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Addis Ababa University

Facility of Business and Economics

Master's In Business Administration-Finance

Extension Program

Assessment of Risk Management Practice in

Ethiopia Banking Sectors

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MAY 2021

ADDIS ABABA UNIVERSITY
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Assessment of Risk Management Analysis in Ethiopia Banking Sectors

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Acknowledgments

During this research, many individuals and institutions provided me great support and guidance which helped me to complete this study successfully. I would like to express my sincere thanks to Addis Ababa University for providing me the opportunity to undertake my M.A study.

My sincere thanks to the principal supervisor, Temesgen W. (PhD), who guided me throughout this research study. I greatly acknowledge his support, guidance, and contribution throughout this study.

I have been taught the importance of education and value of knowledge by parents in the very early stage of my life. They provided me the education and great opportunities, and I will always remain grateful for them.

Finally, I would like to thank my family who had supported me morally throughout my research study. Throughout my M.A research, they has been a source of encouragement and strength. Their support and assistance throughout my research made my life too easier. I sincerely thank my family for their love, support, patience and understanding while I worked on this research study.

Ariam Tesfazgi

Abstract

The purpose of this article is to examine the effectiveness of commercial banks' risk management practices in Ethiopia. Using a contemporaneous mixed study approach, data was collected from 17 purposefully sampled commercial banks. 108 respondents from commercial banks were given open-ended and closed-ended questionnaires. The questionnaires asked about the importance of risk management practices, risk identification, risk monitoring, and the nature of risk management practices, among other things. The paper's main conclusions are that risk managers consider risk management to be critical to their bank's performance; credit risk, operational risk, liquidity risk, interest rate risk, and foreign exchange risk are the types of risks that cause the most exposures; current risk management practices have a reasonable level of success, and banks are implementing some of the approaches/techniques. Overall, the findings suggest that Ethiopian banks are indeed risk-averse. Some recommendations were made, including that banks should prioritize risk management training for their employees, make risk visible, measurable, and manageable, and embed a meaningful risk culture throughout all processes and activities.

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CHAPTER ONE

BACKGROUND OF THE STUDY

1.1. Introduction

The banking climate has undergone numerous global changes in recent years, the most notable of which are the liberalization of service trade, substantial technological advancements, and increased rivalry, whether within the bank or between banks and other institutions.

In light of these changes, banking must evolve as well in order to keep up with such current trends, necessitating a focus on revealing and clarifying the various risks that banks which face, as well as providing a framework for evaluating and managing such risks, as well as suggesting means by which such risks can be managed in which risks and their impacts can be curbed (Khalid & Amjad, 2012).

According to Osborne 2012 Risk is unavoidable like the common death and taxes. It is one of the few things that is unavoidable in existence. All businesses, whatever their size and shape, in whatever markets they operate and no matter what products and services they provide, are constantly faced with a multitude of risks, large and small. Indeed, businesses can only prosper by successful risk taking as argued by.

Besides, risk arises due to uncertainties, which in turn arises due to changes that could take place in the economic, social and political environments and as well as due to lack of information availability concerning such changes. Risk is therefore an exposure to a transaction involving a loss that occurs with a reasonable probability and can be anticipated, calculated, and minimized. (Firew, 2012)

In financial institutions, risk results from variations and fluctuations in assets or liabilities or fluctuation both in incomes from assets or payments on liabilities or variation in outflows and inflows of cash. In today's world, banks are facing various types of risks in the course of their service delivery and hence, a bank manager should ensure that he/she has a clear understanding of these risks to take sound measures effectively manage them. Therefore, bank managers have to be "risk intelligent". Risk intelligence defined as the ability to make informed decisions based on past, current and future data (Whipple, 2010).

Osborne (2012) has stated that, in businesses we need to strike the correct balance between risk and potential reward; to maximize our upside risk and minimize our downside risk. To succeed we need to manage risk appropriately, not to try eliminating or avoiding it, as, in any case, that simply is not possible. That is, therefore, essential that we understand the major risks of our business operations so that we manage them to our advantage.

According to Osborne (2012), risk management has an essential role in one's decision-making, whether it's with regard to business start-up, strategy, exploiting opportunities, managing one's various projects or in one's day-to-day business operations. Risk management can help to justify- to the management team, employees, business partners, investors, creditors and customers.

In recent years, the Ethiopian financial industry has registered an encouraging growth. Currently the financial sector includes 18 commercial banks, 16 insurance companies and 19 micro finance institutions. The banking industry in the country is making great advancement in terms of quality, quantity, expansion and diversification and is keeping up with the updated technology, ability, stability and thrust of a financial system. Where commercial banks play a key role, the importance of a robust and efficient control system is highlighted, with particular attention paid to the risk involved in the business (Fasika Firew, 2012).

National bank of Ethiopia (NBE) as a one and only regulator and supervisor of all financial institution activities in the country has a mandate to issue and provide guidance to all financial institutions as to the risk management system. To that end, in 2010, it updated the bank's risk management guidelines from 2003 to reflect recent developments in the sector. The guideline presents the risk management system of the banking risks.

This updated manual is required to include minimum risk management (risk recognition, assessment, tracking, and control) requirements for all banks operating in the country, in accordance with international standards and best practices. Credit, liquidity, business, and operational risks are among the most common and interconnected risks that banks in the country may face. The guidelines are intended to aid risk-based supervision and contribute to the banking system's protection and soundness.

Therefore, the risk management practice of Ethiopian commercial banks is at its infancy stage, as NBE directives say the establishment of the risk department is a recent phenomenon, this study analyses effectiveness of the risk management practice of selected Ethiopian commercial banks. This need necessitates a detailed analysis of risk management activities, which is why this study is important.

1.2. Statement of the Problem

Customers' expectations are growing, regulatory standards are increasing, technical advancement is increasing, and competition is increasing. In Ethiopia, the banking industry's competition has intensified the burden on banks to finance their entire operations in order to escape any future risks. (Tsion Fekadeselassie, 2015)

According to the NBE risk management guideline (2010), despite being underdeveloped, Ethiopia's banking sector has seen substantial growth in recent years, as evidenced by a rise in the number of banks, financial products offered to clients, and so on. According to the regulatory body, such expansion should be accompanied by sound risk management practices.

In Ethiopia problem of risk management has been manifested since long ago (Solomon, 2013 and Bereket (2013). Among possible internal and external factors that contributed to the risk in Ethiopia among others weak/ineffective internal control system, interest rate, market, ownership structure, poor management, capital inadequacy, lack of transparency, credit 5 and huge nonperforming loans(NPL) are the major risks of the bank. Others are categorized under operational risk management (NBE, 2010).

In this regard, private commercial banks in Ethiopia are currently facing different risk at the strategic level that reflects on the liquidity position, credit evaluation and monitoring, market,

overall the performance of the banks and the Bank's risk management practice at the strategic level are limited (Solomon, 2013).

Some researches were conducted in Ethiopia in the different levels of risks such as that of Solomon (2013), Bereket (2013) and Wondimagegnehu (2012). Most of the studies reviewed on the part of the liquidity, credit, operational and other risk management in different banks like assessment of credit risk management practices, factors affecting the liquidity position of the banks.

This raises a lot of questions, especially in relation to the assessment of risk management at a strategic level. , in the use of internal and external sources; the integration of strategic planning objectives with risk management over the long run; techniques used by increased complexity of risks faced by banks and alternative diversification strategies used to reduce risk gaps.

Thus, the problem stated above, along with the knowledge gap in the literature calls a research assessed this important area of concern taking the risk management practices at the strategic level of Ethiopian commercial banks.

1.3. Objectives of the Study

The analysis has both general and particular goals, depending on the problem discussed above.

1.3.1. General Objective

The overall aim of this research is to look into the risk management activities of a few Ethiopian commercial banks.

1.3.2. Specific Objectives

The study's specific objectives are as follows:

- To assess how Ethiopian commercial banks control their credit risk
- To examine liquidity risk is being assessed by Ethiopian commercial banks
- To evaluate the how market risk is being handled by Ethiopian commercial banks
- To assess how Ethiopian commercial banks minimise the effect of operational risks

- To observe how Ethiopian commercial banks control the effect of solvency risk they face.

1.4. Research Questions

To address purpose and objectives of the study, the following research questions are exploited.

- How Ethiopian commercial banks control their credit risk?
- How liquidity risk is being assessed by Ethiopian commercial banks?
- How is market risk being handled by Ethiopian commercial banks?
- How does Ethiopian commercial banks minimise the effect of operational risks?
- How Ethiopian commercial banks control the effect of solvency risk they face?

1.5. Significance of the Study

The current study's findings and recommendations could be used as a component and informative to the banks under investigation as well as the country's regulatory body. It would also provide academic and technical society with a general understanding of risk management issues. In addition, the analysis has the following implications:

It offers the regulatory body useful information about the state of the bank's risk management, and the results may be used to formulate policy.

It is used by other banks in assessing their activities and recognizing and correcting potential risk exposures.

It can be used as a resource for anyone who wants to do more research on the same or a similar subject.

1.6. Scope of the Study

This study examines the risk management practices of Ethiopian commercial banks that were established prior to 2011. Banks established three or four years ago are not included in this study because they are not well organized to develop risk management departments and may lack the necessary expertise and skill in managing various types of risks in a scientific manner. Furthermore, the study investigates the most common and interconnected risks faced

by commercial banks operating in Ethiopia, namely credit, liquidity, market, and operational risks.

According to the NBE, 19 commercial banks provide financial services. The remaining one is the DBE (Ethiopian Development Bank), which was established for long-term project financing. As a result, the scope of this research is limited to 18 registered commercial banks.

1.7. Organization of the Paper

This research is divided into five chapters. The first chapter is the introduction, which includes the background of the study, the statement of the problem, the objectives of the study, the research questions, the significance of the study, the limitations of the study, and the organization of the research paper. The second chapter is a review of the literature, with an emphasis on theoretical and empirical literature. In contrast, Chapter three introduces the research methodology, which includes the research question, data type, sampling design, research instrument, data analysis method, and so on. The study's data analysis and results discussions are presented in Chapter four. Finally, Chapter 5 presents the study's findings' conclusions and recommendations.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

1.1. Theoretical Review

1.1.1. Meaning of Risk

Risk can be described as the probability of something bad occurring in specific circumstances. Although the profit element of risk is not widely accepted, the small amount of chance that results in profit in a business venture must be acknowledged. In general, it's important to stress that danger has no meaning unless it's accompanied by fear. The loss in question should be able to be represented in a monetary unit that is easily observable, (Meulbroek , 2002).

