Effect of Credit Risk on Profitability and Lending Decision of Commercial Banks in Ethiopia

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Abstract
Banking sector has many risks than other sectors of the economy. Credit risk is the most apparent risk in the banking and possibly the most important in terms of potential losses. Ethiopian banking history, in its modern sense began towards the end of the reign of Emperor Menilek II. This study examines the effect of credit risk on profitability and lending decision of commercial banks in Ethiopia and limiting to only for private commercial banks in Ethiopia. In an attempt to meet the research objective, a quantitative analysis was used. The strongly balanced panel data of thirteen years from 2005 to 2017 from the sampled commercial banks were used. The research used both descriptive and regression for analyzing the panel data. The result indicates that non-performance loan to total loans is significalty and negatively related with ROE and ROA. Loan provision to total loan of the banks is significantly negatively related with lending decision.
Keywords: credit risk, lending decision, profitability

1. Introduction

Banking sector has many risks than other sectors of the economy. By its very nature, banking is an attempt to manage multiple and seemingly opposing needs. Banks stand ready to provide liquidity on demand to depositors through the checking account and to extend credit as well as liquidity to their borrowers through lines of credit (Kashyap et al., 2002). Credit risk is the most noticeable risk in the banking and possibly the most important in terms of potential losses. Credit risk is not curbed to the risk that borrowers are unable to pay; it also includes the risk of payments being delayed, which can also cause problems for the bank (Hosna A.L, et al., 2009). In order to assess and manage risks, banks must have effective ways to determine the appropriate amount of capital that is necessary to absorb unexpected losses arising from their market, credit and operational risk exposures. In addition to this, profits that arise from various business activities of the banks need to be evaluated relative to the capital necessary to cover the associated risks (Mohammed A, Robert H., 2006).

Ethiopian banking history, in its modern sense began towards the end of the reign of Emperor Menilek II. This period witnessed the establishment when the agreement reached in 1905 between Minilik II and Mr. Ma Gillivray representative of the British owned National Bank of Egypt marked the introduction of modern banking in Ethiopia (Richard Pankhurst, 1963). This study examines the effect of credit risk on profitability and lending decision of commercial banks in Ethiopia.

Most financial decisions revolve around the costs of holding risk. This issue is particularly important to banks since risk management constitutes their core business. Banks provide liquidity on demand to depositors through the current account and extend credit as well as liquidity to their borrowers through lines of credit (Kashyap et al., 2002). Due to these fundamental roles, banks have always been concerned with both solvency and liquidity. In addition to this, profits that arise from various business activities of the banks need to be evaluated relative to the capital necessary to cover the associated risks (Mohammed A, Robert H.,2006).

Previous researches in Ethiopia; Tekalagn Getahun et al., 2015 on credit risk management and its impact on profitability and Girma Mekasha, 2011 and Million Gizaw et al., 2013 focus on credit risk management and its impact on performance of commercial banks'. This study attempts to fill the research gap by examining how credit risk has effect on banks' profitability and lending decisions, and limiting to only for private commercial banks in Ethiopia. The exclusion of state owned commercial bank is that commercial bank of Ethiopia (state owned) due merger with construction and business bank and this will have impact on the analysis. The objective of the study was to examine how credit risk affects profitability and lending decision of commercial banks in Ethiopia.

2. Research Methodology

In an attempt to meet the research objective, a quantitative analysis was used for this study. The study used secondary data from the annual report of selected privately owned commercial banks. The secondary data were collected from seven (7) privately owned commercial banks in Ethiopia. The data were obtained from annual Financial Statements that is balance sheet and income statement of the selected commercial banks. The strongly balanced panel data of thirteen (13) years from 2005 to 2017 from the sampled commercial banks were used to examine the effect of credit risk on profitability and lending decision of private commercial banks in Ethiopia. Ken and Peter, 2008 adopted a panel data model, which provide an important understanding and approaches for impact of credit risk on banks profitability and lending. The analysis investigates based on the two most common

indicators of profitability, Return on Asset (ROA) and Return on Equity (ROE) and Loan and advances to total asset was used as the indicator for the lending decision of the commercial banks in Ethiopia. The research used both descriptive and regression for analyzing the panel data. The study examines how privately owned commercial bank credit risk affects profit and lending decision.

Dependent variable: Return on Equity (ROE) and Return on Asset (ROA) for measuring profitability and loan and advances to total asset for measuring lending decision of banks. A. Sinan et al, 2001 used for measuring lending as commercial and industrial loans to assets and commercial real estate loans to asset, but for this study the researcher used loan and advance to total asset for measuring lending. ROE and ROA were used as profitability indicators in the regression analysis because they show effectiveness of management in utilizing funds contributed by banks' shareholders. Loan and advances to total asset was used as indicator of lending decision for the commercial banks in Ethiopia.

