THE EFFECT OF CREDIT RISK MANAGEMENT ON BANKS' FINANCIAL PERFORMANCE IN ETHIOPIA

:THE CASE OF SELECTED PRIVATE COMMERCIAL BANKS IN ADDIS ABABA CITY

A THESIS SUBMITTED TO THE COLLEGE OF BUSINESS AND ECONOMICS ON PARTIAL FULLFUILMENT OF THE MASTER OF BUSINESS ADMINSTARTION IN FINANCIAL MANAGEMENT, ADDIS ABABA UNIVERSITY

BY:

Bruke Tesfaye

Advisor: Sewale Abate (Phd)

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DECLARATION

I, Bruke Tesfaye declare that, this paper prepared for the partial fulfillment of the requirements for MBA Degree in Financial Management entitled "The Impact Credit Risk Management on The Financial Performance Commercial Banks taking only private banks published financial statement." The paper is prepared with my own effort. I have made it independently with the guidance of my advisor.

…….. ……..

Signature **Date**

This research project has been submitted for presentation with my approval as the University supervisor.

…….. ……..

Signature **Date**

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ACRONOMY AND ABBERVATIONS

AQ	Asset Quality
CD	Certificate of Deposit
CAMEL	Capital Adequacy, Asset Quality, Management Efficiency, Earnings and Liquidity
CAPM	Capital Asset Pricing Model
DW	Durbin Watson
EPRDF	Ethiopian People's Revolutionary Democratic Front
FI	Financial Institution
GDP	Growth Domestic Product
KMV	Kealhofer, McQuown and Vasicek
LQ	Liquidity
NPM	Net Profit Margin
NPL	Non Performing Loan
NBE	National Bank of Ethiopia
ROA	Return on Asset
ROE	Return on Equity
SAS	Statistical Analysis System
SNC	Shared National Credit
TL	Total Loan
TRWA	Total Risk Weighted Asset
VIF	Variance Inflation Factor

ABSTRACT

The objective of this study was to analyze the impact of credit risk management on the financial performance of selected commercial banks and to establish if there exists any relationship between the credit risk management determinants of CAMEL indicators and financial performance (measured by return on equity) of commercial banks in Ethiopia. Explanatory research design was undertaken in this study and this was facilitated by the use of secondary data which was obtained from NBE. The study used multiple regression analysis in the analysis of data and the findings have been presented in the form of tables, graphs and regression equations. The study also found that there is a strong relationships between the CAMEL components and financial performance of commercial banks. This has been seen with values r squared being 75.5% implying that CAMEL components could explain 75.5% variations in financial performance of commercial banks in Ethiopia. The study also found that capital adequacy, asset quality and liquidity had weak relationship with financial performance (ROE) while management efficiency had moderate relationships with financial performance. Earnings had a strong relationship with financial performance. This study concludes that CAMEL model can be used as a representation for credit risk management and as proxy to measure financial performances of commercial banks in Ethiopia. Based on the management efficiency ratio, the study thus recommends that commercial banks should also try to keep their operational cost low as this negates their profits margin thus leading to low financial performance. This is depicted by the strong effect of earnings on financial performance. The ratio of capital adequacy revealed that the banks under the study reserved more money than required by the regulation. This implies that the banks were not offering credit to those in need and which in turn affects the profitability of the banks and shareholders as well.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

According to Saunders and Marcia (2007), the supremacy of financial institutions like, not limited to, banks, credit unions, microfinance institutions, pension funds, and unit trusts on money creation is of great importance in business operations. Commercial banks are the major financial intermediaries in any economy and they are the major providers of credit to the household and cooperative sector and operate the payment mechanism (Saunders and Marcia, 2007). Commercial banks offer wholesale and retail banking services. In the USA, commercial banking excludes, by the 1933 Glass Steagall Act, investment-banking activities. According to Heffernan (2005), wholesale banking typically involves offering intermediary, liquidity and payment services to large customers such as big corporations and governments. They offer business current accounts, make commercial loans, participate in syndicated lending and are active in the interbank markets to borrow/lend from/to other banks. Global integration, technological advances and financial reforms have made parts of the wholesale market highly competitive. Most US commercial banks also have retail customers (Heffernan, 2005).

The risk of a trading partner not fulfilling his or her obligation as per the contract on due date or anytime thereafter can greatly jeopardize the smooth functioning of a bank's business. On the other hand, a bank with high credit risk has high bankruptcy risk that puts the depositors in jeopardy. Among the risk that face banks, credit risk is one of the great concern to most bank authorities and banking regulators. This is because credit risk is that risk that can easily and most likely prompts bank failure (Achou, 2008).

A modern financial management defines the business of banking as the measuring, managing and accepting of the risks. Under the definitions, the most important and uncertainty banks must measure, monitor and manage its credit risk. This hazard, which is called the default risk, is the danger that the counter party will default or not perform. With increased pressure on Banks to improve shareholder return banks have had to assume higher risk and at the same time, manage these risks to avoid losses. Recent changes in the banking environment (globalization,

deregulation, conglomeration, etc) have posed serious risk challenges for banks but has also have offered productive opportunities (Saunders and Marcia, 2007).

1.1.1 Banking in Ethiopia

According to Fasil A. and Merhatbeb M. (2012), it was in 1905 that the first bank, the "Bank of Abyssinia", was established based on the agreement signed between the Ethiopian Government and the National Bank of Egypt, which was owned by the British. Its capital was 1 million shillings. According to the agreement, the bank was allowed to engage in commercial banking (selling shares, accepting deposits and effecting payments in cheques) and to issue currency notes.

Following the 1974 Revolution, on January 1, 1975 all private banks and 13 insurance companies were nationalized and along with state owned banks, placed under the coordination, supervision and control of the National Bank of Ethiopia. The three private banks, Banco Di Roman, Banco Di Napoli and the Addis Ababa Bank S.C. were merged to form "Addis Bank." Eventually in 1980 this bank was itself merged with the Commercial Bank of Ethiopia S.C. to form the "Commercial Bank of Ethiopia," thereby creating a monopoly of commercial banking services in Ethiopia. Thus, from 1975 to 1994 there were four state owned banks and one state owned insurance company, i.e., the National Bank of Ethiopia (The Central Bank), the Commercial Bank of Ethiopia, the Housing and Savings Bank, the Development Bank of Ethiopia and the Ethiopian Insurance Corporation (Fasil A. and Merhatbeb M., 2012)

According to the publication of National Bank of Ethiopia: Bank Supervision Directorate, (2010), Ethiopia has 16 private commercial banks established based on the requirements of the Central bank and all these banks are owned by Ethiopian nationals alone and no foreign banks operate in Ethiopia. National Bank of Ethiopia oversees and controls the operations of these banks. The central bank issues different regulatory and follow up instructions to all banks whenever the need arises.

1.2 Statement of the Problem

Loan is the most important resources held by banks. Lending activities require banks to make judgment related to the credit worthiness of a borrower. However, the judgments do not always prove to be accurate and the credit worthiness of a borrower may decline due to various factors. Consequently, banks face credit risks. Credit risk is the risk that obligations will not be repaid on time and fully as expected or contracted, resulting in a financial loss or non-performing loans.

> Ahmed Tijjani (2002) argued that (as cited in NDIC Annual Report, 1989):
>
> One of the major problems confronting the banking industry today is the increasing incidence of loan defaults and consequent loan losses that manifested on the profitability of the banks. Consequence to increasing incidence of huge bad debts in the Nigerian banking industry, insider's abuses, managements competence have been called to question (NDIC Annual Report, 1989).