Perils are the immediate cause of loss, while exposure is the degree to which an object has a potential for loss in a dangerous situation. Floods, arson, death, illness, accidents, fires, and lightning are just a few of the hazards that people must deal with on a regular basis. Hazards are the circumstances that lead to casualties as a result of specific perils. Hazards can increase the likelihood, severity, or both of a loss. Certain conditions that are generally referred to as risks, such as moral hazards, may be both physical and intangible, Cade (2010)..

The five types of risk are fundamental risk, specific risk, pure risk, theoretical risk, and dynamic or static risk. Credit risk, liquidity risk, market risk, operating risk, and solvency risk are the five types of inherent risks in banking operations, Cade (2010).

1.1.2. Risk Management System in Banks

During the financial intermediation phase, banks face a variety of financial and non-financial risks, including credit, interest rate, foreign exchange rate, liquidity, stock price, product price, legal, regulatory, reputational, and operational risks (Meulbroek, 2002).

The bank's organizational structure, the entire risk measurement strategy, the board's authorized risk management policy, prudential limits structure, a strong MIS platform for reporting, tracking, and managing risks, an efficient risk control system, and a comprehensive risk management framework with responsibilities to risk management personnel are the basic criteria for the risk management function, (Meulbroek, 2002).

1.1.3. Five Risk Types in Banks

Credit risk, liquidity risk, market risk, operating risk, and solvency risk are the five types of inherent risks that banks face in their operations (Cade, 1999).

1.2. Credit Risk

According to Huang and Dosterlee (2010), credit risk is the risk of financial loss resulting from an Obligor's inability to meet his or her obligations. It can be triggered by either an unwillingness or a failure to perform according to the pre-agreed contract terms (Allen & Santamero, 1997). It is the most significant source of risk for banks, and properly managing such risks necessitates estimating credit risks at portfolio levels in order to determine the amount of capital needed to protect against severe losses. Accepting deposits and grant credits is the major responsibility of the bank, which exposes them to credit risk. According to Gieseche(2004) "Credit risk is one of the most serious threats that banks face, and effective risk management can assist banks in increasing their profitability". According to Coyle (2000) "credit risk is the consequence of borrower's refusal or inability to pay what is owed when required". As a consequence, credit risk is the risk that a bank will be exposed to if a borrower fails to fulfill a debt obligation at maturity. The cumulative effect of these defaults, if not handled properly, could result in a bank's financial distress. "Banks are therefore expected to maintain their credit risk exposure within acceptable limit by maximizing their risk adjusted rate of return for the enhancement of their profit" (Kargi, 2011). Banks with a high credit risk exposure are more likely to have liquidity and solvency issues.

1.3. Liquidity Risk

The ability of a bank to finance asset growth and meet obligations as they become due without incurring unreasonable losses is referred to as liquidity (BCBS, 2008). Banks are potentially vulnerable to liquidity risk because they convert short-term deposits into long-

term loans. Liquidity risk refers to the probability that the bank would be unable to meet its commitments for a fixed period of time. (Drehmann & Nikoladu, 2009).

The funding and market risks decide a bank's liquidity risk exposure (Joint Forum, 2006). A maturity mismatch between inflows and outflows, as well as sudden and unforeseen liquidity needs due to a contingency situation, trigger funding liquidity danger (Duttweiler, 2009). The market liquidity risk emerges from a bank's inability to sell assets at or near fair value, and it may manifest itself as a price slump in the case of a related sale in a limited market (Brunnermeier & Pedersen, 2009).

Banks' inability to handle unplanned declines in funding sources or their failure to resolve changes in market conditions that could impact the liquidation of assets without losing their value may result in liquidity risk. For banks with a large stock of illiquid assets, liquidity funding becomes crucial, (Fechi et al., 2008).

1.4. Market Risk

Market risk has arisen as a result of a recent reorganization of banking risk factors. Interest rate, exchange rate, equity, and commodities risk categories are now attracting the attention of both regulators and bank managers. The risk posed by price fluctuations in financial assets is known as market risk. Market risk is described by the BCBS (1996) as the risk of losses in on and off balance sheet positions as a result of market price movements. Market risk importance was recognized in the new Basel Committee Capital Accord, which acknowledges any market-related factor that affects the value of an instrument or a portfolio of instruments, which was enacted in 1999.

The most effective method of determining bank capital standards for market risks is to use banks' internal risk estimates rather than regulatory standard model approaches (Nachane et al., 2001). This is a significant development, as internal-model-based methods support banks in terms of risk-based capital standards effectiveness. Despite the advantages of the internal models approach, its primary emphasis on risk measurement of a static portfolio while ignoring the fundamental determinants of a bank's trading risk taking strategies and risk management abilities tends to favor the recommitment approach.

1.5. Operational Risk

Operational risk refers to the possibility of financial losses as a result of insufficient or failed internal procedures, people, and structures, as well as external events (BCBS, 2001). Human error in banking operations, financial fraud, and natural disasters are all potential sources of losses for banks, which could lead to their failure.

In its Basel II paper, the BCBS defined seven types of operational risks:

- (a) internal fraud: any act intended to defraud, misappropriate property, or avoid regulations, law, or company policy, excluding diversity/discrimination events involving at least one internal party;
- (b) external fraud: an act committed by an external party with the intent to defraud, misappropriate property, or circumvent the law;
- (c) employment practices and workplace safety: a violation of employment, health, or safety laws or agreements, the payment of personal grievance claims, or the occurrence of diversity/discrimination events;
- (d) clients, products, and business practices: BCBS (2001), “an unintentional or negligent failure to meet a professional obligation to specific clients (including fiduciary and suitability requirements), or a product's nature or design”
- (e) damage to physical assets: “the loss or damage to physical assets from natural disaster or other events”
- (f) business disruption and system failures: “disruption of business or system failures”
- (g) Execution, delivery, and process management: “failed transaction processing or process management, from relations with trade counterparties and vendors” (Eladlouni, Ezzahid, & Mouatassim, 2011, p. 100).

1.6. Solvency Risk

Solvency risk is a secondary category of risk in the banking industry that is based on capital adequacy to cover potential losses arising from the industry's primary risks. This risk is caused by human actions and is not a direct result of banking operations; rather, it arises as a result of poor risk management of other banking risks. Banks must pay careful attention to identifying and assessing these threats, as well as figuring out how to minimize and track them in their operations. The primary objective is to be able to report a significant profit at the end of each year and to continue to operate as a business company. The bank will be able

to make planned reserves and provisions for this degree of productivity in order to cover potential losses should they arise. Equity capital is used to protect the Bank in the event that these reserves and protections fail. Other primary risks inherent in a bank's operations which result in unforeseen losses, but the extent of solvency security clearly dictates the bank's survival. As a result, solvency is not an insignificant risk category, (Gleason, 2000)

In industry, capital is just as critical as risk capital, it's important to note that a bank's primary risks aren't solely mitigated by increasing its operating capital. However, it is more important to keep the inherent risks under control such that safe and profitable returns can be achieved. On the other hand, a high capital ratio by itself will not reveal a bank's course, (Gleason, 2000).

1.6.1. Risk Management Structure

The board of directors is in charge of developing bank risk management strategies that explicitly state the bank's risk tolerance and ensuring that risks are appropriately managed (BCBS, 2001). The board establishes risk limits by assessing the bank's risk-bearing capability. The committee's goal is to entrust a group of executive management members with the task of assessing the bank's overall risks and determining the acceptable level of risk to be taken. Line managers will be held accountable for the risks under their control as well as the bank's overall performance in that region, according to the committee. The primary responsibility of the risk management committee is to define, track, and evaluate the bank's risk profile (BCBS, 2001).

The risk policies are intended to define the quantitative prudential limits that apply to various aspects of a bank's operations. The trend is susceptible to assigning risk limits in terms of portfolio standards for credit risks, and Earnings at Risk and Value at Risk for market risk, (Lam, 2000; Sobel & Reading, 2004).

Banks are accountable to both depositors and investors, as well as taxpayers who would foot the bill for a bailout if they become illiquid therefore, bank management must maintain a very high level of risk management and control, which is an important component for banking supervision to establish in order to ensure bank survival. (World Bank Institute 1990)

The committee approach is widely recognized as the international standard for risk management in banks. The asset-liability management committee (ALCO) is in charge of dealing with various forms of market risk, while the credit policy committee (CPC) is in charge of credit and counterparty risk, as well as country risk (Allen et al., 1989).

Foreign Exchange exposures, which banks anticipate due to a lack of natural hedges, will increase their counterparty credit risk. The unpredictability of collateral values has an effect on the loan book's efficiency, (BCBS, 2001).

1.6.1. Bank regulations on different Risk Type

1.7. Basel I, Basel II & Basel III

Most bank losses, according to Markowitz (1988), are caused by weak credit standards for borrowers and counterparties, bad portfolio management, or a lack of attention. For financial institutions, credit risk is the most significant source of risk, and properly managing such risks necessitates estimating credit risks at portfolio levels in order to determine the amount of capital required. o protect against extreme losses.

In June 2004, the final Basel II Accord was released. It is a new wave of financial institution risk management regulations that focuses on three pillars: The first pillar establishes new capital minimums. Pillar 2 defines qualitative risk management standards, whereas Pillar 3 includes risk management information disclosures, which contributes to market discipline.

