INNOVATIONS

The effect of risk management practice on the financial performance of Ethiopian commercial banks

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Abstract
This study aimed to identify effects of risk Management practice on the financial performance of Ethiopian Commercial banks over the period from 2009 to 2020. The study used secondary data that sampled bank specific data were obtained from the audited financial statements of the national bank of Ethiopia. Besides to this, balanced panel data were employed in the study. Thus, by employing purposive sampling method only ten commercial banks out of seventeen commercial banks operating in Ethiopia were included in this study to achieve the objected of this study is subjected to two dependent variables ROE and ROA were identified as the basic measures of financial performance of commercial Banks. The independent variables such as credit risk, liquidity risk, Operation risk Capital Management risk and marketing risk were included in the model of this study. Qualified model to achieve this study objective was Multiple Linear Regressions Model which is grounded on the orderly least square (OLS) estimation techniques while the estimation process was carried SPSS-20. The result is reveals that Credit risk has shown a positive significant relationship with dependent variable the financial performance of commercial banks in Ethiopia and it is statistically significant and liquidity risks have negative effect on Ethiopian commercial banks financial performances(ROE and ROA)Further, the econometric coefficient such as Operating risk and marketing Risk found to have negative and positive vise versa insignificant effect on the financial performance(ROE and ROA) of commercial banks in Ethiopia. The results suggest that banks hold capital. Similarly, the coefficient liquidity risk is also statistically significant which clearly reflected Negative relationship with the performance Management and statistically significant. Organizations must build and develop an organizational database that tracks, monitors, and evaluates each process to enable managers to identify and control risk, and to help the organization address any negative effects caused by it.

Key words: 1. Financial Performance,2. Risk Management 3. Multiple Regressions 4. Commercial Banks

Introduction

Background of the Study

Risk management is a cornerstone of practical banking practice and mismatch of return is raised in economic issues around the world. Risk management is defined as a process by which an organization identifies and analyses threats. The financial risk management has gained an important role for financial institutions. Risk management is one of the most important practices to be used especially in banks in order to get higher returns((Mogotsinyana and Mashoko,2020; W.percy, 2017). Moreover, the threats before they obstruct activities of the organization for an improved performance of financial institution on how risk affects to the performance of commercial banks. Commercial banks are just like bridge in which fund of savers are transferred to borrowers through the process of financial intermediary especially where capital markets are not yet well developed like Ethiopia. It plays vital role in any economy as similar as what heart's role in human body by pumping the blood of business (financial resource) from surplus to deficit area. As a result, bank service is considered as life blood for any economic unit while effective risk management system and practice is an ingredient part of safety, soundness, liquidity and profitability of banks(Saeed & Zahld, 2016).

Risk management is a cornerstone of practical banking practice and mismatch of return is raised in economic issues around the world. Risk management is defined as a process by which an organization identifies and analyses threats, examines alternatives and mitigate the threats before they obstruct activities of the organization for an improved performance of financial institution on how risk affects to the performance of commercial banks

Several Investigations explored the role and contribution of risk management on improving the bank financial performance. In this regards, the positive role of risk management on the banks performance especially for those commercial banks captured the attention of global investigations. For instance, the study of (Saeed & Zahld, 2016; Juma and Atheru,2018;Shetty and Yadav,2019) ; they have been further gone on the case in point which concerned with risk taking practice and risk management which might be leads to in the decline of profitability of commercial banks.

In Developing Countries, financial institution complexity is pinpointed to be low as Banks play the roles of moving the capital from household's to general business environments. As it lsrhe role banking sectors the assessment of risk potential projects and business in the economy and appropriately price them to ensure that the projects are correctly funded and it has become increasingly diminishes the profitability banks through making the financial sectors and institution at risk(IMF,2018)

Accordance with Banks of International Settlement(2018) the 12 years prior to 2008 they identified the growth in the world economy and financial services, largely fueled by risk taking as bankers took more and more and more risky positions in the pursuit of profit and bonuses. This lack of incentives banks to do proper risks assessment on projects and that led to the melt down in 2008 which resulted in a global crisis which stalled economies and wreaked have on financial markets across the world around the globe. The greater emphasis has been given on the risk management and banks performances analysis through the regulation of increasing commercial banking balance sheets.

According Global Financial report (2020) the effectiveness of financial regulation is too broad and far reaching. The banking sectors have evolved and have been changed in the financial market capacity and the structure as the most banks sectors shrink. The most business models have changed with a move away from trading and complex structuring to less capital intensive activities like commercial banking and across the world and banking profitability which fell as a consequence of less leverage and risk taking.

Despite its economic and social benefit, Credit is evil for economy if it is not properly used and managed. Its improper management causes Default and Bad Reputation and credit losses /bankruptcy(Joseph, 2013) And also taking excessive Credit risk influences money supply which may lead to economic and financial instabilities. That is why many authors considered that Failure of Credit risk management system and practice as one of the main cause of financial crises in general and banking failure particularly(Hussain 2018) Banking based financial system of Ethiopia, dominated by public sector banks, need to be changed, improved and developed so as to cope up with changing environment. As there are dynamic change in technology, competition, regulation and liberalization as well as continuous expansion of public and private sector banks, risks are also increased simultaneously in volume as well as in types. As a result banking business are getting complex. As everyone knows, Banking innovation and competition make banking service easily and widely accessible than before under which banks confront various risks in a single transaction.