In a study conducted by Tang and Jiang, 2003 on the profitability of banking sector in Hong Kong, they found that both bank specific as well as macro-economic factors are important factors determining the performance of banks. From the samples they had selected in Hong Kong, they highlighted that macro-economic determinants, real GDP growth, inflation and interest rate had a positive effect. Operational efficiency and business diversifications, among the bank specific variables, contribute to higher Return on Assets, after controlling differences in credit quality of loans. They also enlisted that provision for bad debts and non-interest expenditures as the major factors influencing banks financial performance in Hong Kong. In conclusion, the researcher argued that after controlling the credit quality of bank lending portfolios a more efficiently operated and diversified bank achieves higher performance.

Sound credit management is a prerequisite for banks stability and continuing profitability, while deteriorating credit quality is the most frequent cause of poor financial performance and condition. According to Gitman (1997), the probability of bad debts increases as credit standards are relaxed. Credit granting institutions like banks must therefore ensure that the management of receivables is efficient and effective .Such delays on collecting cash from debtors as they fall due has serious financial problems, increased bad debts and affects customer relations. If payment is made late,

then profitability is eroded and if payment is not made at all, then a total loss is incurred. On that basis, it is simply good business to put credit management at the front end by managing it strategically.

A study conducted by SAS Institute Inc. in 2014, one of the company's' official was arguing that an underwriting component contributes to the gap between credit access and risk management. It is a blind spot in many loan-underwriting systems that over-rely on quantitative models and automated underwriting systems. He further argued that technology has a vital role to play to boost efficiency help measure, and monitor credit risk. The official argued that the loans provided by banks need first to be properly classified and then risk rated. Many systems implement that process backwards. Second, credit scoring has not done an adequate job of assessing risk in the US subprime mortgage market. Lenders who depended on these credit-scoring systems were measuring credit risk inaccurately and incompletely. Improper use of credit scoring and automated underwriting created incomplete risk analyses and weakened underwriting standards and policies, and the result was a drop in loan quality (Brown I. 2014).

According to Million G, Mathewos K, and Sujeta S. (2015), Ethiopian banking sector documented that credit risk and non-performing loan have been the major challenges of bank performance.

The principal concern of this paper is to assess to what extent the CAMEL ratios of banks can manage their credit risks, what tools or techniques they use to manage their credit risk and to what extent their financial performance can be affected by credit risk management ratios/tools. The financial performance in this context viewed as the profitability measure and the CAMEL components used as the explanatory variables. Therefore, profitability measures of financial performance will be applied in order to provide clear evidence on the problem.

1.3 Objectives of the Study

1.3.1 General Objective

The main objective of the study is to investigate the effect of the CAMEL components on explaining the financial performance of banks with the aim of credit risk management and its impact on the performance of commercial banks.

1.3.2 Specific Objectives

In line with the general objective, the researcher proposes to assess the following specific objectives;

1. To assess how the CAMEL components impact the financial performance of commercial banks in Ethiopia (selected banks).
2. To investigate if there was any relationships between the credit risk management determinants and the performance of commercial banks in Ethiopia.

1.4 Research Question

Among other risks faced by commercial banks, credit risk plays an important role on banks' financial performance since a large chunk of banks' revenue accrues from loans from which interest margin is derived (Kolapo, Ayeni & Oke, 2012). Since exposure to credit risk continues to be the leading source of problems in banks worldwide, banks and supervisors should be able to draw useful lessons from past experiences. Banks should now have a keen awareness of the need to identify, measure, monitor and control credit risk as well as to determine that they hold adequate capital against these risks and that they are adequately compensated for risks incurred (Basel committee, 2004).

In order to acquire relevant knowledge on the effect of the credit risk management and profitability of commercial banks in Ethiopia, the researcher made the following research question:

Do the CAMEL components impact the credit risk management of commercial banks in Ethiopia?

Is the financial performance of commercial banks explained by the CAMEL factors?

Empirical review of Hypothesis:

The Uniform Financial Institution Rating system, commonly referred to the acronym CAMEL rating, was adopted by the Federal Financial Institution Examination Council on November 13

1979, and then adopted by the National Credit Union Administration in October 1987. It has proven to be an effective internal supervisory tool for evaluating the soundness of a financial firm, on the basis of identifying those institutions requiring special attention or concern. (The United States. Uniform Financial Institutions Rating System 1997, p.1)

According to Barr (2002), states that "CAMEL rating has become a concise and indispensable tool for examiners and regulators". This rating ensures a bank's healthy conditions by reviewing different aspects of a bank based on variety of information sources such as financial statement, funding sources, macroeconomic data, budget and cash flow. Nevertheless, Hirtle and Lopez (1999) stress that the bank's CAMEL rating is highly confidential, and only exposed to the bank's senior management for the purpose of projecting the business strategies, and to appropriate supervisory staff.

To answer the above question, the researcher made the following hypothesis with the expectations that banks with better result of each of the CAMEL components will have high financial performances and better credit risk management.

With the help of the observed data of selected commercial banks, the study established and tested the following hypothesis:

Hypothesis 1 (H_0): banks which use the CAMEL components to measure credit risk have better credit risk management systems which impacted their performance.

Hypothesis 2 (H_1): using other systems than CAMEL components for credit risk management has no effect on the performance of commercial banks.

1.5 Significance of the Study

The significance of this study is anticipated that the findings will be important to different sectors, which has high interest in the banking industry. Some of them have been pointed out as follows:

This study also will be important to banks' credit departments and senior managers as it will provide an insight into the image of banks' financial performance towards its credit management efficiency and how to reduce exposure to the risk. The government will also obtain information on the importance of implementation of various legal frameworks in relation to credit risk management, developing policy papers, policy making regarding credits and other regulatory

requirements of commercial banks in Ethiopia. The academicians will be furnished with relevant information regarding credit risk management and its effect on the financial performance of commercial banks. The study will contribute to the general knowledge and form a basis for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter deals with various notions in regards to the relationship between credit risk management and financial performance of commercial banks. In addition the researcher will discuss various pragmatic studies. Thoughts and ideas from different sources will be linked together to formulate a meaningful and magnificent material. Theories about credit risk management and financial performance will be developed in this chapter and finally, the summary of the literature review will be drawn.

2.2 Theoretical Review

A Theoretical literature review surveys books, scholarly articles, and any other sources relevant to a particular issue, area of research, or theory, and by so doing, provides a description, summary, and critical evaluation of these works in relation to the research problem being investigated. It will contribute to a better understanding of the concept and help in assuming both knowledge and acceptance of theories that relates to Credit Risk Management and Financial Performance.

Good credit risk management has always been a key component to the success of the bank, even as banks move into other areas. However, the cause of the majority of bank failures can be traced back to weak loan books. For example, Franklin National Bank announced large losses on foreign exchange dealings but it also had many unsound loans. Likewise many of the ‘‘thrift’’ and commercial bank failures in the USA during the 1980s were partly caused by a mismatch in terms between assets and liabilities, and problem loans. In Japan, it was the failure of mortgage banks in 1995 that signaled major problems with the balance sheets of virtually all banks (Heffernan 2005, p 105).

2.2.1 Portfolio theory

2.2.1.1 Markowitz portfolio theory

The author of the modern portfolio theory is Harry Markowitz who introduced the analysis of the portfolios of investments in his article "Portfolio Selection" published in the Journal of Finance in 1952. The new approach presented in this article included portfolio formation by considering the expected rate of return and risk of individual stocks and, crucially, their interrelationship as measured by correlation. The diversification plays a very important role in the modern portfolio theory. Markowitz approach is viewed as a single period approach: at the beginning of the period, the investor must make a decision in what particular securities to invest and hold these securities until the end of the period. Because a portfolio is a collection of securities, this decision is equivalent to selecting an optimal portfolio from a set of possible portfolios. Markowitz portfolio theory is a theory mainly used by investors for selecting portfolio based on return and risk tradeoff. The efficient set theorem has been used to evaluate the tradeoff between risk and return. Efficient set of portfolios involves the portfolios that the investor will find optimal ones. These portfolios are lying on the "northwest boundary" of the feasible set and is called an efficient frontier. The efficient frontier can be described by the curve in the risk-return space with the highest expected rates of return for each level of risk. Bodie et al., (1999) described that, the portfolio theory integrates the process of efficient portfolio formation to the pricing of individual assets. Some sources of risk associated with individual assets can be eliminated or diversified away by holding a proper combination of assets.