1.8. Regulatory Protections against Bank Failures

Governments around the world have developed two strategic safety nets for troubled banks in order to mitigate the impact of bank failures. The first is forcing the Central Bank to serve as a lender of last resort, which is a significant source of loss for depositors with large deposits in a failing bank. The other one is deposit insurance, which comes into play to cover depositors' assets from future losses in the event that a bank goes bankrupt. (BCBS, 2004)

1.9. Bank Failure and Systemic Risk

When a Major bank fails a systemic risk in banking arises, impacting the entire banking industry. This is possible because banks are linked by the interbank operation, which enables banks to borrow from one another in the event of a systemic risk in the banking system; creditors/depositors are prioritized over shareholders. (BCBS, 2004)

It is critical to examine the potential causes of each bank failure that may lead to systemic risk in order to design public policies that avoid systemic risk in banks, where the failure of one bank is transferred to others, causing the entire banking system to be disrupted. The following headings are used to categorize them: non-performing loans, lack of transparency/insider violations, capital inadequacy (and other inherent banking risks) macroeconomic uncertainty, crucial regulatory loopholes, market environment vulnerabilities, and poor governance/management. Individual bank failures that have a ripple impact are typically the source of structural problems in the financial system. Because of the interconnectedness of banks, there is a chance of systemic risk. Financial stocks are transmitted from one bank to the next through this chain of interconnectivity. This is why banks are being urged to take advantage of the collaborative measures placed in place by BCBS and regulators to aid in the reduction of interbank transfer and settlement risk in both domestic and foreign currencies. The predicted structural changes would often affect two dimensions, namely the length of time and the size of exposures. When one of the two is discarded, the other is automatically eliminated as well. (BCBS, 2004)

In a systemic risk scenario, derivatives, as a natural extension of conventional risk intermediation, are affected in the same way as the other counter party's exposures. When an obligor meets a payment deadline, there is always the risk of knock-on consequences, which may affect other banks' ability to fulfil their obligations. Charge, settlement, and netting in banking activities are all the same in this situation. (BCBS, 2004)

The problem of systemic risk or infectious effects arising from bank failures had almost vanished in developing countries before the global financial crisis of 2008. (Schwartz, 2010). This is why it is important to reintroduce government regulations to protect banks' fragility. When the Central Bank intervenes by bailing out banks, the government or taxpayers' money replaces the shareholders', with the security of depositors' funds in mind (Benston & Kaufman 1995). As Kane (1995) points out, this situation created a serious principal-agent issue in the banking sector. In seeking to save the financial system from economic threats, the Federal Reserve in the United States of America or some other Central Bank offsetting the effects of failure from the banking system causes additional issues (Adeyemi 2010). Current shareholders of a failing bank are replaced with public (taxpayer) funds, which is seen as an insult to the existing shareholders who did not contribute to the bank's failure. When the

Central Bank assumes control of a bank, the management and directors of the bank, acting as agents, unjustifiably deny the principals (shareholders) their rights to ownership of the bank.

1.9.1. Risk Management and Corporate Governance

There is a close relation between corporate governance and risk management in banking. In banking operations, corporate governance and risk management are inextricably linked (Manab et al., 2010). Ineffective oversight of bank operations by the board of directors, as well as a lack of adequate risk management, have been related to previous organizational failures. One of the responsibilities of bank directors is to ensure that an appropriate risk management system is in place, which means that the operators are aware of the risks that the bank faces and that a system for tracking and managing those risks is in place. As a consequence, risk management in banking activities can be seen as a part of corporate governance (Lam, 2000; Sobel & Reading, 2004).

The structure by which business companies are guided and regulated is known as corporate governance. The corporate governance framework sets out the rules and procedures for making corporate decisions, as well as the allocation of rights and obligations among various members in the company, such as other stakeholders, (Rosen & Zenios, 2001).

Corporate governance, according to Shleifer and Vishny (1997), is the mechanism by which financial providers to companies ensure that they can obtain a return on their investment. It focuses on the interplay between principals, agents, and other stakeholders with varying stakes in the business. In the case of banks, Macey and O'Hara (2001) suggest that an intermediary view of corporate governance should be taken.

Good corporate governance practices are essential to achieving and sustaining public trust and confidence in the financial system, which is vital to the banking sector's and economy's proper functioning. Bad corporate governance can lead to bank failures, which can result in significant public costs and repercussions due to the potential effects on any related deposit insurance scheme, as well as the possibility of broader macroeconomic consequences such as contagion risk and payment system impact. The financial crisis that started in mid-2007 is a good example of this. Furthermore, weak corporate governance can cause markets to lose trust in a bank's ability to handle its assets and liabilities, including deposits, resulting in a bank run or liquidity crisis. Banks have obligations to their depositors and other recognised

stakeholders in addition to their responsibilities to shareholders. The legal and regulatory system of a country determines a bank's formal obligations to its shareholders, depositors, and other relevant stakeholders. (Greuning and Bratanovic, 2009)

Corporate governance in the banking industry entails the delegating of power and obligations. Weak risk management and corporate governance are blamed for the aforementioned bank failures (Manch et al., 2010). Risk management and corporate governance are intertwined and interdependent (Quon, Zeghal, & Maingot, 2012). The effectiveness of risk management and corporate governance components is critical to the stability and enhancement of bank results (Manab et al., 2010; Sobil & Reding, 2004).

1.9.2. Weak risk Management Practice-Distress in Banks

Distress, in the ordinary sense, denotes a lack of strength or an unstable state that prevents the achievement of set goals and expectations (Smith & Wall, 1992). A financial institution is defined as unhealthy, according to Ologun (1994), if it is unable to fulfil its obligations to clients, shareholders, and the economy due to severe financial, operational, and managerial weaknesses. Distress in banking, according to Elebuta (1999), occurs when a relatively responsible proportion of banks in the banking sector are not fulfilling their obligations to customers, shareholders, and the economy due to weaknesses in financial, operational, and managerial capacities, leaving them illiquid or insolvent.

A major risk of bank distress is a danger to the efficient payment system. Banks play a critical role in every nation's economic growth by mobilizing savings and channelling them into economic development investments. Banks would only be able to perform these positions if they were well-functioning. The government's goal is to sustain monetary stability by ensuring a safe and sound environment for depositors and consumers (Spong, 1990). The government, through its legislation, regulations, and regulatory agencies, controls banks extensively in order to reduce the risk and cost of failure (Dale, 1984). Despite the government's attempts to safeguard the financial system, banks continue to fail. The failures have significant consequences for the financial system and, as a result, for the economy (NDIC, 1998).

Under this scheme, regulatory supervisory authorities assess a bank's efficiency in five areas: (Ebnodaghe, 1993; Nyong, 1994; Sunkey, 1980).

- capital adequacy
- asset quality
- management competence
- earning strength and
- liquidity sufficiency

These ratios are typically used to assess a bank's status. When they deviate adversely from the relevant authorities' predetermined requirements standard, the bank is considered distressed. According to Ebhodeghe (1993), a distressed bank is one that performs poorly in all or most of the five performance factors mentioned below:

- Significant undercapitalization compared to the level of service.
- A high number of loans and advances are listed.
- Failure to accommodate customers' cash withdrawals due to a lack of liquidity.
- Weak management, as shown by low credit quality, insufficient internal controls, a high rate of frauds and forgeries, and high labour turnover.

The following characteristics of a distressed bank were defined by Gbojikwe (1996).

- persistent liquidity deficiency
- accumulated losses which erodes shareholders' base
- the bank will in most cases require financing assistance from regulatory authorities

The interaction of the above characteristics causes bank distress. Distress in banks is classified into three categories.

- Banks that are solvent but illiquid. This occurs when a bank's realizable assets exceed its liabilities.
- Banks that are insolvent but have sufficient liquidity. This occurs when the realizable assets exceed the liabilities.
- When a bank's liabilities outweigh its realizable assets, it is known as illiquid and insolvent. This is a total bank collapse or terminal distress situation (Gashinbaki,

2000). During this case, the financial institution will be unable to meet its obligations to customers in this case.

1.2. Empirical Review

This section provides a summary of some of the published work on the management of risks by banks in developed and developing economies.

Khalid and Amjad (2012) conducted a research on the risk management in Islamic banking in Pakistan. The authors use the same model suggested by Al-Tamimi and Al-Mazrooei (2007) of risk management practices. The results indicate that Islamic banks are somewhat reasonably efficient in managing risk where understanding risk and risk management risk monitoring and credit risk analysis, are the most influencing variables in risk management practices.

Shafiq and Nasr (2009) examine the risk management practices followed by commercial banks in Pakistan. The results reveal the following: (i) the greatest exposures banks face are credit risk, liquidity risk, interest rate risk, foreign exchange risk and operating risk; (ii) significant differences exist in the application of risk management practices among public sector and local private commercial banks; and (iii) commercial banks' staff basically understand risk management but additional training is required to enhance their expertise in the area.

Hassan, (2010) the researcher conducts this research with the title of a comparative study of Handelsbanken and Swanbank; how risk has been managed during the last decade. In this thesis the authors strive to investigate the risk management phenomena in the banking sector by conducting a longitudinal comparative study in two different banks. In a broader perspective to understand the phenomena the authors depart from theoretical framework that recognizes the social and cultural elements of risk. However, to be more specific the thesis narrows down its analysis to three main variables that come under the realm of this discussion which are; how banks organizing for risk, how they measure it and the role of IT and human judgment. This study contributes to the banking sector by providing a road map of how successful banks manage risk. It highlights that the risk question should be addressed strategically and deemed to be a continuous phenomenon.

Hassan (2009) seeks to identify the risks posing the greatest exposure for Islamic banks in Brunei Darussalam and to examine the effectiveness of risk management techniques utilized in these banks. The results of the study reveal that the three major risks affecting the banks are foreign-exchange risk, credit risk and operational risk. Also, Islamic banks are reasonably efficient in managing risk; and risk identification, and risk assessment and analysis are the most influencing variables in risk management practices.

Rekha A. (2004) Risk management in commercial banks (A case study of public and private sector banks) Banks is in the business of managing risk, not avoiding it. To the researcher, Risk is the fundamental element that drives financial behaviour. Without risk, the financial system would be vastly simplified. However, risk is omnipresent in the real world. Financial Institutions, therefore, should manage the risk efficiently to survive in this highly uncertain world. The future of banking will undoubtedly rest on risk management dynamics.

Only those banks that have efficient risk management system will survive in the market in the long run. The effective management of credit risk is a critical component of comprehensive risk management essential for long-term success of a banking institution. The researcher understood that Credit risk is the oldest and biggest risk that bank, by virtue of its very nature of business, inherits. This has however, acquired a greater significance in the recent past for various reasons, (Hassan,2009).

Foremost among them is the wind of economic liberalization that is blowing across the globe. India is no exception to this swing towards market driven economy, (Khalid and Amjad ,2012).

Better credit portfolio diversification enhances the prospects of the reduced concentration credit risk as empirically evidenced by direct relationship between concentration credit risk profile and NPAs of public sector banks. They conclude their paper by proverb that is, a bank's success lies in its ability to assume and aggregate risk within tolerable and manageable limits, (Wood,1994).