Statement of the problem

According to International monetary Fund (2019) report the most serious key problem is of financial organization is Risk management as it is among the issues that have consistently been in the spotlight. Every organization is striving to develop risk management policies that will enable it to handle issues better and to develop a competitive advantage in their respective industries. In addition, Business is all about risk taking; poor management of the risk would imply adverse losses for an organization. The prime goal of a risk management program or policy is to minimize risk and to set it to acceptable levels. Risk management is practiced as a professional discipline in the finance sector by many financial institutions.

In Africa there was Empirical studies also engaged in the prime goal of risk management in financial institutions. For instance, the studies of(Ilyas et al. 2020; Memon et al,2020).is to improve the quality of their institutions' decision-making at various levels of their organizations with an eye set at increasing shareholder value((Munther,2020).Moreover, the empirical studies were gone on the investigation of risk management and its contribution to the financial performance. For example, (Sathyamoorthi,2019;Saeed & Sahid,2019)Due) to the high competition most of organizations many commercial banks have appointed senior staff members to oversee a formal risk management function. Financial risk management is a function within organizations that aims to detect, manage, and hedge exposure to various risks stemming from the use of financial services. The complexity here is far higher than for individuals because institutions must match various kinds of future income streams and payment obligations, for example, raising funds for investment or working capital requirements, paying wages and invoices, provisioning for future payment obligations like pensions, and so on. Commercial Banks have to navigate the credit risk associated with the overall portfolio as well as external risks that may be due to macroeconomic factors in the economy. Banks must also compare the credit risk relationships with other risks. Another specific case of credit risk applies to the method of trying to settle banking transactions. Until and unless both parties settle their payments in a timely manner, bank suffers from opportunity loss. Corporate governance may also have large effect on the risk management

strategies used by the bank for reducing credit risks. Research suggests that it is imperative that banks engage in prior planning in order to avoid future problems. Therefore, financial risk management involves an assessment of various assets and liabilities in the present as well as in the future. Financial and nonfinancial institutions must be distinguished regarding their approach to risk management. Nonfinancial institutions use financial products either to hedge nonfinancial risks or to enable their operations. Financial institutions rather actively assume risk to make a profit either for their own account (like banks or insurance companies) or as trustees for third parties and Managing risk at financial institution.

As Ethiopian National Bank report (2020)risk management practice confirm that risk management is a complex system. Done well, it can be a very effective tool, but risk managers and management should be aware of the potential for failure. Risk management practice and policies adopted by the board undertake the management of credit risk in accordance the delegated authority developed by the board to control and reduce the financial risks associated performance of the bank sectors in Ethiopia. Some related studies were carried out in Ethiopian Reflected the related problems in risk management practice confirm that risk management is a complex system. The study of(Tassew et al,2019;Tesfaye,2018),this studies concentrated on Financial risk management is the practice of protecting economic value in a firm by using financial instruments to manage exposure to risk, operational risk, credit risk .

various studies have been conducted in the field of risk management, but the main focuses of those studies only one independent variable which is credit risk and dependent variable which is ROA there was little work have been done on independent variables like liquidity, operational, market risks and dependent variable which is ROE and there is no consistency in the banking literature on the risk management of bank performance. hence, the present study differs from the earlier studies in it has included like market risk, credit risk, liquidity risk and operational risk for measuring bank performance (ROA and ROE).and this study aims to fill those gaps in the literature by focusing on the study presents the effect of risk management practice on financial performance of Ethiopian commercial banks from 2009 to 2020

General Objective

The main objective of this research will be to investigate the effect of risk management practice on the financial performance of Ethiopian commercial banks.

Specific objectives

This study will be attempt to achieve the following specific objectives

1. To identify the effects of credit risk management practice on the financial performance of Ethiopian commercial banks.
2. To identify the effect of liquidity risk management practice on the financial performance of Ethiopian commercial banks.
3. To identify the effect of market risk management practice on the financial performance of Ethiopian commercial banks.
4. To identify the effect of operational risk management practice on the financial of performance Ethiopian commercial banks.

Research Hypothesis

H_{01}: Credit risk has no negative significant effect on the financial performance of commercial banks in Ethiopia.

H_{02}: Liquidity risk has no negative significant effect on the financial performance of commercial banks in Ethiopia.
H_{03}: Market risk management has no negative significant effect on the financial performance of commercial banks in Ethiopia.
H_{04}: Operating risk management has no negative significant effect on the financial performance of commercial banks in Ethiopia.

Research Questions
Based on the above statement of the problem the researcher will be develops the following research question.