Antony Saunders (2008), the modern portfolio theory dictates that a Financial Institute (FI) manager holds widely traded loans and bonds as assets or, alternatively, can calculate loan or bond returns, portfolio diversification models can be used to measure and control the FI's aggregate credit risk exposure. Despite the nontraded aspect of many loans, a great deal of recent research has gone into developing modern portfolio theory models for loans. Even if modern portfolio theory has been used for loans, direct application of modern portfolio theory is often difficult for FIs lacking information on market prices of assets because many of the assets—such as loans—are not bought and sold in established markets. P (350-357)

However, sufficient loan volume data may be available to allow managers to construct a modified or partial application of MPT to analyze the overall concentration or credit risk exposure of the FI.

These data therefore provide market benchmarks against which an individual FI can compare its own internal allocations of loans across major lending sectors such as real estate, commercial and industrial. For example, the Shared National Credit (SNC) database provides a market benchmark of the allocation of loans across various industries or borrowers (Antony Saunders, 2008, p 350-357).

As the study of Ugirase (2013) indicated, the theory poses a number of gaps; the initial intent by Markowitz was to address the importance of investment portfolio for investors to spread risk when investing and not management of loan portfolio in banks. Some of the issues not addressed by the theory include; how banks can form a portfolio of loans that minimize risk and maximize return. It does not outline ways of determining a risk free portfolio. In addition the theory does not address various risks that are faced by banks when managing a loan portfolio. Therefore, the theory cannot apply when managing credit risk in banks.

2.2.2 The Capital Asset Pricing Model (CAPM)

Ugirase's (2013), stated in her research that:

> The Capital Asset Pricing Model (CAPM) was first developed by Sharpe (1964) and Lintner (1965). Sharpe and Lintner version of CAPM was based on the one period mean variance portfolio theory of Markowitz. The Markowitz assumes that investors are risk averse and only care about risk (variance) and return (mean) of one period investment return. Therefore investors chose efficient portfolio, meaning that they either maximize the expected return, giving a certain variance of portfolio return or minimize the variance given a certain expected return. The Capital Asset Pricing Model is established in four basic assumptions. First, investors are risk averse and evaluate their investment portfolios solely in terms of expected return and standard deviation of return measured over the same single holding period. Second, capital markets are perfect in several senses: all assets are infinitely divisible; there are no transactions costs, short selling restrictions or taxes; information is costless and available to everyone; and all investors can borrow and lend at the risk-free rate. Third, investors all have access to the same investment opportunities. Fourth, investors all make the same estimates of individual asset expected returns, standard deviations of return and the correlations among asset returns. (p. 14)

The Capital Asset Pricing Model mainly deals from the investor's point of view and evaluate the systematic risks that can be compared with other assets in the market. So using this measure of risk can theoretically allow investors to improve their portfolios and managers to find their required rate of return.

The Capital Asset Pricing Model does not really demonstrate how banks can manage their credit risk and hence the model has a drawback when managing credit risk for banks.

2.2.3 Asymmetric Information Theory

Gatuhu's (2013) study stated that:

> Information Asymmetry refers to a situation where enterprise owners or manager know more about the risks facing their business, than do the lenders (PWHC, 2002) cited in Eppy (2005). Information asymmetries arise when gaining information on the characteristics or behavior of the borrower and it's costly for the financial institution. Information asymmetries generate problems of allocation of loans to borrowers with undesirable characteristics such as a high level of risk or inability to take advantage of the loan (Lown & Morgan, 2003). The theory describes a situation in which all parties involved in an undertaking do not know relevant information. In a debt market, information asymmetry arises when a borrower who takes a loan usually has better information about the potential risks and returns associated with an enterprise for which the funds are earmarked. The lender on the other hand does not have sufficient information concerning the borrower (Edwards & Turnbull, 1994). (p 25)

> Binks et al (1992) point out that perceived information asymmetry posses two problems for the banks, moral hazard (monitoring entrepreneurial behavior) and adverse selection (making errors in lending decisions). Banks will find it difficult to overcome these problems because it is not economical to devote resources to appraisal and monitoring where lending is of relatively small amounts. This is because data needed to screen credit applications and to monitor borrowers are not freely available to banks.

> Bankers face a situation of information asymmetry when assessing lending applications (Binks and Ennew, 1996, 1997). The information required to assess the competence and commitment of the entrepreneur, and the prospects of the business is either not available,

uneconomic to obtain or difficult to interpret. This creates two types of risks for the Banker (Deakins, 1999). The risk of adverse selection which occurs when banks lend to businesses which subsequently fail (type II error), or when they do not lend to businesses which go on to become" successful, or have the potential to do so (type I error) (Altman, 1971).

2.2.4 Transaction Cost Theory

Gatuhu's (2013) study stated that:

> First developed by Schwartz (1974), this theory conjectures that suppliers may have an advantage over traditional lenders in checking the real financial situation or the credit worthiness of their clients. Suppliers also have a better ability to monitor and force repayment of the credit. All these superiorities may give suppliers a cost advantage when compared with financial institutions.
>
> Three sources of cost advantage were classified by Petersen and Rajan (1997) as follows: information acquisition, controlling the buyer and salvaging value from existing assets. The first source of cost advantage can be explained by the fact that sellers can get information about buyers faster and at lower cost because it is obtained in the normal course of business. That is, the frequency and the amount of the buyer's orders give suppliers an idea of the client's situation; the buyer's rejection of discounts for early payment may serve to alert the supplier of a weakening in the credit-worthiness of the buyer, and sellers usually visit customers more often than financial institutions do. (p. 26)

2.3 Determinants of Financial Performance

The financial performance of banks is expressed in terms of profitability and the profitability has no meaning except in the sense of an increase of net asset. Profitability is a company's ability to earn a reasonable profit on the owner's investment (Warren E. Buffett, 2005). Most organizations exist is to earn profit and profitability ratios show a company's overall efficiency and performance. We can divide profitability ratios into parts: Profit margin and returns. Ratios that show margins represent the firm's ability to translate sakes dollars into profits at various stages of measurement. Ratios that show returns represent the firm's ability to measure the overall efficiency of the firm

in generating returns for its shareholders (Bessis, 2005). The most popular profitability measurements are: Profit margin on sale, Return investment ratios, and return on equity.

According to C. Paramasivan and T Subramanin, (2008) described the most popular profitability measurement formulas' as below:

Return on Asset = (Net Income / Total Assets) * 100

Return on Equity= (Net Income / Total Equity) * 100

Profit Margin= (Net Income / Net Sales) * 100

In accordance with the study by Waymond (2007), Profitability ratios are often used in a high stream as the indicators of credit analysis in banks, since profitability is associated with the results of management performance. Measuring profitability is the most important measure of the success of the business (Mishkin, 2002).

A business that is not profitable cannot survive. Conversely, a business that is highly profitable has the ability to reward its owners with a large return on their investment. Increasing profitability is one of the most important tasks of the business managers; these ones look for the way to improve profitability.

2.4 Empirical Review

Credit Risk Management is a serious threat to the performance of banks; therefore various researchers have examined the effect of credit risk management on banks in varying dimensions.

