska,2014.An analysis of bank profitability in Macedonia, Journal of Applied Economics and Business.

Kaaya, I&Pastory, D,2013. Credit risk and commercial banks performance in Tanzania, *research journal of finance and accounting*, ISSN 2222-1697, Vol. 4, No. 16.

Kargi, S.H, 2011.Credit risk & performance of Nigerian banks,AhmaduBellouniversity.

Kithinji, M.A,2010. Credit risk management and profitability of commercial banks in Kenya,School of Business, University of Nairobi.

Kosmas Njanike, 2009.The Impact of Effective Credit Risk Management on Zimbabwean Bank Survival, Annals of the University of Petroşani, Economics, 9(2), pp.173-184.

Li Yuqi, 2007. Determinants of banks profitability & its implication on risk management in UK.

Megeid, S.A 2013.The impact of effective credit risk management on commercial banks liquidity Performance in case of Egypt', *international journal of accounting andfinancialmanagement research, ISSN22* 49-6882, vol. 3, issue 2, pp.13-32.

Mekasha, G 2011. Credit risk management and its impact on performance of Ethiopian Commercial banks, Master's thesis, Addis Ababa University.

Mohammad, N &Shahid, M, 2012.Credit risk and the performance of Nigerian banks, *Interdisciplinary journal of contemporary research in business*, vol. 4, No. 7.

Musyoki, D &Kadubo, A.S, 2011.The impact of credit risk management on the financialPerformance in Kenya', *international journal of business and public management*, ISSN: 2223-6244, Vol. 2(2),pp. 72-80.

National Bank of Ethiopia, 2013.Annual report.[Online],availableathttp://www.nbe.gov.et accessed on May 10, 2013].

NgwaEveline, 2010.Credit risk management in banks as participants in financial markets:

A qualitative study of the perception of bank managers in Sweden (Umea region),Umea school of business, pp. 14-19.

Qin &Pastory, 2012. Commercial banks profitability position in Tanzania, *international Journal of business and management;* Vol. 7, No. 13, Canadian Center of Science and Education.

Raghavan, R.S, 2003. Risk management in banks,chartered accountant, pp. 841-851.

Richard, 2011.Factors that cause NPLs in commercial banks in Tanzania & strategies toresolve them', university of Dares Salaam, *journal of management policy & practice*, vol. 12(7).

Richard, SN 2010.Assessment of the credit risk management practices of Kakumrural bankLimited, master's thesis, university of Cape Coast.

Rose,P.S,2002.CommercialBankManagement, 5thedition, New York: McGraw-Hill/Irwin.

Tefera, T, 2011. Credit risk management and profitability of commercial banks in Ethiopia master's thesis, Addis Ababa University.