1. What is the effect of credit risk management on financial performance of Ethiopian commercial banks?
2. What is the effect of liquidity risk management on financial performance of Ethiopian commercial banks?
3. What is the effect of market risk management on financial performance of Ethiopian commercial banks?
4. What is the effect of operational risk management on financial performance of Ethiopian commercial banks?

Significance of the Study
The study will be important for commercial bank risk managers and policy makers about risk in the Ethiopian banking system and its effect on performance. Thus, the findings will be developed a framework for measuring and assessing risk which is an important element for the financial stability unit at Commercial Bank of Ethiopia. In general, the study will have a great importance for commercial banking firms in order to make adequate control over Risk management system to make profitability sustainable. It can also act as a source of literature for other scholars who intend to carry out further research on the effect of risk management on financial performance with specific reference to banking institutions.

Related literature review
This chapter will be summarizes the information from the available literature in the same field of study. It will reviews theories of credit risk management as well as empirical studies on credit risk management, the gaps in existing literature will be described and developed conceptual framework.

Theoretical Literature Review

Overview of Financial Risks
Risk is ‘‘the variability of the actual return from the expected returns associated with a given asset or investment’’ (Khan and Jain, 2004). Ehrhardt and Brigham (2011)also defined risk as ‘‘the chance that some unfavorable event (both financial and physical) will occur’’. As Ralph (2000) defined risk is the existence of uncertainty about future outcomes. Risk is a key factor in economic life because people and firms make irrevocable investments in research and product development, plant and equipment, inventory, and human capital, without knowing whether the future cash flows from these investments will be sufficient to compensate both debt and equity holders. If such real investments do not generate their required returns, then the financial claims on these returns will decline in value(Ralph, 2000)

Classifications of Risks

Horcher (2005) although there are much kind of risks that could face an organization, the Credit risk, Liquidity risk, Operational risk, Market risk, Legal and regulatory risk, Business risk, Strategic risk and Reputation risk are the major risks that faced by banks.

According to Koch and MacDonald (2009) banks' risks can be identified as six types: credit risk, liquidity risk, market risk, operational risk, reputation risk and legal risk. Each of these risks might generate harmfully influence the financial Institution's probability, market value, liabilities and shareholder's equity. The sources of these risks are briefly explained below.

Credit Risk

Credit risk is the risk of a loss resulting from the debtor's failure to meet its obligations to the bank in full when due under the terms agreed(Raghavan,2003).Credit risk is the potential that a bank borrower or counterparty will fail to meet its obligations in accordance with agreed terms. Generally the credit risk is associated with traditional lending activities of banks and it is simply described as risk a loan not being repaid in part or in full(R(Hempel and Simonson, 1999)..

All banks have their own credit philosophy established in a formal written loan policy that must be supported and communicated with an appropriate credit culture (Hempel and Simonson, 1999). A credit culture is successful when all employees in the bank are aligned with the management's lending priorities (Hempel and Simonson, 1999).Credit risk is a financial exposure resulting from a Bank's dependence on another party (counterparty) to perform an obligation as agreed(National Bank of Ethiopia,2010).

Liquidity Risk

Liquidity risk might become a major risk for the banking portfolio. (Bessis, Risk Management in Banking, 2002) Many scholars and regulatory institutions agree that extreme lack of liquidity results in bankruptcy, making liquidity risk a fatal risk. Although most of the time liquidity risk is triggered by other risks in which a sign of weakness by a bank due to other risks leads to depositors flooding in to have their money back and creditors refrain from extending more credit lines ultimately leading to a collapse.

As Greuning and Bratanovic (2009), liquidity risk comprises both funding liquidity risk and asset liquidity risk, though these two dimensions of liquidity risk are closely related. Funding liquidity risk relates to a firm's ability to raise the necessary cash to roll over its debt; to meet the cash, margin, and collateral requirements of counterparties; and (in the case of funds) to satisfy capital withdrawals. Asset liquidity risk, often simply called liquidity risk, is the risk that an institution will not be able to execute a transaction at the prevailing market price because there is, temporarily, no appetite for the deal on the other side of the market.

Claire, Murray and Rosenthal (2000) determined four Sources of liquidity risk

- ✓ A credit rating downgrade
- ✓ Negative publicity
- ✓ Deterioration of the economy
- ✓ Reports of problems in other banks

These are the major sources of liquidity risk but not the only ones. Most occurrences of liquidity risk are a result of one or a combination of the above phenomena. A credit rating downgrade results in loss of confidence from creditors on that bank to be able to give credits. Since the risk of

default increases as the credit worthiness of a bank diminishes, the bank would face a shortage of liquidity to cover its liabilities.

A negative publicity, on the other hand, whether justified or unjustified, results in loss of confidence on the bank from both the creditors' side and the depositors' side. This phenomenon leads to a simultaneous effect of depositors demanding their money back and creditors cutting off their credit line.
Deterioration in an economy or a slowdown brings about a pressure on all economic agents in a way that banks cannot raise enough money to stay afloat as most of the liquidity sources would be unable/ less able to provide them. And the effects of reports of problems in other banks reflects on the bank as stakeholders assume the same problems would soon catch up with them and thus lose confidence and act in a way that would that causes liquidity shortages.