Kolapo, Ayeni and Oke (2012) executed a panel model analysis to estimate the determinants of the profit function on banks performance. The result showed that the effect of credit risk on bank performance measured by the Return on Assets of banks is cross-sectional invariant. That is the effect is similar across banks in Nigeria, though the degree to which individual banks are affected is not captured by the method of analysis employed in the study. A 100 percent increase in non-performing loan reduces profitability (ROA) by about 6.2 percent, a 100 percent increase in loan loss provision also reduces profitability by about 0.65percent while a 100 percent increase in total loan and advances increase profitability by about 9.6 percent.

Ugirase's (2013), stated in her research that:

> Ahmed, Takeda and Shawn (1998) in their study found that loan loss provision has a significant positive influence on non-performing loans. Therefore, an increase in loan loss provision indicates an increase in credit risk and deterioration in the quality of loans consequently affecting bank performance adversely.
>
> Ahmad and Ariff (2007) examined the key determinants of credit risk of commercial banks on emerging economy banking systems compared with the developed economies. The study found that regulation is important for banking systems that offer multi-products and services; management quality is critical in the cases of loan-dominant banks in emerging economies. An increase in loan loss provision is also considered to be a significant determinant of potential credit risk. The study further highlighted that credit risk in emerging economy banks is higher than that in developed economies. (p. 28)

A study conducted by Girma Mekasha (2011, unpublished) described that Ethiopian Commercial banks has shown that banks with good or sound credit risk management policies have lower loan default ratios (bad loans) and higher interest income (Profitability). The study also shown that there is a significant relationship between bank performance (in terms of return on asset) and credit risk management (in terms of Loan performance). The researcher has indicated that better credit risk management results in better bank performance. Thus, it is of crucial importance that banks to practice prudent credit risk management and safeguarding assets of the banks and protect the investors 'interests.

The study also revealed that banks with higher profit potentials can better absorb credit losses whenever they crop up and therefore record better performances. Furthermore, the study shown that there is a direct but inverse relationship between return on asset (ROA) and the ratio of non-performing loans to total loan (NPL\TL) and loan provision to total loan.

Ngare (2008) conducted a survey of Credit Risk Management Practices by commercial banks in Kenya. The specific area of research were geared forward identifying the source of credit risk exposures in banks and strategies that the banks have adopted to monitor and mitigate against the credit risk exposures inherent in the operations of their business. To facilitate the attainment of the objectives of this study, questions were administered to credit risk managers and credit managers.

From the study it was found that most banks use qualitative loan assessment methods to make credit granting decisions while liquidity runs on the borrowers' credit concentration and adverse trading by the borrowers were the main sources of credit risk among the banks in Kenya.

In addition, most banks were found to use loan diversification, banks guarantees and bank covenants to mitigate against credit risk.

A study conducted by Sahlemichael Mekonnen (2009, Unpublished) found that there are commercial banks involved in the banking business without having even a credit management department and credit risk management policies. The research found credit risk as the most common and frequently occurring risk in commercial banks. Among others lack of coordination among lending banks, failure of due diligence and independent monitoring are the major reasons given by the banks for the frequency of the credit risk occurrence in their banks. The research found that only 17% of the banks from the sample had credit risk management department, which is independent from the loan origination function. Most surprisingly the researcher mentioned that there were banks who do not have written credit risk policy. The researcher clearly indicated that 67% the sampled banks didn't effectively communicate their credit risk strategy and policy throughout their organization. The researcher indicated that none of the banks has used the popular credit evaluation techniques like KMV's Portfolio Manager, Altman's Z score model, J.P. Morgan credit matrix, etc.

Sahlemichael (2009) found that there is a significant relationship between bank performance (in terms of profitability) and credit risk management (in terms of loan performance). Better credit risk management results in better bank performance. Thus, it is of crucial importance that banks practice prudent credit risk management and safeguarding the assets of the banks and protect the investors' interests.

UGIRASE (2013) in her study found out that credit risk identification, credit scoring mechanism and credit analysis and assessment are good predictors of the model consequently those three indicators used of credit risk management have shown a positive relationship with the financial performance of commercial banks in Rwanda. The study has also concluded that the client has defaulted on loan payment after more than 12 month late and after using supervision on one to one

basis. The study found the approaches that are used by the banks in screening and risk analysis before awarding credit to clients. From the findings, the study has concluded capacity/ competition and conditions are the approaches mostly used in screening and risk analysis. Finally the study concludes that there were positive effects of credit risk management on financial performance of Rwanda commercial banks.

Saidov (2011) stated that the role of the commercial banks considered as a backbone to the survival of the economy in the country. They are the main players in the financial system and the most active sector in the economy. Some objectives of commercial banks such as a commercial bank's are to make a profit by intermediating between depositors (savers) and borrowers (investors). Most commercial banks in different countries use different methods to evaluate their performance. In addition to the customary ratio analysis banks use methods like CAMEL framework, GIRRAFE, EAGELS and PEARLS. Uyen in 2011 stated that CAMEL can figure out the performance of banks in all aspects and is a useful tool to examine the safety and soundness of banks, and help mitigate the potential risks, which may lead to bank failures. As kouser in 2012 indicate that CAMEL framework is used for the evaluation of performance, ranking and assessing based on capital adequacy, Asset quality, management efficiency, earning ability and liquidity position. "CAMEL rating has become a concise and crucial tool for examiners and regulators". This rating ensures a bank's healthy conditions by reviewing different aspects of a bank based on variety of information sources such as financial statement, funding sources, macroeconomic data, budget and cash flow (Dang, 2011). Nevertheless, Hirtle and Lopez in 1999, stress that the bank's CAMEL rating is highly confidential, and only exposed to the bank's senior management for projecting the business strategies, and to appropriate supervisory staff.

Tefera (2011) and Mekasha (2011) each studied the effect of credit risk management on the performance of commercial banks in Ethiopia. Both used annual financial reports of commercial banks and surveyed the banks managers and officers. The result of the study shown that there exists a negative relationships between credit risk management and financial performance of banks. As one of the member of the Basel Committee, National Bank of Ethiopia has also started the use of CAMEL as a credit risk measurement tool by setting what the level of the CAMEL components should be.