Wood (1994) reviews the lending behaviour and examines credit risk management practices of banks in Barbados. The results of the study are as follows: (i) banks utilized published and internally-generated information in the process of screening applicants; banks do not use interest rates alone to allocate credit but resort to other means like varying the maturity

structure of loans, requesting collateral, and utilizing debt covenants and compensating balances in order to offset credit risk; the role of monitoring by banks is essential given the absence of credit rating agencies and lack of an active acquisitions market; monitoring activities of banks are characterized by regular (formal and informal) visiting (and telephone contact) between banks and clients and by periodic reviews of clients' accounts; credit rationing in Barbados can be usefully explained by the Stieglitz-Weiss "equilibrium-rationing model which emphasizes the influence of imperfect or asymmetric information on bank behavior.

Christie-Veitch (2005) examines the status of operational risk management in Trinidad, Barbados and Jamaica; assesses its importance relative to the other risks and reviews the practices for managing operational risk by the financial institutions. The findings are analyzed based on the assessment of compliance with regard to Basel Core Principles for the management of operational risk. The study reveals a number of findings: (i) the framework necessary to identify, assess, monitor and control operational risk is still not evident, (ii) the management of operational risk is basically limited to implementing and testing internal controls, (iii) operational profile is not currently reviewed and adjusted based on specific strategies, (iv) the plans to handle business disruption are somewhat in place but are not subject to testing or scenario analysis, (v) best practices with regard to operational risk are not finalized or circulated, and (vi) operational risk management methodologies are not being disclosed by banks.

Fasika Firew (2012) analyzes the operational risk management practices of selected Ethiopian Commercial banks by taking in to account the operational risk factors (Loss events) and their effect on entire banks performance. The results of the study reveals that the management should pay attention to those contributory operational risks so as to manage the operational risk effectively and efficiently, particularly, to operational risk management tools as the extracted factors has shown. Also the importance of awareness creation and accurate on time capturing of internal loss data are in consistent with factor analysis findings of management supervision and follow-up and capturing of internal loss data as both are among the extracted factors.

In summary, from the reviewed studies the following points emerge

- The major risks affecting banks are credit risk, interest rate risk, operational risk and foreign exchange risk.
- Banks are basically efficient in managing risk; however, additional training is still necessary.
- Operational risk is a major risk but is also quite complex in its measurement
- The sophistication of the risk management technique used varies according to the size of the bank.
- Banks, which usually venture into non-interest income activities experience higher risk than banks, which are basically in the loans market.
- Non-national firms have significant foreign exchange risk exposure; however, through the use of hedging techniques they are able to significantly reduce its impact.

CHAPTER THREE

RESEARCH METHODOLOGY

1.3. Research Approach

The researcher wants to answer specific questions, such as predictions about risk management analysis in the Ethiopian banking sector. Since objectivity is essential, both quantitative and qualitative research methods were used. It requires gathering and translating data into numerical form in order to conduct statistical calculations and draw conclusions.

Data is gathered by various methods in accordance with a strict protocol and then prepared for statistical analysis. Objective ideas can be tested using both qualitative and quantitative approaches. This can then be calculated using instruments, resulting in numbered data that can be analyzed using statistical procedures (Creswell, 2008). The relationships between Risk Management analysis in Ethiopia Banking sector using inferential statistical approach, the assumptions that generalize to the population from a selected sample, and the assumptions that generalize to the population from a selected sample are all important to understand when collecting and analyzing data using a quantitative approach (Trochim, 2006).

1.4. Research Design

In order to achieve the objectives of the study, the research undertake descriptive approach using both qualitative and quantitative data. Researcher develops structured questionnaire based on the Basel's credit risk management principles/activities of 1999 and NBE's risk

management guideline of 2009. 41 closed ended questions with five Likert scale level of agreement were developed on five aspects of risk management activities. This study was carried out. Creswell (2008) stated that the descriptive method of research is to gather information about the present existing condition. The emphasis was on describing rather than on judging or interpreting. The descriptive approach was quick and practical in terms of the financial aspect

1.5. Target Population, Sample Size and Sampling Techniques

1.5.1. Target Population

The population of the study is Commercial Banks in Ethiopia registered by National Bank of Ethiopia (NBE). Currently, as per NBE (2016/17) annual report, the major financial institutions operating in Ethiopia are banks, insurance companies and micro-finance institutions. The number of banks operating in the country is 18, of which 16 are private banks, and the remaining are state-owned (Construction and Business Bank are merged with Commercial Bank Ethiopia). From these only 17 banks are Commercial Banks. This is excluding the Development Bank of Ethiopia, which provides banking service to the selected government priority sectors. To meet the desired objective of this study and to make generalizations from sample to population, the researcher used 16 private commercial banks and 1 government bank operating in the country.

1.5.2. Sampling Technique

Sampling is the process of choosing from a much larger population to make a generalized statement considering the selected sample represents the total group. Sample size determination is the mathematical estimation of the number of subject/units to be included in a study. The sample size is an important feature of any empirical study in which the goal is to allow for appropriate analysis and to provide the desired level of accuracy. In practice, the sample size to be used in a study is determined based on expense of data collection, and the need to have validity of significant test.

The sample size determined based on the table show below formula

$$n = \frac{N}{1+N(E)^2}$$

$$n = \frac{148}{1 + 148(0.05)^2}$$

$$n = 108$$

1.6. Data Sources and Types

For the analysis, the researcher used both primary and secondary data sources.

1.6.1. Primary data

Primary data is information that has never been collected before and is obtained directly from the source (Kothari, 2006). The data for this study was gathered through observations and focus group discussions. These techniques were used to acquire the original data. The respondents are distributed around the Ethiopian Banking Sector's numerous divisions.

Interviews may also be used to gather more detailed information. Interviews are open-ended questions that enable respondents to address topics of their choosing. Questionnaires may also be used to collect data. Prepared questions, which are standardized questions given to respondents to fill out, were used. This questionnaire had the advantage of gathering data rapidly and giving respondents more flexibility.

1.6.2. Secondary data

It typically comes from previous studies performed by institutions or organizations. To develop a conceptual framework and review literatures in the field of product risk management analysis in Ethiopian banking and its effect on the economy, the study used secondary sources of data from various research papers, studies, books, and other official publications.

1.7. Data collection procedure

To be able to equate empirical findings from primary research with established information in the context of a theoretical framework based on secondary research, the data in this study was collected using both primary and secondary data collection procedures.

A questionnaire is a standardized type that consists of a formalized collection of questions designed to gather information from one or more respondents on a particular subject or

subjects. In other words, a method of data collection in which respondents are asked to respond to a series of questions about a particular subject.

Interview, The semi-structured interview will be used in this study because it is a low-cost, fast method of collecting information from individuals. As a result, an interview was conducted with the boss, HR, and Finance department heads.

Secondary data was gathered from relevant books, papers, journals, and other resources that will aid in the study.

1.8. Data Analysis

The information gathered through the questionnaire was coded and analysed. The Statistical Package for Social Sciences (SPSS) version 20 software is used to analyse the study's results. Frequencies, quantities, means, standard deviation, and graphic representation are all measured using descriptive data analysis methods. The impact of risk management analysis in the Ethiopian banking sector was investigated using multiple regression analysis.

1.9. Ethical Consideration

This segment looks at ethical problems that should be discussed throughout the study process.

- Respondents' voluntary participation in the study is assured.
- Respondents will give their informed consent to participate.
- In the production of the Questionnaire, insulting, racist, or other objectionable language must be avoided.
- Respondents' privacy and anonymity are of utmost importance.
- Appropriate standards of study data confidentiality should be maintained.
- The study is unbiased and autonomous.

CHAPTER FOUR

DATA ANALYSIS AND RESULT DISCUSSION

This chapter deals with data presentation, analysis and interpretation. These data are presented and analysed based on data collected through structured and open-ended questions in semi structured questionnaires, and secondary data or documents from seventeen commercial banks. For this purpose, questionnaires have been distributed to 108 staff members of risk management directorate of the seventeen commercial banks, which are, Commercial Bank of Ethiopia, Awash International Bank, Nib International Bank, Wegagen Bank, Oromia International Bank, Lion International Bank, Cooperative Bank of Oromia, Bank of Abyssinia, United Bank, Abbay Bank, Dashen Bank, Brehan International Bank, Bunna International Bank, Zemen Bank, Dehub Global Bank, Addis International Bank and Enat Bank. All the questionnaires that were fielded are returned. These questionnaires are related to risk management practice in Ethiopian commercial banks. In addition to the questionnaires, secondary data or documents that are related to risk management were used in the presentation and analysis.

1.10. The General Background of the Respondents

The demographic information of respondents is presented in the following table. These include respondents' educational history, job experience, and educational qualifications. The respondents were asked a semi-structured question in order to obtain information on these issues and their answers were interpreted and evaluated as follows. Using SPSS tools, the results of this survey are processed.

A total of 108 respondents were present, of whom 80 (74%) were male and 28 (26%) were female. The following figure usually indicates the distribution of the gender of the respondent. As one can see in the above figure, male respondents are obviously large.

This means that the number of male and female respondents is not proportional, but that the majority of respondents are male.

The other history data of the respondents are years of working in the department of risk management. The percentage of the respondents' years of experience dealing with risk management, as seen in the figure below. Out of 108 respondents, 83 respondents constitute a category spanning 1 to 5 years of experience (76.8 percent of total respondents). The remaining 25 respondents, comprising 23.2%, were within the range of 6-10 years of experience.

As seen above, it can be understood that almost half of the experts have less than 6 years of experience working in the department of risk management. This means that most workers have not gained adequate expertise to conduct risk management practices, although the norm does not set a minimum criterion.

Table 1 & 2 demonstrates the level of education and the skills of the participants. Accordingly, 90 (83.3 percent) of 108 respondents have a BA or BSc degree and 18 (16.7 percent) of respondents have a Master's degree in various educational skills. These findings showed that almost all banks had first degree ownership. Much of the respondents are skilled in management from Table 2, which accounts for 39.8 percent of the overall respondent and 32.4 percent of the accounting followed. The remaining 27.7% of respondents are experts in other education fields.

Table 1: Respondents level of education

	Frequency	Valid Percent
Bachelor Degree	90	83.3
Master's Degree	18	16.7

Source: SPSS data analysis output, 2021

Table 2: Respondents qualification

Frequency	Valid Percent
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Accounting	35	32.4
Management	43	39.8
Other	30	27.7

Source: SPSS data analysis output, 2021

In terms of educational qualification and field of study, as discussed in the above paragraphs, most respondents have a strong level of educational qualification, which is a BA or BSc degree and a Master's Degree, enabling respondents to have a clue about the value of risk management. In addition, the majority of respondents studied a business-related area, helping them to understand the value of effective risk management in banks. This tells us that most of the respondents have an idea of the risk management mechanism that is more critical for the implementation of effective bank risk management.