Operational Risk
Operational risk arises from the potential that inadequate information systems, operational problems, breaches in internal controls, fraud, or unforeseen catastrophes will result in unexpected losses(Board of Governors of the Federal Reserve, 2013) (Although operational risk does not easily lend itself to quantitative measurement, it can result in substantial costs through error, fraud, or other performance problems. The growing dependence of banking organizations on information technology emphasizes one aspect of the need to identify and control this risk.

Operational riskrelates to the issues of precisely processing, settling and taking delivery on trades for the exchange of cash It also involves the record keeping, processing system failures and fulfillment the diversified regulations. So that, individual operating problem is small portion for a well-managed institution but causes effect which may be quite costly (Santomero, 1997).
In Crouhy, Galai and Mark (2006) operational risk is defined as a risk incurred by an organization's internal activities. It refers to potential losses resulting from inadequate systems, management failure, faulty controls, fraud, and human error. From this we can identify four causes/ types of operational risk: people, systems, processes and external events. A risk from people refers to losses coming from human errors, frauds, violations of internal rules and processes, and the like. (Resti & Sironi, 2007)

Managing operational risk presents some unique challenges to banks. As operational risk events are largely internal to institutions, the causes or risk factors may not be universally applicable. Moreover, the magnitude of potential losses from specific risk factors is often not easy to project. (Greuning & Bratanovic, 2009) Very large operational losses have been considered to be rare or isolated occurrences, which cause the perception that it is difficult to get management to focus on the often routine work required designing an effective mechanism for systematic reporting of trends in a bank's operational risks.

Developments in modern banking environment, such as increased reliance on sophisticated technology, expanding retail operations, growing e-commerce, outsourcing of functions and activities, and greater use of structured finance (derivative) techniques that claim to reduce credit and market risk have contributed to higher levels of operational risk in banks (Ibid)
The process for managing operational risk involves at first, classification of loss events that should serve as a receptacle for data gathering process on event frequency and costs. Next, the data gathered based on the framework established will be analyzed with various statistical techniques which will help in finding the links between various operational risks. The end result will be an estimation of a worst case scenario for losses due to events risks. This will enable the right capital

charges to be made for operational risk as required by current regulations. (Bessis, Risk Management in Banking, 2002).

Market risk

Market riskcan be hedged but cannot be diversified completely away. In fact, it can be regarded as diversifiable risk .It comes from many different forms such as variation in interest rate and relative value of currencies (Santomero, 1997).
According to Santomero (1997), market risk by its nature can be hedged but cannot be diversified away completely. Two market risks that ate of concern to the banking sector are interest rates and relative value of currencies. The banking operation is solely dependent on these as it impact on performance. For instance most banks track interest rate risk closely. They measure and manage the firm's vulnerability to interest rate variation as well.

Risk Management Theory

Risk management is the identification, assessment, and prioritization of risks followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events or to maximize the realization of opportunities. Effective risk management can bring far reaching benefits to all organizations, whether large or small, public or private sector. These benefits include, superior financial performance, better basis for strategy setting, improved service delivery, greater competitive advantage, less time spent firefighting and fewer unwelcome surprises, increased likelihood of change initiative being achieved, closer internal focus on doing the right things properly, more efficient use of resources, reduced waste and fraud, and better value for money, improved innovation and better management of contingent and maintenance activities (Wenk, 2005)

Financial Economic Theory

Financial economics approach to corporate risk management builds on the Modigliani Miller paradigm and has so far been the most prolific in terms of both theoretical model extensions and empirical research (Klimczak, 2007). This theory stipulates that hedging leads to lower volatility of cash flow and therefore lower volatility of firm value. The theory argues that the ultimate result of hedging, if it indeed is beneficial to the firm, should be higher value – a hedging premium. Jin and Jorion (2006) criticize this theory by posting that —although risk management does lead to lower variability of corporate value which is the main prerequisite for all other effects, there seems to be little proof of this being linked with benefits specified by the theory

Risk Management and Bank Performance

A major objective of bank management is to increase shareholders' return epitomizing bank performance. The objective often comes at the cost of increasing risk. Bank faces various risks such as interest risk, market risk, credit risk, off balance risk, technology and operational risk, foreign exchange risk, country risk, liquidity risk, and insolvency risk (Tandelilin et al, 2007). The bank's motivation for risk management comes from those risks which can lead to bank underperformance. Issues of risk management in banking sector have greater impact not only on the bank but also on the economic growth (Tandelilin et al, 2007). Tai (2004) concludes that some empirical evidence indicates that the past return shocks emanating from banking sector have significant impact not only on the volatilities of foreign exchange and aggregate stock markets, but also on their prices, suggesting that bank can be a major source of contagion during the crisis. Banks which better implement the risk management may have some advantages: (i) It is in line

with obedience function toward the rule; (ii) It increases their reputation and opportunity to attract more wide customers in building their portfolio of fund resources; (iii) It increases their efficiency and profitability. Cebenoyan and Strahan (2004) find evidence that banks which have advanced in risk management have greater credit availability, rather than reduced risk in the banking system. The greater credit availability leads to the opportunity to increase the productive assets and bank's profit.