2.5 Summary of Literature Review

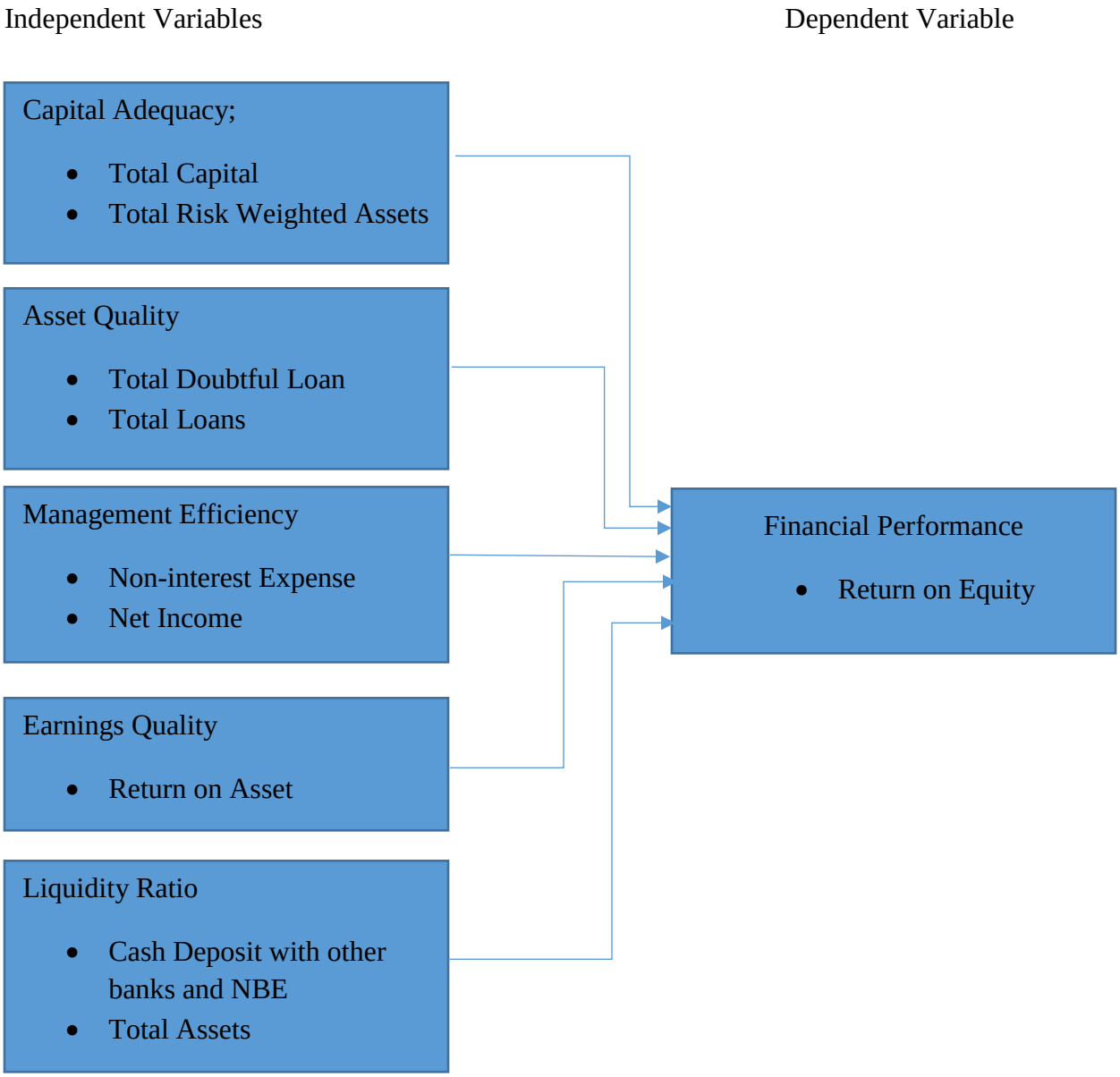
The theoretical and empirical analysis found Credit Risk Management is vital in Management of Banks credit. All studies that tempted to analyze Credit Risk Management and Financial Performance from the empirical review are biased towards various methods and techniques of Credit Risk Management used by various Institutions. The studies described that Credit Risk management can contribute to the financial performance of Banks but did not establish a clear effect between Credit Risk Management and the Financial Performance. It is only stated credit as a factor influencing Financial Performance. The CAMEL approach has been suggested as the best tool by which banks or supervisory bodies should use in order to investigating their credit risk exposure.

The theory analyzed has introduced a very important element in Banks. i.e, Risk and Return, and holding portfolio of Assets to diversify risk. The theorists' intentions were to address investors of stocks in an equity market. i.e On how to maximize return while minimizing risks. Thus, the theories have not clearly explained the clear effect between Credit Risk Management and Financial Performance in Commercial Banks. From the literature review there are gaps identified and thus necessitating the Study.

2.6 Conceptual Framework

An illustration of the key variables and their interconnections were diagrammatically shown in the figure below. The figure indicated the adopted conceptual framework showing the variables of the study.

Figure 2.1 Conceptual Framework



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter deals with how the research will be conducted in order to achieve the stated objectives and it present the research design and methodology that will be used to carry out the research. It presents the research design, the population, and sample selection, sampling procedure, and research instruments, methods of data analysis and data collection and limitations encountered during the research process.

3.2 Research Design

Research design is needed because it facilitates the smooth sailing of the various research operations, thereby making research as efficient as possible yielding maximal information with minimal expenditure of effort, time and money (Mugenda and Mugenda, 2003).

The research design as the outline plan or scheme that is used to generate answers to the research problems, it is basically the structure and plan of investigation (Mugenda and Mugenda, 2003). The researcher used an explanatory research design. Explanatory research seeks to establish factors associated with certain occurrences, outcomes, conditions or types of behavior. This is deemed appropriate because the study has involved in depth study of credit risk management and its effect on the financial performance of commercial banks in Ethiopia which helped the researcher in describing the state of the real current situation of banks. A descriptive study was undertaken in order to establish and be able to describe the characteristics of the variables of interest carried out in the study.

3.3 Population and Sample

The population of interest in this study were all private commercial Banks registered by National Bank of Ethiopia (NBE). The target population for the study considered all private commercial Banks in Ethiopia. Ethiopian private commercial banks usually process and file loan applications centrally at Head office level and hence the banks under the study were the respective Head Offices based in Addis Ababa. The study period considered in this paper was for all 16 private commercial banks operational for the last five years (from 20012 to 2016). The researcher asked the National

bank official to provide the 2017 financial reports, which they responded the report was not compiled and consolidated in way it could be issued for such research uses. Thus the fiscal year 2017 was not included as part of this study. The recent year financial data were used for that fact that, the researcher wanted to include the newly emerging banks to the sample. Enat Bank is the only bank excluded from the study as the bank was not trading for the whole study period. Debub Global bank was established in late 2012 and the researcher excluded from the study as it didn't traded the whole operational year.

3.4 Data Collection

The research used published Financial Reports of Commercial Banks which were available with the National Bank of Ethiopia (NBE). According to Stewart (1984), Frankfort-Nachmias and Nachmias (1992) secondary data can be defined as data collected by others, not specifically for the research questions at hand. The researcher considered published financial data on the performance of the banks under investigation.

3.5 Data Analysis

Data analysis aims at fulfilling the research objectives and provided answers to the research questions. For the collected data to be understood by the common man easily, it needs to be analyzed. The research used quantitative techniques in analyzing the data. The data analysis method used was based on the Pearson Correlation analysis and multiple regression model. Comparing and analyzing the research findings, conclusions were drawn on the effect of Credit Risk Management on the financial Performance of Commercial Banks in Ethiopia.

3.5.1 Analytical Model

Multiple regression of financial performance versus credit risk management was applied to establish the effect between variables. The model treats financial performance of private commercial banks as dependent variable while the independent variable will be credit risk management. The dependent variable (financial performance) was measured by Return on Equity (ROE) whereas the independent variables were the CAMEL components of Capital Adequacy which was measured by the ratio of Total Capital (TC) to Total Risk Weighted Assets (TRWA), Asset Quality was measured by total doubtful loan to total loans , Management Efficiency was measured by the Non-Interest Expense to Net Income, Earnings was measured by the Return On

Asset (ROA) and Liquidity was measured by the Cash Deposits with other banks and National Bank of Ethiopia to Total Assets.

The analysis model equation is represented in the regression model as follows:

$Y=\beta_0+ \beta_1X_1+ \beta_2 X_2+ \beta_3 X_3+ \beta_4 X_4+ \beta_5 X_5+\epsilon$

Where: Y = Dependent Variable

β_0 = Constant term

X_1 = Capital Adequacy

X_2 = Asset Quality

X_3 = Management Quality

X_4 = Earnings

X_5 = Liquidity

The significance of the analytical model was tested by the use of SPSS. A regression analysis was done to find out the relationship between credit risk management and financial performance.

3.6 Definition and Components of CAMEL Rating System

3.6.1 Capital Adequacy

The dimension of capital adequacy is an important factor to help the bank in understanding the shock attractive capability during risk. In this study, capital adequacy is measured by using the equity to total risk weighted asset ratio (Vong & Chan, 2009). That means, capital adequacy enables a bank to meet any financial unexpected condition due to FX risk, credit risk, market risk, interest rate risk. Capital adequacy protects the interest of depositors of a bank.