1.11. Risk Presenting the Greatest Exposure

The effect of the different types of risks as classified by risk management employees within the Ethiopian banking industry is summarized in Table 3. The findings show that the order of significance for risk exposure is as follows for the seventeen banks participating in the survey: credit risk, operating risk, liquidity risk and market risk, including interest rate risk and foreign exchange risk.

Table 3: Risks presenting the greatest exposure

Types of risks	Respondents	Percentage	Rank
Credit Risk	45	41.66	1
Liquidity Risk	29	26.85	2
Foreign Exchange Risk	19	17.59	3
Operational Risk	8	7.41	4
Interest Rate Risk	7	6.48	5
Total	108	100	

Source: survey result, 2021

Of the total population, 41.66% of respondents rated credit risk as the most significant risk in the banking sector. With 26.85 percent of the respondents rating it as the most important in the industry, liquidity risk was second. 17.59 percent of the respondents rated Foreign Exchange risk third as the third most important. 7.41 percent and 6.48 percent of the respondents were ranked fourth and fifth in operating risk and interest rate risk.

1.12. Risk Identification

The collected data is used to assess the extent to which the banks focused on risk identification. Risk identification is very critical in the risk management process. Table 6 shows the respondents response in related to risk identification process of banks.

Table 4: Descriptive statistics of risk identification

		Freq.	Percent
The bank finds it difficult to prioritize its main risk.	Strongly Disagree	67	62
	Disagree	41	38
	Total	108	100.0
It is important for your bank to emphasize continuous review and evaluation of the techniques used in risk management.	Neutral	19	17.6
	Agree	58	53.7
	Strongly Agree	31	28.7
	Total	108	100.0
The bank is aware of the strengths and weaknesses of the risk management systems of the other banks	Disagree	46	42.6
	Agree	62	57.4
	Total	108	100.0
	Strongly Agree	35	32.4
	Total	108	100.0

Source: SPSS data analysis output, 2021

It is confident, according to the respondents' response, that banks generally have no difficulty in identifying and prioritizing their key risk. This critical feature of the risk management process is greatly supported by the ongoing analysis and assessment of risk management

techniques. However, in this particular risk detection process, understanding of the strengths and limitations of the risk management systems of other banks is at a standstill.

1.13. Importance of Risk Management Practices

Data collected from the close-ended questions showed that 74.07% of respondents strongly agree and 25.93% of respondents agree that successful risk management is the objective of bank success (Table 5). The table indicates that 89.6 percent of 108 respondents suggested that the use of different risk management strategies reduces bank costs or anticipated losses, and the remaining 10.4 percent did not know whether or not the use of different risk management techniques reduces bank costs or anticipated losses.

The table also showed that, while all respondents accepted that successful risk management is one of the bank's key goals, 84.26 percent of respondents disagreed that risk management is the bank's main business. In addition, the respondents sought their views on the role of board and senior management participation in risk management activities. There is a major presence of the board and senior management in risk management practices with the entire number of respondents decided upon.

Table 5: Descriptive statistics of importance of risk management

Questions		Freq	Per
The effective management of risk is centre to your bank's performance.	Agree	28	25.93
	Strongly Agree	80	74.07
	Total	108	100.0
The main business of your bank is to manage risk.	Disagree	91	84.26
	Agree	17	15.74
	Total	108	100.0
Application of risk management techniques reduces costs or expected losses to bank.	Neutral	11	10.18
	Agree	30	27.77
	Strongly Agree	67	62.05
	Total	108	100.0
Managing risk is important to the bank's performance and success of your bank.	Disagree	7	6.48
	Neutral	4	3.7
	Agree	31	28.7
	Strongly Agree	66	61.1
	Total	108	100.0
Effective risk management is one of the main objectives of your bank	Agree	36	33.3
	Strongly Agree	72	66.7

	Total	108	100.0
There is significant board and senior management involvement in the risk management of your bank.	Agree	57	52.8
	Strongly Agree	51	47.2
	Total	108	100.0

Source: SPSS data analysis output, 2021

1.14. Current measures in place to manage and control risk(Risk Management Technique)

Many tools could be used to measure different types of risk, with those tools being either internal or external, as required by central banks. Some of them can be seen in the following respondents' statements regarding how to measure different types of risks:

1.14.1. Strategic Risk

The purpose of conducting a strategic risk review/assessment on the Bank is to gauge the extent to which the Bank plans and implements appropriate business plan and reviews it as necessary. In addition, the assessment shall evaluate appropriateness of decisions passed by the Management on critical issues of strategic importance.

External Environmental Assessment

The Department, in collaboration with relevant units and functions of the Bank, shall periodically and on continuous basis monitor and document changes in the external environment with respect to developments in the competitive, technical, and financial environments as well as stakeholder behaviors, and political platforms. Information shall be compiled as per designed format.

Internal Environmental Assessment

Assessment of Plan Review

An assessment shall be conducted to look into up-to-datedness of Bank's annual and strategic plans to reflect current situations. Identification of key issues of relevance that have occurred in the external environment during a reporting period shall be compiled and the Bank's plans shall be examined whether they have been reviewed for the changes;

Review of Bank's Plan Performance

1. Information and data on the Bank's performance relating to identified goals and objectives as related to functional lines shall be gathered. The assessment shall be done against identified Key Performance Indicators (KPI).
2. KPIs for the Bank may include such indicators as 'level of foreign currency assets', 'overall profit level', 'volume of ATM/Visa card issuance and acquiring', 'average customer waiting time', etc.
3. The Bank's overall performance for a specified period shall also be measured against certain identified strategic aspects referred to as Critical Success Factors (CSF).
4. The Bank's CSF for a given financial year may include such issues as "Enhancing the share of Savings Deposit by 25%", "Incorporating all Branches in the Bank's CORE-Banking system", "Launching 25% of the industry's total number of PoS", 'Issuing 30% of the industry's total ATM/Visa cards' etc.
5. The Bank's plan shall be evaluated against its periodic performance with respect to all identified activities (Credit, International Banking, Resource Mobilization, Overall Financial Performance, etc).

Assessment of Decisions and Courses of Action

1. The Bank's specific decisions passed and courses of action pursued against identified issues during a reporting period shall be assessed by gathering pertinent information from relevant work units and functions of the Bank as per designed format
2. Data and information on rightfulness/appropriateness of decisions passed and/or courses of action pursued by the Management regarding key identified strategic issues prevailed during a reporting period may relate to, but are not limited to, such aspects of decisions on whether to:
3. The assessment shall make use of broad measures of appropriateness of decisions taken and courses of action pursued. Such measures shall include, among others, '**Timeliness**' of the response/decision, '**Adequacy of Information**', and the degree of '**Transparency and Participation**' involved in the process;

4. Information on all such issues and decisions of strategic importance/nature shall be sought from the *Minutes* of relevant meetings conducted by organs of the Bank involved (such as the Board, Senior Management Committee, etc).

Conducting ad-hoc Studies

The Department shall conduct ad-hoc studies and such other assessments on selected or comprehensive strategic issues as necessary to prompt reflections on and direct attentions toward sensible findings. Such issues may include assessment, among other aspects, on the perceived changes in industry wide customer behavior toward products offered by the Bank, and assessment of client and stakeholder feedbacks on the Bank's overall service delivery and technology based services;

Net Risk Assessment

1. Aggregate net strategic risk position of the Bank shall be determined after a detailed and comprehensive assessment of the quantity of strategic risk assumed vis-a-vis the quality of risk management put forth by the Bank. A checklist of parameters and general thresholds of measurement have been identified in both dimensions to enable determine the net risk.
2. In determining the overall strategic risk as at a particular reporting period, it would be vital to be guided by a general ruling that governs the assignment of risk ratings as “**High**,” “**Moderate**,” or “**Low**”.
3. As a general decision rule, fulfillment of 2/3 of the quantity of risk as well as quality of risk management parameters indicated in Table 2.2 above shall be considered in assigning the corresponding ratings. This is, however, subject to any rational subjective judgments on the relative significance of the parameters and their corresponding weights to affect the overall rating.
4. It is a customary practice to show the corresponding resultant overall risk levels with coloring of *red*, *yellow*, and *green*, respectively. The following risk matrix demonstrates the assignment of the ratings as a result of the various combinations of degree and management of risks.

5. The interpretations are such that, for instance, if strategic risk assessment results in a “**Moderate**” quantity of strategic risk for a particular period but “**Weak**” risk management quality, then, the overall rating of strategic risk position of the Bank for the period would be poised at “**High**” side. This methodology would be uniform across all risk elements.

At the end of conducting the assessment on the overall net risk of the Bank’s strategic risk, a general “**Direction**” of the risk shall be indicated as either ‘**increasing**’, ‘*stable*’ or ‘*decreasing*’ based on the trends in specific risk indicators. As such, for instance, the net strategic risk of the Bank as at a particular period could be determined to be “**Low**” with “**Increasing**” direction of risk.

4.5.2. Liquidity Risk

Events directly affecting or translating into liquidity risk may be detected both from internal as well as external environmental assessment. To this effect, regular and ongoing efforts in conducting surveillance have to be done to identify relevant liquidity risk events over a period. The Bank’s risk register in this regard has to be updated to reflect the change in the detected risk profile. Two categories of information can, thus, be distinguished as ‘direct liquidity indicators’ and ‘indirect liquidity signals’ and a list of relevant identified risks for each of these categories shall be generated/produced for every reporting period

Liquidity Risk Measurement

Risk and Compliance Management Department of the Bank shall measure, on an on-going basis, the magnitude and direction of the liquidity risk assumed by the Bank. It shall apply the following measurement mechanisms and tools.