Modern Portfolio Theory (MPT)

Modern portfolio theory (MPT) is a theory of finance that attempts to maximize portfolio expected return for a given amount of portfolio risk, or equivalently minimize risk for a given level of expected return, by carefully choosing the proportions of various assets. Prior to Markowitz's work, "Portfolio Selection," published in 1952 by the Journal of Finance, investors focused on assessing the risks and rewards of individual securities in constructing their portfolios intuitively. Markowitz formalized this intuition. Detailing mathematics of diversification, he proposed that investors focus on selecting portfolios based on those portfolios' overall risk-reward characteristics instead of merely compiling portfolios from securities that each individually has attractive risk-reward characteristics. This means that investors should select portfolios not individual securitysingle-period returns for various securities as random variables, we could assign them expected values, standard deviations and correlations. Based on these, we can calculate the expected return and volatility of any portfolio constructed with those securities. We may treat volatility and expected return as proxies for risk and reward. Out of the entire universe of possible portfolios, certain ones will optimally balance risk and reward. These comprise what Markowitz called an efficient frontier of portfolios. An investor should select a portfolio that lies on the efficient frontier.

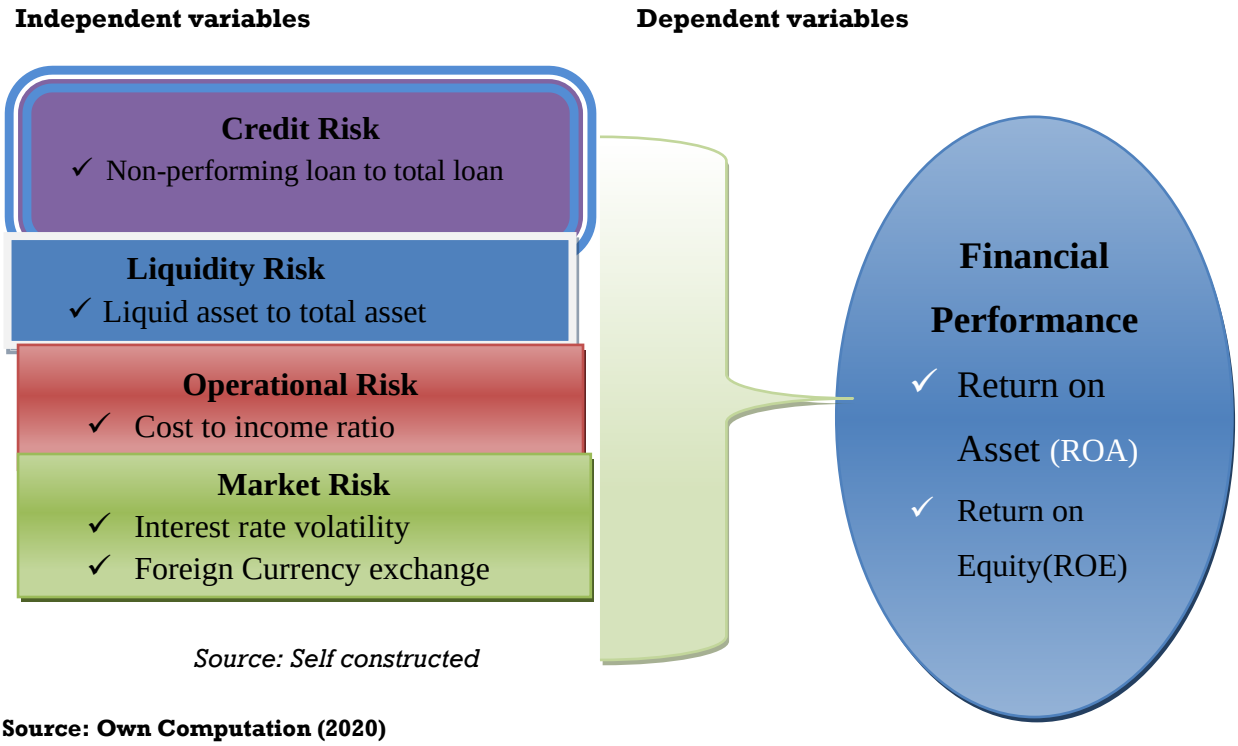
Tobin (1958) expanded on Markowitz's work by adding a risk-free asset to the analysis. This made it possible to leverage or deleverage portfolios on the efficient frontier. This led to the notions of a super-efficient portfolio and the capital market line. Through leverage, portfolios on the capital market line are able to outperform portfolio on the efficient frontier. Sharpe (1964) formalized the capital asset pricing model (CAPM). This makes strong assumptions that lead to interesting conclusions. Not only does the market portfolio sit on the efficient frontier, but it is actually Tobin's super-efficient portfolio. According to CAPM, all investors should hold the market portfolio, leveraged or de-leveraged with positions in the risk-free asset. CAPM also introduced beta and relates an asset's expected return to its beta.