3.6.2 Asset Quality

The dimension of asset quality is an important factor to help the bank in understanding the risk on the exposure of the debtors. In this paper, this parameter is measured by the provision for loan loss reserve to total loan ratio (Merchant, 2012). This ratio assures to cover the bad and doubtful loans of the bank. This parameter will benefit the bank in understanding the amount of funds that have

been reserved by the banks in the event of bad investments. All banks maintain loan loss allowances to cover estimated potential losses in their loan portfolios. As the aftereffects of the subprime crisis have subsided, the allowance for loan losses for the industry have exhibited a declining trend. As the asset quality improves, banks are setting aside less allowance for potential defaults. Improved asset quality means fewer charge-offs and higher profits for banks. The banking sector's asset quality indicators are generally moving in the right direction.

3.6.3 Management Efficiency

Management efficiency reflects the management soundness of a bank, the existence of well-trained staffs, having clean and logical strategy, management experiences and well regulated environment. The management acts as a safeguard to operate the bank in a smooth and decent manner and is called excellence management or skillful management, whenever it controls its cost and increases productivity, ultimately achieving higher profits. Here, this parameter is measured by non-interest expenses to net income ratio. Since a bank's operating expenses are in the numerator and its revenue is in the denominator, a lower efficiency ratio means that a bank is operating better. It is believed that a ratio of **50%** is the maximum optimal efficiency ratio (C. Paramasivan and T. Subramanin, (2008).

3.6.4 Earnings

Earning is an important parameter to measure the financial performance of an organization. Earning quality mainly measures the profitability and productivity of the bank, explains the growth and sustainability of future earnings capacity (C. Paramasivan and T Subramanin, (2008). In the same way, bank depends on its earning to perform the activities like funding dividends, maintaining adequate capital levels, providing for opportunities for investment for bank to grow, strategies for engaging in new activities and maintaining the competitive outlook. Here earning is determined by return on asset.

3.6.5 Liquidity

Liquidity ratio in a bank measures the ability to pay its current obligations (Hazzi & Kilani, 2013). For having sound banking operations it needs to have liquidity solvency. If any bank faces liquidity crisis, bank can't meet up its short-term obligations. Liquidity crisis seems to be a curse to the image of banks. So it is a prime concern to banks. Cash and investments are the most liquid assets of a bank. An adequate liquidity position means a situation, where institution can obtain sufficient

funds, either by rising liabilities or by converting its assets quickly at a reasonable cost. Here liquidity performance is measured by cash deposits by other banks and NBE to total asset ratio.

Chapter Four

Data Analysis

4.1 Introduction

This chapter presents analysis and findings of the research. From the study population target of 16 private commercial banks in Ethiopia, only 14 were taken into account. Enat and Debub Global banks had not been trading consistently for the study period and hence they are excluded from the study. The data was collected from NBE. Audited and publicized financial statement were used to make the analysis. These financial statements consisted of financial performance (return on equity (ROE)) and CAMEL Model (Capital adequacy, Asset quality, Management efficiency, Earnings and Liquidity). Capital adequacy was proxied by the ratio of Total Capital (TC) to total risk weighted assets (TRWA), asset quality (total doubtful loan to total loans, this ratio is used for the reason that banks and even the central bank of Ethiopia were unwilling to disclose the off-balance sheet items), management efficiency (Non-Interest Expense to net income), earnings quality (return on assets (ROA)) and liquidity (cash deposits with other banks and NBE to total assets). The study used both descriptive and inferential statistics to analyze the data.

4.2 Econometric Analysis

4.2.1 Correlation Coefficients

To test one of the key assumption of regression model, the study sought to establish and test the linearity between dependent and independent variables. Pearson correlation matrix is used to test the linearity of variable. The dataset for dependent and independent variables were used for the five year period (2012 – 2016). The result is presented below:

Table 4.1: Correlation Matrix

		ROE	CAR	AQ	ME	EARNINGS	LQ
ROE	Pearson Correlation	1					
	Sig. (2-tailed)						
CAR	Pearson Correlation	-.383**	1				
	Sig. (2-tailed)	.001					
AQ	Pearson Correlation	.208	.163	1			
	Sig. (2-tailed)	.084	.177				
ME	Pearson Correlation	-.582**	.109	-.080	1		
	Sig. (2-tailed)	.000	.370	.508			
EARNINGS	Pearson Correlation	.659**	.180	.159	-.534**	1	
	Sig. (2-tailed)	.000	.136	.188	.000		
LQ	Pearson Correlation	.113	.440**	.073	-.080	.371**	1
	Sig. (2-tailed)	.350	.000	.550	.508	.002	

**. Correlation is significant at the 0.01 level (2-tailed).

As per the table above Pearson correlation is used to analyses the correlations between the variables and financial performance of banks included in the sample. Table 4.1 shows that the correlations matrix of the CAMEL indicators to financial performance.

Form the table 4.1 Capital adequacy (CAR) had values of correlation coefficients (r) =-0.383 with p-value of 0.001. This indicates that capital adequacy has a moderate negative relationship with financial performance measured by return on equity of commercial banks in Ethiopia. The p-value of capital adequacy indicates that it is statistically significant. Asset Quality (AQ) values revealed that weak/small positive correlation with return on equity. The values indicated that correlation coefficient (r) = 0.208 with p-value= 0.084 which implies asset quality is insignificant to measure the financial performance of banks in Ethiopia. Management Efficiency (ME) with correlation coefficient (r) = -0.582 and p-value = 0.000 has a slight strong negative relationship with return on equity or financial performance of banks in Ethiopia. The p-value and coefficient of management efficiency indicated that a better managed banks will have a better financial performance. As the p-value indicated, Management efficiency significantly affects the financial performance of banks in Ethiopia. The test for Pearson Correlation indicated that Earning had a strong relationship with return on equity as correlation coefficient (r) = 0.659 with p-value = 0.000. This indicates that Earnings significantly affects the financial performance banks in Ethiopia. Liquidity, as indicated in the table had weak relationships with capital adequacy. The results

indicated that correlation coefficients (r) = 0.113 with p-value = 0.35 indicated the insignificancy of the variable to measure the effect on financial performance of commercial banks in Ethiopia.

In order to further determine the linearity of the model, I ran the goodness of fit statistics for each year as shown in the table below:

4.2.2 Regression Analysis Model

In the following analysis a multivariate model was applied to find out the effect of credit risk management on the financial performance of commercial banks in Ethiopia. A liner regression model of commercial bank financial performance represented by return on equity versus credit risk management represented by CAMEL factors were applied to examine the relationships between the variables. The relationships model was represented by the following liner equation:

$$\mathbf{Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon}$$

Whereby: Y = Financial performance represented by Return on Equity (ROE)

α = Constant term

β = Beta coefficient

X_1 = Capital adequacy ration

X_2 = Asset Quality

X_3 = Management Efficiency

X_4 = Earnings

X_5 = Liquidity Ratio

Table 4.2 : Overall Model Adequacy Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.869[a]	.755	.736	3.741320711564465	1.67

a. Predictors: (Constant), LQ, AQ, ME, CAR, EARNINGS

Table 4.2 above indicates the output for the overall model fitness. The R coefficient of 0.869 indicates that the predictors of the model which are capital adequacy, asset quality, management efficiency, earnings and liquidity ratios have a correlation of 86.9% with the dependent variable of return on equity. The value of r squared also shows that 75.5% of the variability of return on equity can be explained by CAMEL components.