Maturity Gap Analysis

1. Maturity GAP Analysis constitutes breaking down the Bank’s asset and liabilities into different buckets based on contractual maturity of the timing of future cash flow from outstanding loans and advances. Such data related to future cash inflows from loan repayments of respective Branches shall be captured and compiled using prescribed format. Alternatively, same data could be made available centrally via the Bank’s CORE-Banking system which, upon full finalization, would readily avail all required details as recommended and desired by the Department;;

2. The expected future cash flow shall be distributed across six time bands based on contractual maturity of repayments from all loans and advances. For such assets as Overdraft and other Advance facilities, and liabilities such as ordinary Demand and Savings Deposits which are without contractual maturities, historical movement of the respective accounts shall be used for the classification.
3. Based on the information compiled for each time bucket, assets are matched against corresponding liabilities to arrive at net funding gap which shall, then, be aggregated to determine cumulative gaps. The net and cumulative gaps shall be compared as a percentage of respective total assets/liabilities. The analysis is conducted as per designed reporting format,
4. The level of mismatch between maturing assets and liabilities indicates the need for Management's decision on how to minimize the gap between asset and liabilities maturing over a period of time. Provided that the mismatch (negative gap) is perceived to be significant, the Risk and Compliance Management Department shall provide possible recommendations to finance the GAP. The report shall regularly be prepared on quarterly basis.

Ratio Analysis

Regulatory Requirements

To ensure that the Bank remains in compliance with regulatory requirements and weigh the level of liquidity position, regular analysis into regulatory ratios has to be carried out. The National Bank of Ethiopia requires banks to maintain *Liquid Assets* of not less than a certain prescribed percentage of total *Net Current Liabilities* as a Liquidity Requirement. At the same time, the regulator imposed a Reserve Requirement to be complied at all times computed as a prescribed percentage of all Birr and foreign currency *Net Deposit Liabilities*. The Bank's periodic Reserve and Liquidity Requirement report prepared by the Finance and Treasury Department shall also be regularly received for this purpose;

Other Ratios

In addition to the regulatory requirements, other relevant ratios shall be applied to gauge various dimensions of prudent liquidity position. Various ratios (such as Loan to Deposit, Loan to Total Assets, Deposit to Total Assets, and Non-Core Fund Dependence Ratio) that measure liquidity shall be calculated and analyzed against the risk tolerance limits of the Bank, best practice as well as industry averages, subject to availability of adequate data, and

recommendation shall be forwarded for remedial actions. (*The Risk Tolerance Limit Guideline could be referred for detailed regulatory and prudential ratios*)

Analyzing Growth and Composition of Deposits

1. Depending on availability of data relating to industry and general market share, comparisons shall be made on certain factors of growth and composition of funds against peer banks, all private banks, and industry figures;
2. An assessment of the Bank's degree of dependence on non-core funding sources (such as Fixed Time Deposits, Short-term borrowings and other negotiated funds) shall also be conducted. Periodic changes in growth and diversity of funding structure in terms of individual depositors (Top 10 and 20 depositors), and range shall be assessed.

Stress Testing

1. Stress tests (Sensitivity and Scenario Analysis) on liquidity shall be conducted as necessary and based on perception of imminent changes to provide additional insight as to the Bank's vulnerability to liquidity risk. The exercises shall be carried out based on a Stress Testing Guideline which would outline the selection and subsequent approval of the changing parameter (in the case of sensitivity) or set of parameters (in the case of scenario analysis) to use as a stress. Possible parameters to be considered in administering the stress test include overall deposit run-offs due to unforeseen events, withdrawals by big depositors, effecting sudden large payments, etc.
2. Such tests shall be carried out by the Department at least annually or as found necessary based on development of events bearing potential significance to the Bank's liquidity position.

Assessment of Liquidity Scenarios

1. The Bank operates in a dynamic environment where various important internal as well as external parameters change in shorter span of time which may significantly affect its liquidity positions. Thus, it becomes important to assess the Bank's prevailing conditions and define its relative liquidity position as per specific and identified parameters indicated in the Bank's Liquidity Contingency Plan;

2. The assessment may be conducted as and when necessary based on perception of developments in the micro and macroeconomic environment and quantitative analysis of the Bank's liquidity position.
3. Identification of the Bank's actual liquidity position (i.e definition of a liquidity scenario) shall then be followed by appropriate recommended policy options and/or remedial actions for adjustments, or affirm existing status.

Use of Modules and Spreadsheet Templates

The liquidity risk measurement exercise is conducted by the use of MS Excel Spreadsheet Templates. Two or more worksheets carrying interrelated data are coined together to fit into a desired report format which includes Annexes and Tables.

Conducting Ad-hoc Studies

Studies of varying nature shall be conducted as necessary on certain aspects of the Bank's liquidity performance to draw lessons for future risk management endeavor and exercise proactive liquidity risk management. Subjects for such studies may revolve around both asset and liability dimensions of liquidity.

Foreign Currency Liquidity

Exposures relating to foreign currency liquidity shall also be analyzed for major currencies (primarily for the USD and EUR) to be able to foresee potential liquidity concerns from foreign currency mismatches.

4.5.3. Interest Rate Risk

Developments in the external environment relating to changes in the regulatory requirements and various government policy actions affecting the Bank's interest rate risk profile shall regularly be assessed. The assessment shall result in a long list of potential events that can be taken as direct indicators and indirect signals of occurrence of an interest rate risk.

Interest Rate Risk Measurement

The Department shall review the Bank's exposure to interest rate risk by consolidating all required data received from work units and functions of the Bank or

directly from the Bank's core banking system to conduct various analysis which includes, but not limited to, the following:

Re-pricing/Maturity Gap Analysis

1. Analysis of mismatches between Interest Rate Sensitive Assets and those of Liabilities of the Bank shall regularly, and as required, be conducted. Under this technique, all assets and liabilities are classified into two categories as interest rate sensitive or non-interest rate sensitive. The net and cumulative gaps shall be determined by taking the difference between the two categories. In this regard, speculative knowledge and information about a possible future repricing shall have a significant advantage so that the Bank can take proactive measure to mitigate the risk;
2. Interest rate Sensitive Assets comprises of all asset elements which tend to be affected by changes in interest rates and include such items as Loans and Advances, Treasury-Bills, Bonds, and Investments, and Foreign Bank Deposits. Interest rate non-sensitive Liabilities, on the other hand, include all Deposits with the exception of interest bearing checking account deposits. Assets such as Cash on hand, Reserve as well as Payment and Settlement A/c with the NBE, Deposits with other local Banks including and all Fixed and Leased assets are generally understood as being Non-Interest sensitive. Liabilities Non-sensitive to changes in interest rate include lion's share of Checking Deposits and Other Liabilities;
3. To evaluate earnings exposure, the product of the determined repricing gap for respective time bands and an estimated change in interest rates shall be taken to yield an approximation of the change in interest income that would result from a given interest rate movement; The resulting gain or loss from the exercise shall be applied to budgeted earnings and the issue shall qualify as an agenda item for ALCO to deliberate subject to materiality of amount involved.

Movement of Effective Interest Rates

1. Periodic changes in net interest income shall be assessed to determine the movement of effective interest rates for all funds against corresponding rates for investments (usually loans and advances).

2. Results of such analysis could be used to adjust prevailing pricing of loan products and deposits and/or minimize undesirable exposures stemming from certain products such as Fixed Time Deposits and other negotiated funds.

Stress Testing

1. Sensitivity analysis shall be conducted, following identification of a relevant signal and indicator, onto the Bank's credit portfolio as well as mobilized funds by altering interest rates to identify how both portfolio respond to shifts in the selected parameter;
2. Scenario analysis could be conducted, as necessary, by assuming a set of assumptions related to a perceived and imminently developing environmental situation to reveal the extent to which the Bank can shoulder exposures as a result of changes in the set of variables.

4.5.4. Foreign Exchange Risk

There are various aspects that can affect and alter the Bank's foreign exchange risk profile. The issues range from internal foreign currency asset management aspects to government policy actions as well as global market developments affecting commodity and currency movements. All relevant risks affecting the Bank's risk profile in this regard has to be accounted for so that a corresponding mitigating mechanism would be designed. A risk register wherein all identified risks developing over a period will be recorded has to be prepared and same has to be regularly updated.

In the measurement of exposures to foreign exchange and related risks, the Department shall receive all relevant data as per designed format from International Banking Department as well as Finance and Treasury Department regarding the Bank's foreign exchange holdings (amount, composition, correspondence/placement, yield, open position, etc) and Forex liquidity positions periodically

The Bank's implementation of enhanced CORE-Banking System in OMNI Enterprise would significantly improve the efficiency and effectiveness of the Management Information System.

Overall Open Foreign Currency Position

The Bank shall adopt the NBE's open position determination technique as per its applicable directives which put a limit on the overall open foreign currency position to minimize embedded risks;

Foreign currency assets and liabilities shall be matched by currency to determine the resulting net short and long position, whichever is larger, shall be taken to determine the overall open foreign currency position against capital.

Foreign Currency Maturity Gap Analysis

The Risk and Compliance Management Department shall regularly gather data as accurate as possible from relevant business lines (International Banking, and Treasury and Finance Department) and determine mismatches in foreign currency assets and liabilities. Data required in this regard include Correspondent Bank Deposits, Cash on hand/Treasury, Uncleared Effects, etc and Liabilities such as Customer Foreign Currency Deposits, Letters of Credit and other Commitments.

Concentration by Currency and Correspondent Bank

The Bank shall exercise diversification of its foreign currency holdings both in terms of currency as well as correspondent bank within an international perspective and considering prevailing wide-ranging international situations

Stress Testing

It would be helpful to conduct, as deemed necessary, stress testing exercises with respect to foreign exchange related exposures. The test could either be in the form of scenario analysis examining impacts across a range or set of parameters administered or sensitivity along a single parameter. For instance, if a considerable fall in the exchange rates of the Euro appeared imminent as at a given reporting period, then the impact on the Bank's earnings has got to be estimated by administering a shock (stress) across its foreign currency asset holdings. Conduct of this exercise rests on perception of reasonable occurrence of a given highly correlated risk event.

Other Measures

Trend analysis for revaluation gains and losses for major currencies held by the Bank shall be conducted as necessary and implications for future management of foreign currency portfolio shall be drawn;

Follow-up of the exchange rate development in the local inter-bank and international market closely and assessment of its impact on the value of the foreign currency assets and earning of the Bank;

The change in yield, due to various movements, on the Bank's Foreign bank deposits kept with correspondent banks until required for settlements shall be analysed;

Identification and assessment of major factors contributing for erratic movements in unexpected foreign exchange rate movements due to social, geo-political and economic factors affecting the macroeconomic situations of strong economies.

Ad-hoc Studies

The Department shall conduct studies on certain aspects of foreign currency operations and management, as deemed necessary.