Portfolio theory provides a context for understanding the interactions of systematic risk and reward. It has shaped how institutional portfolios are managed and motivated the use of passive investment techniques. The mathematics of portfolio theory is used in financial risk management and was a theoretical precursor for today's value-at-risk measures.

Conceptual Frame work

Conceptual framework can be defined as a tool used in the analysis of variables in a study. Conceptual frame work is to show conceptual distinctions, processes or thoughts and organize the ideas in the study. Strong conceptual frameworks should capture the concepts in the study in a way that is real and easy to remember and apply. The main objective of the Conceptual Framework in the study is to show and improve the understanding of the concept risk management by providing a more complete, clear and updated set of concepts such as the dependent and independent variables and the linkages (Tobin, J., Brainard, W. (1968), To achieve this understanding, risk management and financial performance has been conceptualized in the table below

Figure: 2.1 the risk management and financial performance with variables



Source: Self constructed

Source: Own Computation (2020)

Research Methodology

3.1. Research Design

According Durrheim (2004) research design is a strategic framework for action that serves as a bridge between research questions and the execution, or implementation of the research strategy. This research will be studied the problem through the use of explanatory research design. Explanatory research deals with cause-effect relationship. In explanatory research design, emphasis on specific objectives abo ut the effects of changes of one variable on another variable and it involves an experiment where an independent variable is changed or manipulated to see how it affects a dependent variable (Mugenda, 2003). Explanatory research design will be useful in this study since it enabled the researcher to examine the effect on the dependent variable from variations in the independent variables.

3.2. Population and sampling

The target population is defined as the group of individuals from which the study seeks to generalize it's and concludes on its findings.

The target population for this study will be Ethiopian Commercial Banks. However, sixteen private and one another government banks operating in the country will be included, such as According to NBE based on their paid up capital commercial banks can be classified in to three categories that is big size, medium size and small size. Big size consists of Commercial bank of Ethiopia; Medium size consists of Awash Bank, Dashen Bank, United Bank, Bank of Abyssinia, Wogagen Bank and Nib International Bank and Small size consists of Cooperative Bank of Oromiya, Lion International Bank, United bank, Oromiya International Bank, (NBE 2020). Commercial Bank of

Ethiopia is government owned bank and its credit approval process is more focused on supporting the government development goals by providing credit to the sectors deemed priority by the government. And it is the provider of credit to government projects. On the other hand, private banks, although they operate according to the regulation of the National Bank of Ethiopia (NBE), they are more inclined to profit motivated credit approval. Thus, the risk management in the Commercial Bank of Ethiopia and other private commercial banks will be expected to be different.

Currently in Ethiopia seventeen commercial banks are in operation. Therefore, the researcher will classify in to three stratums, from those the researcher will be used ten commercial banks as a sample namely Commercial bank of Ethiopia, Awash Bank, Dashen Bank, United Bank, Wogagen Bank, Cooperative Bank of Oromiya, Oromiya International Bank, Bank of Abyssinia Nib international bank and Lion International Bank which is one big size, four medium sizes and five small sizes by using purposive sampling technique in terms of their capital from each stratum , based on their loan portfolio. And their establishment year Purposive sampling will be targets a particular group of people.

Table3.1: The list Banks Included in this study

S.N	Name of banks	Establishment day	Ownership
1	Awash international bank (AIB)	1994	private
2	Commercial bank of Ethiopia (CBE)	1963	public
3	Dashen bank (DB)	1995	Private
4	Wagagen Bank (WB)	1997	Private
5	Bank of Abyssinia	1996	Private
6	United bank	1998	Private
7	Nib international bank	1999	private
8	Cooperative bank of Oromia	2004	private
9	Lion international bank	2006	private
10	Oromia international bank	2008	private

NBE: Annual report 2019/2020

3.3. Data Type and Source

In this study the researcher will be employed quantitative research approach. Only secondary data will be used for the study. The secondary data will be collected from the financial statements of the selected banks. From those banks, the study will obtained data by considering the proxy of market risk, liquidity risk,, operational risk and credit risk indicators of Non-Performing Loan to Loan Provision, operational risk Indicators Operating expense to operating income and liquidity risk indicators of Liquid asset to current liabilities, and market risk indicators of Interest rate risk is interest sensitive assets to interest sensitive liabilities and performance proxy indicators of ROA&ROE of the period covered from 2009 to 2020 G.C.

3.4. Data Collection

In order to get appropriate results, the study use secondary data. The secondary data was obtained from the Ethiopian national banks Annual Reports. The 12 years (2009-2020) annual ROA ratio was averaged to form the dependent variable (financial performance).

3.5. Data Analysis

To achieve the objective of this study, Descriptive statistics was used to describe the data and examine the relationships between the variables under investigation. Descriptive statistics used included Frequency distributions, measures of central tendency, pie charts and line graphs that described the data. Inferential statistics was used to examine the casual relationships between the financial risk management and the banks financial performance..