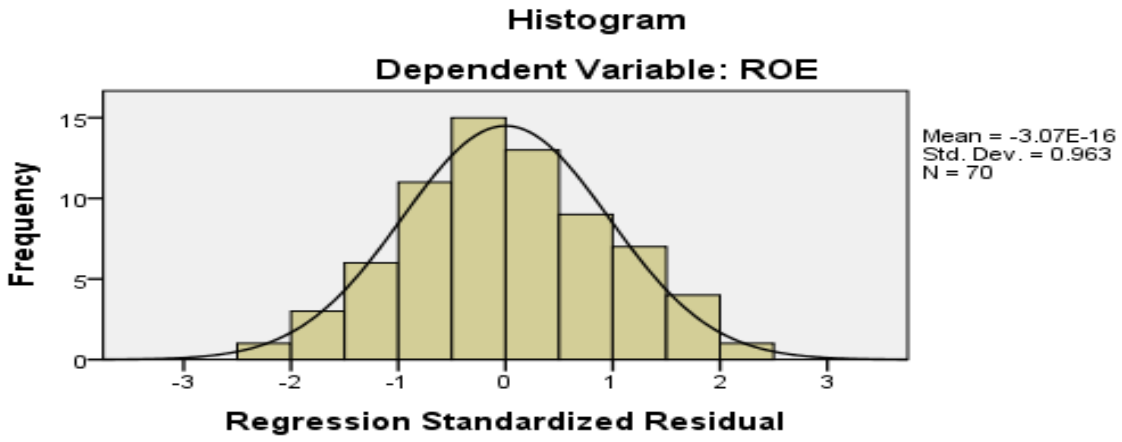
4.2.2.1 Autocorrelation Test

The value of DW test in table 4.2 indicated that the assumption of no autocorrelation will not be rejected as it is 1.67 which approaches to two.

4.2.2.2 Normality Test

One of the assumption of regression analysis is the assumption of normal distribution of the data under the study. To check its normality, the researcher took histogram using SPSS. The SPSS result is depicted below.

Graph 4.1- Histogram for Normality Test



According to graph 4.1, the data under the study is symmetrical and it is normally distributed. Thus the assumption of Normal distribution will not be rejected.

4.2.2.3 Homoscedasticity Test

The other valid assumption of liner regression is a test for no heteroscedasticity. To test the homogeneity of variables, the researcher ran Breusch-Pagan and Koenker test using SPSS. The result of the test has been shown in the below table.

Table 4.3: Homoscedasticity Test

Test	LM	Sig
BP	15.813	.017
Koenker	18.682	.09

As table 4.3 indicated above, the value of BP and Koenker is greater than 0.05 sig vale. As per the standard set by this two test, if the sig value is greater than 0.05, the null hypothesis of no heteroscedasticity will not be rejected.

4.2.2.4 Multicollinearity Test

The forth assumption of liner regression is the test for multicollinearity. The researcher ran a Variance Inflation factor and Tolerance to see if there exist multicollinearity among the variables. The below table shows the result of VIF and tolerance to test.

Table 4.4. Test for Multicollinearity

Collinearity Statistics	
Tolerance	VIF
0.755	1.325
0.953	1.049
0.669	1.495
0.590	1.695
0.715	1.399

As table 4.4 indicated the values of tolerance and VIF are binding for not rejecting the null hypothesis no multicollinearity. As the value of VIF (Variance Inflation Factor) is less than 10 and Tolerance is greater than 0.1 and thus there is multicollinearity among the independent variables.

4.2.3 Regression Coefficients

The results of all the tables and the graph above indicated that it is feasible to use the liner regression model to test the effect of estimated model and test the effect of credit risk management in the financial performance commercial banks. Below is the result of the coefficients which is ran using SPSS.

Table 4.5 Regression Coefficients

Model 1	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	14.268	3.377		4.225	.000		
CAR	-48.730	6.349	-.546	-7.675	.000	.755	1.325
AQ	89.133	31.255	.181	2.852	.006	.953	1.049
ME	-8.528	3.509	-.184	-2.430	.018	.669	1.495
EARNINGS	5.325	.727	.590	7.328	.000	.590	1.695
LQ	10.658	7.263	.107	1.468	.147	.715	1.399

a. Dependent Variable is ROE

The established regression equation based on the SPSS out was:

ROE = 14.268 – 48.730*CAR + 89.133*AQ – 8.528*ME + 5.325*EARNINGS+10.658*LQ

Table 4.5 shows that the regression coefficients for the model and it tells that financial performance measured by ROE will be 14.268 holding capital adequacy, asset quality, management efficiency, earnings and liquidity constant. Table 4.5 also depicts that a unit increase in capital adequacy will lead to a 48.73 decrease in financial performance (RoE) and a unit increase in asset quality will lead to an 89.133 increase in financial performance. A unit increase in management efficiency will lead to 8.528 decrease in financial performance and a unit increase in earnings will lead to a 5.325 increase in financial performance. Likewise a unit increase in liquidity would cause a 10.658 decrease in liquidity. As per the result in the table, capital adequacy, asset quality, management

efficiency and earnings are statistically significant as their p-value is less than 0.05. However the value of liquidity is not statistically significant. The p-value of liquidity is 0.147 which is greater 0.05.

As the researcher drawn hypothesis in previous chapters, the value of r squared was taken as the basis to reject or not reject the null hypothesis. As the result indicated 75.5% of CAMEL components can explain the variability of financial performance. Except liquidity all components of CAMEL are significant at 5% significance level as the p-values are less than the standard alpha level (confidence level). Thus the null hypothesis of banks which use the CAMEL rating system can better management their financial performance will not be rejected.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents discussions of the key findings presented in chapter four, conclusions drawn based on such findings and recommendations there-to. This chapter is, thus, structured into summary, conclusions, recommendations and limitations of the study

5.2 Summary of Findings and Discussion

The study found that there is a significant relationships between the CAMEL components on the financial performance of commercial banks. Table 4.2 shows that the value for R^2 is 0 .755, which means that CAMEL components explains 75.5% variations in the financial performance of banks. The CAMEL rating system can thus be used as a credit risk management indicator in the determination of financial performance of commercial banks in Ethiopia.

5.2.1 Capital Adequacy

Capital adequacy ratio refers to the ability of the capital base of a financial institution to absorb unanticipated shocks. Capital adequacy of any financial institution is instrumental in the formation of risk perceptions about it amongst its stakeholders. Capital adequacies are a measure of the amount of a bank's core capital expressed as a percentage of its assets weighted credit exposures. Based on the risk weighted asset many countries measure their capital adequacy based on risk level of asset. The percent threshold varies from bank to bank. As different types of assets have different risk profiles, capital adequacy ratio will be adjusts for assets that are less risky by allowing banks to "discount" lower-risk assets. The specifics of CAR calculation vary from country to country, but general approaches tend to be similar for countries that apply the Basel Accords. The study takes into consideration a measurement of capital adequacy by comparing the total capital to the level of risk weighted assets which is set by the Basel accord II and also endorsed by National Bank of Ethiopia in April 2016. The sampled banks in Ethiopia have no such problem regarding capital adequacy which all the banking sector have much more greater than 8%, which is set by

the Basel accord and 10% standard set by the national bank of Ethiopia. The average capital to risk weighted asset is 21.59%, which is said to be the capital of the bank is sustain well above the minimum required by the regulatory body. As a best practice banks with a rate of 15% of CAR is said to be strong bank.

5.2.2 Asset Quality

Asset quality is an important parameter for any banking institution, as the quality of its assets has a major role on the earning ability of that institution. A deteriorating quality of assets is the prime source of banking problems. Asset quality measured in relation to the level and severity of non-performing assets, recoveries and the level of provisioning. Knowing the level of asset quality of the banking industry using different tool specifically using non-performing loan data will be very crucial. For the purpose of evaluating the quality of asset for Ethiopian banking industry I used loan loss provision to total loan and advances. This will indicate how the banks managers control its loan. As loan is money that is providing to the customer it needs a continuous assessment and due care. The higher the ratio indicates the bank is in higher risk compared to those with lower ratio. Ethiopian banking industry has shown a decrease of loan loss provision ratio from year to year, which is a good sign to the most risky industry. Regarding the measurement of the Basel accord banks which have average greater than 1 is said to be the asset quality of the industry is in the good situation. All the banks in this study have an average of 1.967 which is above the threshold set by the standard. But this indicates another implication that the banks will not be allowed to involve in substantial lending process. Which means these banks have a strong asset quality and minimal portfolio risks.