4.5.5. Operational Risk

It is mandatory that the Bank shall set out by duly identifying all its operational risks as related to each of its stated objectives in the business plan. It shall again be known that this long list of potential operational risk events shall continuously be updated and made to reflect set of real events affecting the Bank.

Risk assessment/Measurement

Categorization of Loss Events

Measurement of operational risk loss events shall be based on classification of events into seven categories, namely: Internal Fraud; External Fraud; Employment Practices and Workplace Safety; Clients, Products & Business Practices; Damages to Physical Assets; Business Disruption and System Failures; and Execution, Delivery & Process Management.

Use of Operational Risk Loss Database

The identification and measurement of operational risk should ultimately enable the Bank to estimate expected losses and set aside a cushion (a kin to ‘provisioning’ in credit risk management) against potential materialization of operational loss events. To this effect, a comprehensive time series data of actual loss events for at least three years should be compiled as per a designed operational risk loss data base. Recognizing that outputs of such database would only be as good as its accuracy, exhaustive coverage and completeness, the effort in this regard shall always be rigorous and continuous;

Actual loss data incurred by the Bank which relate to operational risks of any one category outlined above include, but are not limited to, all amounts lost due to:

- fraudulent acts caused by internal staff and/or external parties;
- penalties levied on the Bank by the regulator or any counterparty due to incompliance to directives and/or requirements;
- employee compensation claims due to clearly identifiable risks associated with employment practices and workplace safety;
- damages to physical assets as a result of mishandling of properties of the Bank;
- data entry and execution errors resulting in visible losses in terms of wastage of Bank resources; and
- customer service time lost caused by system downtimes and connectivity failures.

Assessment of Information Technology Risk

In the wake of growing global IT risk and the Bank’s investment as well as reliance in substantial IT projects and systems, it would be mandatory to have a comprehensive IT risk assessment scheme as part of the operational risk event category of ‘**Business Disruption and System Failures**’. The measurement of IT risk generally follows identification of critical IT assets and encompasses the following sequential steps:

System Characterization

In this first step, the boundaries of the IT system are identified, along with the resources and the information that constitute the system. Characterizing an IT system establishes the scope of the risk assessment effort, delineates the operational authorization (or accreditation)

boundaries, and provides information (e.g., hardware, software, system connectivity, and responsible division or support personnel) essential to defining the risk.

In this effort, On-site interview, Questionnaires, Documentary review, Automated Scanning Tool and Practical observations may be used to solicit information relevant to the IT system processing environment. These methods would help in capturing system as well as operational environment of the IT system and its data related information.

Threat and Vulnerability Identification

Assessment of IT risks involves identification of three types of threats, namely: *Natural*, *Human* (such as unintentional acts, eg. inadvertent data entry, or deliberate actions (network based attacks, malicious software upload, unauthorized access to confidential information), and *Environmental Threats* such as long-term power failure, pollution, chemicals, liquid leakage.

Information useful for studying the human threat environment may also include reviews of the history of system break-ins; security violation reports; incident reports. Interviews with system administrators, help desk personnel, and user community during information gathering would help identify such human threat sources that have the potential to harm an IT system and its data and that may be a concern where vulnerability exists.

The goal of identifying vulnerability is to develop a list of system vulnerabilities that could be exploited by the potential threat sources. The analysis of the threat to an IT system must include an analysis of the vulnerabilities associated with the system environment;

Vulnerability refers to a flaw or weakness in system security procedures, design, implementation, or internal controls that could be exercised (accidentally triggered or intentionally exploited) and results in a security breach or a violation of the system's security policy.

In identifying system vulnerabilities, an assessment of *vulnerability sources*, *testing* of system security, and development of a security requirements *checklist* shall be conducted.

A checklist of information security shall also be developed and adherence against specific requirements in the checklist shall be monitored as required.

Control Analysis

The goal of control analysis is to analyze the controls that have been implemented or are planned for implementation by the Bank to minimize or eliminate the likelihood (or probability) of a threat's exercising a system vulnerability. The output of this step is list of current or planned controls used for the IT system to mitigate the likelihood of a vulnerability being exercised and reduce the impact of such an adverse event;

The analysis shall determine the existence of technical controls (safeguards that are incorporated into computer hardware, software, or firmware. Eg e.g., access control mechanisms, identification and authentication mechanisms, encryption methods, intrusion detection software) and non-technical (management and operational controls, such as security policies; operational procedures; and personnel, physical, and environmental security);

A possible further categorization of technical and non-technical controls could also be in the form of *Preventive* and *Detective* controls.

Likelihood Determination and Impact Analysis

Qualitative description of the likelihood for a potential vulnerability to be exercised by a given threat-source can be given as '**high**', '**Moderate**', or '**low**'. The assessment may take the following form as depicted in the table below:

Threat-source motivation and capability, nature of the vulnerability, and existence and effectiveness of current controls shall be considered to derive an overall likelihood rating that indicates the probability that a potential vulnerability may be exercised/materialize.

Analysis of the impact resulting from a successful threat exercise of a vulnerability can also be conducted in the following manner across the dimension of magnitude levels labeled as 'High', 'Moderate', and 'Low':

Risk Determination

The determination of risk for a particular threat/vulnerability can be expressed as a function of (1) the likelihood of a given threat-source's attempting to exercise a given vulnerability, (2) the magnitude of the impact should a threat-source successfully exercise the vulnerability, and (3) the adequacy of planned or existing security controls for reducing or eliminating risk. In the /determination/measurement of the risk, a risk scale and a risk-level matrix has to be developed.

While this risk measurement exercise can be conducted for IT risk assessment on a standalone basis on grounds of the criticality of the function to the overall operation of the Bank, similar but broader exercise shall, however, be done for the overall operational risk of the Bank. This second broader exercise would integrate and fit the exposures (Quantity/Magnitude/) relating to IT risk into the overall operational risk as a component of the loss event category of '**Business Disruption and System Failures**'. At this juncture, it would be appropriate and reasonable to think of weighting the various (7) risk event components so that the overall quantity of operational risk is properly determined. Thus, we may need to allow ratings given to such critical operational risk components as, for instance IT, to influence the overall ratings of quantity of operational risk. Obviously, determining the relative criticality of all components would be quite a task as it would be largely subjective.

Monitoring of External Events

Conditions and circumstances of occurrence of various loss events that have occurred in other banks in the industry shall be closely monitored to assess the probability of occurrence of similar loss events so that the Bank's operations would be tested as to its control environment and establish a mitigating mechanism.

Stress Testing

Notwithstanding the subjective nature of much of the information relating to operational risk, stress testing can still be exercised certain identified parameters of relatively objective nature. For instance, the test can be conducted on such issues relating to internal as well as external fraud. Upon detection of a run of frequent fraudulent acts across financial institutions in the industry, a shock can be administered against the Bank's earnings and capital by exposing it

to a sizable and more than moderate occurrence of internal and/or external frauds. As such, the exercise shall be conducted based on detection of reasonable signal from internal as well as external environment of significant degree of occurrence of fraudulent acts.

Use of Advanced Models

Advanced Models and Software shall also be looked forward to with conscious consideration on the appropriateness of such measurement mechanisms. The Bank shall introduce such measurement methods gradually as and when there is a need, capacity, resources and information to utilize advanced models. Determinants/ prerequisites in this endeavour would be the availability of a robust MIS, and usefulness of the information (output) in managing the risks.

4.6. Level of success or failures

The banks surveyed and banks report reveals that there is reasonable level of success with the current measures utilized to manage the above-identified risks. This success was based on the overall performance of banks, positive accounting ratios and solid reputation of the banks.

4.7. Risk Monitoring

From closed ended questions, table 6 shows that in general all respondents agree monitoring the effectiveness of risk management are an integral part of routine management reporting and evaluation of the effectiveness of the existing controls. Moreover, the table indicates that the bank's response to risk also includes action plans in implementing decisions about identifying risk.

Table 6: Descriptive statistics of risk monitoring

		Freq	Per
Monitoring the effectiveness of RM is an integral part of routine management reporting.	Agree	68	63
	Strongly Agree	40	37
	Total	108	100.0
The bank's response to risk includes an evaluation of the	Neutral	2	2

effectiveness of the existing controls and risk management responses.	Agree	70	65
	Strongly Agree	36	33
	Total	108	100.0
The bank's response to risk includes action plans in implementing decisions about identified risk.	Agree Strongly	75	69
	Agree	33	31
	Total	108	100.0

Source: SPSS data analysis output, 2021

Table 7: Descriptive statistics of research development

		Frequency	Valid Percent
Valid	Yes	68	63
	No	40	37
	Total	108	100.0

Source: SPSS data analysis output, 2021

The above table indicates that 68(63 percent) of the total population agree that the bank is actively engaged in research to improve instruments and techniques for risk management. Banks' engagement in research and development activities may also reduce the expense of implementing effective risk management tools and techniques.

Table 8: Descriptive statistics of separation of duties

		Freq	Valid Per
Is there a separation of duties	Yes	72	66.7

between those who identify risks and those who manage and control risks?	No	36	33.3
	Total	108	100.0

Source: SPSS data analysis output, 2021

As we can see in the table above (Table 8), 66.7 percent of the total population of the respondent reports that there is a difference of obligations between those who produce risks and those who handle and monitor risks, and the remaining 33.3 percent disagree with the above argument. It is confident, based on the response, that banks have a reasonable degree of segregation of responsibilities between those who identify/generate risks and those who manage and monitor them.

4.7.1. Monitoring and MIS for Strategic risk

To ensure effective monitoring and subsequent decision-making on the Bank's courses of action as set out in its business plan, the Risk and Compliance Management Department shall:

- Ensure accuracy, completeness, and timeliness of data and information to be aggregated relating to all relevant internal factors (example: work processes and procedures, adequacy of information for decision-making, technology, customer) impacting the Bank;
- Regularly conduct environmental assessment on external factors (such as macro-economic factors, competition, regulation, etc) in collaboration with Corporate Planning Department and compile a report on the Bank's relative position;
- Work toward enhancing monitoring and control of the risk element by, among other things, devising additional mechanisms to improve the adequacy and quality of data and information base.
- The Department shall regularly, on quarterly basis, compile data relating to strategic risk events and issue and produce strategic risk management report, as part of its regular comprehensive risk management report.

Strategic Risk Control Mechanisms

- The Department shall carry out its part of strategic risk mitigation by performing the following, among possible others, tasks. Thus, it shall regularly:
- Examine developments and changes of strategic importance to the Bank and take on a whistle-blowing role to alert the Bank's Management;
- Review decisions passed by the Management on issues of strategic importance, evaluate their appropriateness, and enquire all contestable and/or inconsistent action points as well as consensus reached to be revisited.