As stated by Brooks (2008) panel data is favored for situation often arises in financial modeling where we have data comprising both time series and cross-sectional elements. In addition, we can address a broader range of issues and tackle more complex problems with panel data than would be possible with pure time-series or pure cross-sectional data alone.

Accordingly, the study model will be focused on panel data technique that comprises both cross sectional elements and time-series elements; the cross-sectional element will be reflected by the different Ethiopian commercial banks (ten) and the time-series element will be revealed by the period of study (2009-2020. Therefore, the collected panel data will be analyzed using descriptive statistics, correlations and multiple linear regression analysis. The rational for choosing Ordinary Least Square (OLS) is that, if the Classical Linear Regression Model (CLRM) assumptions hold true, then the estimators determined by OLS will have a number of desirable properties, and are known as Best Linear Unbiased Estimators((Brooks, 2008).

3.6. Model Specification and Measurement of Variables

This study will be modeled according to the work of Kenneth and Charles (2013), which investigated the effect of 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 researcher will be used ROA and ROE, the two most common indicators of financial performance in two different models.

The study will be used time series data over the period 2009-2020 on the identified dependent and independent variables. ROA and ROE, the two most common indicators of financial performance will be used as dependent variables in two different models. Moreover, the bank size, Non-interest Income and Management efficiency will be included as exploratory variable. Thus, the dependent variables in this study will be financial performance measured by Credit risk, market risk, liquidity risk, operational risk, and rate of Return on Asset (ROA) and Return on Equity (ROE).

A linear regression model will be used to determine the relative importance of each explanatory in affecting the profitability of bank is -determined using the linear equation.

The linear regression model is:

$$Yt = ß0 + ßi\ Xit + \varepsilon t$$

Where Yt - is the dependent variable observed at time t;

Xit - is the ith independent variable observed at time t

ß0 - is the constant term 4

ßi- is the coefficient for explanatory variables

εt - is the error term

Estimated Model

Banking performance = $\alpha + \beta_1$ (Credit risk) + β_2 (Liquidity risk) + β_3 (Capital Management risk) + β_2 (Marketing risk)

Where; Y is the commercial bank financial performance is labels returns on assets (ROA) and equity (ROE) as the Dependent variables for two models. We measures the credit risk (CR), liquidity risk (LR), operating risk (OR) and Capital management risk (MR) as the independent variables.

Where;

ROE – is calculated to net income to share holders

ROA- is the Return on Bank's total assets; it was measured by the ratio of Net income to Total assets

CR -is the credit risk which is measured by non-performing Loans to Total loan

OR= Operating risks

CMR – Capital management risk

MR – Management risk

= Error term

The independent variables included ratios that measure financial risk such as market risk, credit risk and liquidity risk and were adopted from similar studies as highlighted in the literature review. Market risk was measured by inflation (INF) and real interest rate (INT), Credit risk was measured by the ratio of total debt to total assets and Total debt to total equity, while Liquidity risk was measured by Total equity to total assets and loan to deposit ratio (LD). Inflation was measured by consumer price index (CPI) while the real prime rate was used as a proxy for interest rates. Correlation analysis and multiple linear regression techniques were used to assess the significance of the relationship between financial risk management and financial performance of commercial banks in Ethiopia. Table 3.2 shows a summary of variables used and their measurements.

Table 3.2: Variables descriptions tables

Description of variables	Proxy Measure of variables	Symbol of variables
Dependent Variable		
Return on Assets	Net income / Total Assets	ROA
Return on Equity	Net income/Total Equity	ROE
Independent Variables		
Credit risk	Non –performing loan to total loan	CR
Operational risk	Operating expense to operating income.	OR
Liquidity risk	Liquid asset to current liabilities	LR
Capital Management risk	Measured by the amount of credit related risks in maintaining the profitability.	CMR
Marketing risk	Market risk was measured by inflation (INF) and real interest rate (INT),	MR

3.8. Ethical Considerations

In conducting the research, the following ethical considerations will be taken into account

- Respondents will be informed fully about the purpose, methods and uses of the research, what their participation in the research entails and what risks, if any, are involved.
- The confidentiality of information supplied and the anonymity of respondents will be respected.
- The independence of research will be clear, and any conflicts of interest or partiality will be explicit.

Result and Discussion

4.1. Descriptive Statistics Analysis

This section presents the descriptive statistics of dependent and explanatory variables used in the study. The dependent variable used in this study were Return on asset (ROA) and Return on Equity (ROE),while explanatory variables are Credit Risk, Liquidity risk, Operating risk, Capital management risk, marketing risk.