Explanatory variables: non-performance loan to total loans and loan provision to total loan are independent variables and they were chosen because they are an indicator of credit risk.

Model 1: ROE= $\beta_0 + \beta_1 NPLR + \beta_2 LPTL + \beta_3 LPTL + e$

Model 2: ROA= $\beta_0 + \beta_1 NPLR + \beta_2 LPTL + \beta_3 LPTL + e$

Model 3: lending= $\beta_0 + \beta_1 NPLR + \beta_2 LPTL + \beta_3 LPTL + e$

Where:

β_0= Constant parameter

β_1-β_3= Coefficient of Independent variables

NPLR= Non-performance Loan to Total Loan ratio

LPTA= Loan Provision to Total Assets

LPTL= Loan provision to Total loan

e= the error term

3. Analysis and interpretation

In this section the collected data were analyzed and interpreted through tabulations and other descriptive methods. As indicated from the table the numbers of observations for each variable are ninety one (91). From the table below the average ROA and ROE of private commercial banks in Ethiopia were positive. The maximum ROA is 0.0467, which means for each Birr investment in asset the private commercial banks earn 0.05 cents.

Table1**:** Descriptive statistics of the variables

Variable	Obs.	Mean	Std. Dev.	Minimum	Maximum
ROA	91	0.0257	0.0100	-0.0187	0.0467
ROE	91	0.2068	0.0771	-0.0343	0.3567
Lending	91	0.4909	0.1006	0.0233	0.6996
LPTA	91	0.0152	0.0108	0.0000	0.0587
LPTL	91	0.0291	0.0183	0.000	0.0983
NPLR	91	0.0291	0.0183	-0.0028	0.0572

3.1 Regression Result

Table 2: Fixed effect regression result (Return on asset is the dependent variable)

ROA	Coef.	Std.Err
LPTL	-0.0391	0.3017
NPLR	-0.3729**	0.1307
Constant	0.0225***	0.0022
sigma_u	0.0054	
sigma_e	0.0092	
Rho	0.2567 (fraction of variance due to u_i)	
corr(u_i, Xb)	-0.3341	
R^2	0.1244	
P-value	0.0184	
Number of obs	91	

F test that all u_i=0:   F(12, 75) =   1.68   Prob > F = 0.0893

As indicated on the above table the regression result shows that NPLR is significantly and negatively related with ROA. The parameter value shows that increase in NPLR decreases ROA. LPTL and LPTA are insignificant relation with ROA.

Table 3: Fixed effect regression result (dependent variable ROE)

ROE	Coef.	Std.Err
LPTL	-2.1654	2.403553
NPLR	-3.0411**	1.0412
Constant	0.1925***	0.0178
sigma_u	0.03491	
sigma_e	.0733	
Rho	0.1849 (fraction of variance due to u_i)	
corr(u_i, Xb)	-0.3177	
R^2	0.1167	
P-value	0.0248	
Number of obs	91	

F test that all u_i=0:   F(12, 75) =   1.03   Prob > F = 0.4301

As indicated on the above table the regression result shows that NPLR is significalty and negatively related with ROE. The parameter value shows that increase in NPLR decreases ROE. LPTL and LPTA are insignificant relation with ROE.

Table 4: Fixed effect regression result (dependent variable Lending decision)

Lending	Coef.	Std.Err
LPTL	-7.6006***	2.013215
NPLR	-0.3058	0.8721101
Constant	0.4629	014928
sigma_u	0.0392	
sigma_e	0.0614	
Rho	0.2900 (fraction of variance due to u_i)	
corr(u_i, Xb)	0.3311	
R^2	0.3112	
P-value	0.0000	
Number of obs	91	

F test that all u_i=0:   F(12, 75) =   2.23   Prob > F = 0.0183

The third regression analysis result indicated on the above table 4 shows that, R^2 value of 31.12 percent indicates the prediction power of dependent variable lending decision by independent variables. The regression results of the study suggest that LPTL of the banks are significantly negatively related with lending decision. The parameter value shows that increase in LPTL decreases lending decision.

4.   Conclusion

The study tries to discuss the effect of credit risk on profitability and lending decision of private commercial banks in Ethiopia. Previous studies in Ethiopia; on credit risk management and its impact on profitability, performance of commercial banks were discussed by different researchers. This study attempts to fill the research gap by examining how credit risk has effect on banks profitability and lending decisions, and limiting to only for private commercial banks in Ethiopia. The result indicates that non-performance loan to total loans is significalty and negatively related with ROE and ROA. The NPLR is an indicator of credit risk. The parameter value shows that increase in NPLR decreases ROA and ROE. This shows the credit risk has adverse on return on equity and return on asset, in other words NPLR has negatively related with profitability of the banks. Another result of the study indicates that loan provision to total loan of the banks is significantly negatively related with lending decision. The parameter value shows that increase in LPTL decreases lending decision.

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