5.2.3 Management Efficiency

Measure of management quality is subjective by its nature. Management quality needs information like qualitative data applicable to individual institution. However several indicators can jointly serve as an indicator of management soundness. The study measure the quality of the manager by using efficiency ratio. The average efficiency ratio for the banks on this study is found to be 48% as compared to the 50% maximum acceptable efficiency ratio.

5.2.4 Earning Ability

The earning ability of specific banks shows how well the performance of the bank is. The higher the performance of the bank is the higher profitability of the banks. The earning ability of the banking sector in Ethiopia has been measured by comparing how well the average assets generate income which is the return on asset. The higher the ratio is the better soundness of the banking sector. The Basel accord states if banks returns on asset greater than or equal to 1% is said to banks performance is in good position. The banks under this study has an average score of 3.1334 which is greater than the minimum point set by the accord. Olweny and shipo, 2011 state that if banking industry scored above 1.5 the banks is said to be strong.

5.2.5 Liquidity position

Liquidity positions specifically determine how well the banks are liquid in order to cover immediate disturbance to the banks. The liquidity position of the banking sector in Ethiopia have been measured how the liquid asset are able to cover deposit disturbance occur. The national bank of Ethiopia which is the regulator of the banking industry put a minimum result of 15% to say banks in good status (https://www.nbe.gov.et/pdf/directives/bankingbusiness/sbb-5th%20rep-2014.pdf). The higher the ratio indicates the banks are able to control the disturbance that will be occurring. In this regard banks in Ethiopia are strong enough to control the disturbance. All banks in Ethiopia satisfy the minimum requirements of 15% during the study period. The average liquidity ratio for all banks for the study period was found to be 26.658%.

5.2.6 Econometric Analysis of Credit Risk Management Determinants and Financial Performance:

Table 4.1 shows the correlation matrix of the CAMEL indicators to financial performance. From table 4.1, capital adequacy has values of r = 0.383 at p=0.001. This implies that capital adequacy has a weak relationship with financial performance of commercial banks in Ethiopia. Asset quality had values of r=-0.208 at p = 0.084 revealing that there also exists a weak relationship between asset quality and financial performance of commercial banks in Ethiopia. Management efficiency had values of r= -0.582, p =0.000) had a moderate relationship with financial performance. Earnings quality on the other hand, as per table 4.1, had a strong relationship with financial performance with the values being r= 0.659 at p = 0.000. Liquidity on the other hand

had either none or extremely weak relationship with financial performance (r=0.113 at p = 0.350).

Under the study I tried to recognize the level of credit risk management of the bank by using return on equity as a profitability measurement. The model summary which is measured by return on equity indicates that the explanatory variable of the study well represent the bank's profitability on average by about 82.84% and the remaining 17.16% will be determined by another unseen variable in the study.

5.3 Conclusion

The study established that credit risk management by use of CAMEL indicators has a strong impact on financial performance of commercial banks in Ethiopia. This study therefore concludes that CAMEL model can be used as a proxy for credit risk management. The CAMEL indicators in this study had strong impact on the financial performance with CAMEL components being able to explain variations of up to 87.5% in 2013 on financial performance of commercial banks.

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The capital adequacy ratio revealed that banks with high capital to risk weighted asset will strongly enhances the profitability of the banks. Based on CAMEL rating the banks included in the study have rating more than the required rate of 10% on which it is said to be strong capital level relative to the risk. The asset quality ratio also suggests that the banks under this study has a lower ratio. The rule of thumb is, the higher the ratio indicates the bank is in higher risk compared to those with lower ratio. The banks under this study has shown that a decrease of loan loss provision ratio from year to year except that of Zemen bank which had a higher rate in 2013 and 2014 which later reduces. Abay bank is with the lowest ratio among all banks and which means it has a lower portfolio risk above all banks in the study period. In general the study has shown that the banks under this study has a lower asset quality ratio which means minimal portfolio risks. In terms the result found in the management efficiency ratio, the study revealed that the managers of the banks tend to be efficient as the ratio lowers from the maximum standard set. The assumption is maximum of 50% of the net income could cover the operating expenses of the bank. In the study I have found that when management efficiency increases, the financial performance (measured by ROE) decrease for all banks. The earning ability indicates

how well manager make control to the asset of the bank and equity in order to get a better earning. The banks under the study scored greater than the minimum point set by the Basel accord which indicate banks that score above 1 are said to be strong. Olweny and shipo, 2011 state that if banking industry scored above 1.5 the bank are said to be strong. The average of the banks under the study is by far more than the threshold of 1.5 which is 3.1334.

Finally the liquidity position of the banks under the study determines how well the banks are liquid in order to cover an immediate obligations to the financial health of the banks. Cash deposits at other banks and NBE to total assets indicates how well the banks liquid assets have the ability to cover immediate obligations required by the depositors. Deposit is an obligation of the banks to pay for the depositor during request. The higher the ratio is the more liquidity position of the bank. National bank of Ethiopia state that banks to be said strong should keep liquid assets not less than 15% of its current liabilities. The industry average for the study period was much higher than the required rate by the regulatory body. This is a good indication for the bank to attract more customers because customer will be free of fear to deposit in the banks. But sometimes the higher the ratio also indicates that the banks have higher tied money in their account. High-unutilized money in banks indicates resource mobilization not be accessed easily to other who needs it to invest.

5.4 Recommendations

The study recommends that commercial banks should also try to keep their operational cost low as this negates their profits margin thus leading to low financial performance. This is depicted by the strong effect of earnings on financial performance. Moreover making the capital adequacy ratios stricter could possibly harm the profitability of banks and which in turn affects the shareholders wealth. For this reasons the regulatory body of banks in Ethiopia should see ways that could help banks invest the shareholders money than just hold them as a capital. Commercial banks should also check their credit policy and practices regularly than just meeting the NBE requirements. By this they would reduce loss on non-performing assets which raises their expenses and consequent reduction in financial performance. The research finding also suggests that CAMEL framework can well measure Ethiopian banks credit risk management. As indicated in table 4.2, the CAMEL components are well fitted to explain the variability in financial performance of commercial banks in Ethiopia. Therefore, Banks are highly recommended to use

CAMEL framework as their regular measurement tools and the values of each components tells how well banks are doing.

5.5 Limitations of the Study

The number of commercial banks operational in Ethiopia is low as compared to those of developed countries and even developing countries in Africa like Kenya. A more comprehensive study can be undertaken with a bigger population which will enhance the findings of the study. Besides this there was challenge by NBE accessing a more comprehensive and organized data whereby they say some the items are highly confidential instead being highly accessible. The officers of some of the banks were not willing to disclose their basis of calculating the ratios and capital adequacy ratio in particular.

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Appendices

Appendix 1 List of Commercial Banks

- ✓ Addis International Bank
- ✓ Awash Bank
- ✓ Abay Bank
- ✓ Bank of Abyssinia
- ✓ Berihan Bank
- ✓ Bunna Bank
- ✓ Cooperative Bank of Oromia
- ✓ Dashen Bank
- ✓ Lion Bank
- ✓ NIB Bank
- ✓ Oromoia International Bank
- ✓ United Bank
- ✓ Wogagen Bank
- ✓ Zemen Bank

Appendix 2 Data Received from National Bank of Ethiopia

- ✓ Data from 2012 Audit Financial Statements for all banks
- ✓ Data from 2013 Audited Financial Statements for all banks
- ✓ Data from 2014 Audited Financial Statements for all banks
- ✓ Data from 2015 Audited Financial Statements for all banks
- ✓ Data from 2016 Audited Financial Statements for all banks
- ✓ Ratios as calculated by National Bank of Ethiopia for all banks from 2012 to 2016