Table 4.1: Summary Statistics for Variables, Using the Observations 2009 - 2020

Variable	N	Mean	Mini	Max	Std.Dev.
ROA	10	4.46	4	6	0.780
LN_ROE_	10	7.11	6	9	0.742
CR	10	5.28	3	10	2.211
LR	10	4.61	2	14	4.751
CMR	10	5.15	5	5	0.135
OR	10	4.47	3	10	2.347
MR	10	4.45	3	5	0.437

Source: **Own Computation (2021)**

Table 4.1 Descriptive Analysis is a presentation of the descriptive statistics. The mean value for the return on assets (ROA) is 4.46 while the return on equity (ROE) recorded a mean value of 7.11 over the period2009-2020. Since the standard deviations for the variables Market risk and capital management risk are small, it shows that the data is not widely dispersed, except credit risk, operational risk and capital management risk which recorded a higher standard deviations of 2.211,2.347and 4.751 respectively. Distributional property indicates that standard deviation is independent and dependent how much deviate from the mean values the ROA measured by the mean value of 4.46 percent. This indicates that the sample banks on average earned 4.46 percent of the total asset. The higher ROA shows that the company is more efficient in using its resources. The maximum value of ROA was 0.14 percent but the minimum value of ROA was of 0.02percent. That means the most profitable and least profitable banks among the sampled Ethiopian commercial banks were earned 14cents and 2 cents of net income for a single birr invested in the assets of the firm respectively. Concerning the independent variables, liquidity risk that is measured by current assets divided by current liabilities has a mean value of 46.1percent. The average value indicates that for each one-birr current liability, there was46.1 cent current asset to meet obligation. The 2nd independent variable used in the study was credit risk which is mean value of 5..8 percent with a maximum

and minimum value of 10 and 3 percent respectively. The 3rd independent variable used in the study was capital management risk which is a mean value of 5.15 percent with a maximum and minimum value of 5 and 5present respectively. The 4th independent variable used in the study was market risk which reflects the real cost of borrowing to the borrower and the real return a mean value of 4.45percent with a maximum and minimum value of 5 and 3 present respectively. The 5th independent variable that used in the study was operational risk has a mean value of 4.47 with a minimum and maximum value of 3 and 10percent respectively.

Summary, Conclusion and Recommendation

Summary

The overall objective of this study is to analyze effects of risk management practices on the financial performance of Ethiopian Commercial banks; the study covered the data of ten commercial banks in Ethiopia from the period 2009-2020. To achieve the intended objective, the study used secondary sources. Furthermore, the study used Multiple Linear Regressions for variables of the study that credit risk, liquidity risk, operational risk, capital management risk and market risk. Regarding the raw data that used to calculate liquidity risk, solvency risk and credit risk were collected from the audited financial statements (annual reports) of the NBE and the raw data that used to calculate the variables outputs of the study were computed by using SPSS-20. Data was analyzed by using descriptive statistics /multiple regression models, in doing fixed effect panel regression model employed to measure estimators. The findings of this study proved that credit risk, and operational risk were positive effect whereas liquidity and CMR risks and market risks are negative effect on the performance (ROE)of the sampled Ethiopian commercial bank. And that credit risk, and market risk were positive effect whereas liquidity and CMR risks and operational risks are negative effect on the performance (ROA)of the sampled Ethiopian commercial bank .

Conclusion

According to the fixed effects panel data Multiple Linear Regression result credit risk, and operational risk have statistically significant impact and positive relationship on ROE, while Liquidity risk ,CMR and market risks has statistically significant but negative influence on the financial performance (ROE) of the Ethiopian commercial banks. And credit risk, and market risk have statistically significant impact and positive relationship on ROA, while Liquidity risk ,CMR and Operational risks has statistically significant but negative influence on the financial performance (ROA) of the Ethiopian commercial banks. This indicates that the any increase/decrease in credit risk, operational risk and market risk leads to an increase/decrease on financial performance of the sampled commercial banks financial performance. While liquidity risk has significant impact on Ethiopian commercial banks financial performance with a negative relationship; which means any decrease/increase on the value of this variable leads to an increase/decrease on financial performance of Ethiopian commercial banks financial performance. While any decrease/increase liquidity risk leads to an increase/decrease on Ethiopian commercial banks financial performance.

Finally, the researcher concludes that there is significant relationship between Ethiopian commercial bank performance and risk management.

Recommendations

On the basis of the above findings, it is possible to propose the following recommendations. The recommendations will help commercial banks to focus on selected areas of emphasis so as to set the performance of commercial banks in Ethiopia.

- The negative influence of the operating risk mirrors the return on assets in our sample and The negative influence of operating risk is consistent with Evidence exploring those banks with higher risk value has less low return on assets and need higher supervision and control to reduce the non-performing loans.
- The study recommends that there is need for the management of commercial banks to constantly check their banks' exposure to Liquidity risk, operational risk, capital management risk and market risks as it was revealed that negatively affect the financial performance of commercial bank (ROE&ROA) and there is need attentions to enhance positive influence the performance of commercial banks.
- Commercial bank performance better with control overall risk with regards of bank managers and other official supervision.
- Organizations must build and develop an organizational database that tracks, monitors, and evaluates each process to enable managers to identify and control risk, and to help the organization address any negative effects caused by it.
- These results relate to the literature that finds a negative relation between independent variables and financial performance in term of return on equity and return on asset because they suggest that better bank disclosure may be ways to make greater banking competition compatible with greater financial stability and strength.
- Based on the outcome of this study, banks should strike a proper balance between risk management practices and financial performance,

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