4.7.2. Monitoring and MIS for Liquidity Risk

1. Comprehensive assessment of the Bank's liquidity position shall be conducted on regular basis and same has to be reported to the Board by same copy to the President/CEO for subsequent rectification and further action;
2. To allow for effective monitoring of risks, the Bank's liquidity risk tolerance limits shall be reviewed regularly and their appropriateness to reflect prevailing exposures shall be evaluated and amendments thereto shall accordingly be recommended as necessary;
3. Continuous effort shall be exerted to enhance reliability and timeliness of reports received from units and functions of the Bank and assist liquidity risk management control functions such as ALCO by regularly availing developments with respect to liquidity position of the Bank and define the status Vis-a-vis parameters set in the Bank's Liquidity Contingency Plan. Assisting ALCO could be achieved through providing relevant analysis and reports as necessary to help the Committee make decisions and set directions with regard to composition of deposits, and the loan portfolio
4. In association with Information Systems Department, ensure complete inclusion of customized formats in the Bank's CORE-Banking System which shall supersede the existing MIS framework upon its full-scale functioning;
5. Assure that action plans are drawn by the concerned operational units of the Bank to effectively address issues related to liquidity risk management and proper monitoring shall be made on continuous basis.

Liquidity risk Control Mechanisms

- The following activities shall be performed to supplement the entire liquidity risk control activity of the Bank:
- Play a whistle-blowing role for the Bank to quickly detect liquidity risk signals both from internal as well as external developments and escalate issue to appropriate organ so that the situation will be addressed proactively;
- Carryout ongoing improvements and/or additions to the scope and depth of existing liquidity risk identification and measurement system;
- Propose and recommend relevant directions and courses of action to the Bank's liquidity risk management control function to lend a hand in resolving an undesirable development in the Bank's liquidity position;

4.7.3. Monitoring and MIS for Interest rate Risk

1. The quality as to relevance and timeliness of interest rate risk management reports shall be continuously enhanced;
2. Analysis into the movement of the Bank's average annualized effective interest rates as well as those of cost of funds shall regularly be conducted;
3. Working hand in hand with such risk management control functions /organs/ of the Bank as ALCO which contribute to the enhancement of the interest rate risk management by recommending specific methods of analysis and ways of presenting the reports.

Mitigation /Control/ mechanisms

- Limits on identified assets and liabilities in light of interest rate risks shall be developed and proposed for approval. This shall always be preceded by adequate internal as well as external environmental assessment;
- By conducting regular review and analysis of the Bank's position from interest rate risk perspectives, relevant and appropriate policy directions and/or remedial actions to adjust or affirm the existing status shall be recommended.

4.7.4. Monitoring and MIS for Foreign Exchange Risk

1. The Bank's activity level in terms of Forex operations has to be regularly reviewed against established internal risk tolerance limits set by the Bank;

2. Data and information integrity received for analysis from various units and functions of the Bank has to be ensured and the Bank's CORE-Banking system has to be customized to readily avail such information. This information shall then, be analysed to produce meaningful reports to be submitted to the Board, Senior Management, and ALCO;
3. Developments as to prevailing socio-economic and political situations of countries where the Bank maintains account relationship and/or deals in international trade has to be closely monitored so that exposures in the form of credit, settlement and other risks due to sudden political crisis, government coup d'état, etc shall be pre-empted.

Foreign Exchange Risk Control mechanisms

- As an integral component of the Bank's risk management control function, the Risk and Compliance Management Department shall, on continuous basis, strengthen its foreign exchange risk management role and conduct valuable and informative reports. To this effect, it shall enhance quality of report by introducing continuous improvements to the content as well as coverage of the reports;
- Foreign exchange risk tolerance limits have to be developed after a thorough and comprehensive analysis of domestic and international currency and exchange rate developments;

4.7.5. Monitoring and MIS for Operational Risk

Operational risk event data from all Branches and functions of the Bank shall be received according to provided formats until such time when MIS system of the Bank would enable capturing/entering loss event data on one end and mining and retrieval on the other (users') end;

- Relevant data and information from Control Department (Special Investigation Reports, Inspection Reports, Monthly Audit Reports, etc), and Loan Review reports of the Department (Risk Management) shall also be sought;
- External sources shall be tapped for relevant data and information relating to operational risks as exhaustively as possible:

- Reliable news sources (print as well as electronic media). Once a loss event is publicized, the causes of the loss shall be identified and analysed as much as possible, and the lessons learned should be shared with the relevant Functions/Branches of the Bank;
- Studies, workshops and informal relationships with other bankers;
- Meaningful analysis shall be conducted and comprehensive quarterly operational risk management report shall be produced, as part of the periodic risk management report;
- Ensure the existence of the four-eye principle and segregation of duties and its appropriate implementation;
- Conduct review of efficiency in technology-based systems and their scalability to accommodate possible expansions in transaction volumes, and forensic evidence regarding tampering encountered by such systems shall be conducted;
- Assess whether IT security profiles are properly created and maintained and specific authorization privileges are assigned to all users of electronic banking systems and applications; and logical access controls are designed to support proper segregation of duties;

Technology-based systems and processes are classified according to their sensitivity and importance and corresponding methods are in place to protect same.

1. Appropriate mechanisms, such as encryption, access control and data recovery plans are used to protect all sensitive and high-risk technology systems, servers, databases and applications;
2. storage of sensitive or high-risk data on desktop and laptop systems are minimized and data are properly protected by encryption, access control and data recovery plans;
3. sufficient physical controls are in place to deter unauthorized access to all critical banking systems, servers, databases and applications;

Operational Risk Control Mechanisms

- There shall be a continuous endeavour to enhance operational risk measurement and analysis techniques and use of other practical methodologies;
- Branches and functional units shall be assisted in mitigating operational risk events in their respective areas after a review and analysis of their respective operational risk management practices;

- It is vital to assess whether the Bank adopts appropriate techniques to mitigate external threats to banking systems. These techniques may include, but are not limited to, the use of:
- Virus-scanning software at all critical entry points (e.g. remote access servers, e-mail proxy servers) and on each desktop system;
- Intrusion detection software and other security assessment tools to periodically probe networks, servers and firewalls for weaknesses and/or violations of security policies and controls;
- Penetration testing of internal and external networks and application of rigorous security review process to all employees and service providers operating on sensitive positions.

4.8. Summary of Findings

The results from the respondents are discussed in a summarized in a brief manner in this section.

- Banks do not have trouble defining their key danger and rating it. This critical feature of the risk management process is greatly facilitated by ongoing analysis and appraisal of the risk management techniques. And banks have reasonable level of success with the current measures utilized to manage the identified risks.
- According to the respondents Credit risk, Foreign exchange risk, operational risk and interest rate risk are the major risks faced by banks operating in Ethiopia.
- According to respondents' response monitoring the effectiveness of risk management is an integral part of routine management reporting and evaluation of the effectiveness of the existing controls.

- Finally the respondents agree on the statements that bank has documented risk management guidelines and most of the respondents understand the guideline of risk management.
- This study has identified that the risk management divisions of local banks formulate diverse range of strategies according to the nature and type of particular risk. The system dynamic model has indicated that the operational risk arises from different sources in the banks including: from the system failures caused by unexpected external events; from frauds caused by poor supervision; and people failures caused by individuals' incompetence.
- In order to minimize system failures and to reduce the operational risk in banks, the risk management divisions of banks make investments in advanced technology projects, develop contingency plans, provide training to their staff and improve the supervision and monitoring.
- Similarly, the local banks also conduct credit risk analysis aiming to reduce the credit risk. Likewise, the risk management departments use different derivative and hedging techniques to deal with the market, foreign exchange and interest rate risk in banking operations. All these policies and procedures for managing different kinds of risks are required and aligned with the NBE risk management guidelines for the local banks.

CHAPTER FIVE

5. CONCLUSION AND RECOMMENDATION

This chapter provides summary of findings & conclusions of the whole research in order to answer the research question. Finally, further research is suggested in the last part of this chapter.

5.5. Conclusion

The study focused on the assessment of risk management practices at a strategic level in Ethiopian private commercial banks. To be more precise, the study attempted to assess the risk management process in respect to literature aspect, to assess the integration of risk management and internal control system, to assess the appropriateness of risk management

system, to examine the relationship between risk management, measurement and monetary system with strategic management (investigation of the board of director in line with risk management) and to evaluate and identify the effective risk management system and practice.

- **Measurement and Strategy:** The findings suggest that the vast majority of banks now have well-defined plans that are regularly revised. According to the report, reputational risks are becoming more relevant for all banks at all levels, especially at the strategic level. The board of directors and senior management have a much more active role in defining strategy.
- **Risk assessment:** The findings show that risk management is becoming more and more important in strategic planning. The board's involvement has increased, with members becoming more inquisitive and active, as well as establishing closer partnerships with management and probing more. Also in smaller banks where they report to separate senior executives, CRMs/heads of risk are constantly getting close contact with the board. The most pressing remaining problem seems to be talent availability. Theoretically, banks do not have enough board members with adequate degrees of experience in their core industry, and empirical evidence supports this argument.
- **Internal Control System and Risk Management:** Strategic management is merging with ICS, according to the findings, and the emphasis is moving to include or appoint a risk owner for each phase and promote sound risk management. According to the results of the study, risk managers conclude that proactive risk management is more about cautious environmental management and monitoring. Managers should be relieved of other less critical responsibilities in order to thrive, and there is no room for even another formalized procedure that will hinder their capacity to govern.
- **Adequate Risk Control (Boards):** The results show that as board involvement has increased, risk management committees have grown in size and roles, board members have become more inquisitive and active, and they have formed closer relationships with management. At the board stage, the greatest issue is still lack of experience and skills (technical risk management knowledge). According to the findings, risk managers like the concept of boards being evaluated and the prospect of them being evaluated; however, they all believe that the risk management role should not be included in such evaluations. Their objections were based on a problem with hierarchy. In an ideal world, the autonomous CRM position responds directly to the management and supervisory board; however, risk managers will have to effectively assess their supervisors in order to

enforce this feedback loop, which professionals see as a possible conflict. Near partnerships, rich communication, positive feedback, and engagement between boards and executives, all core factors in aligning risk management, are feared by risk managers. Participants seem to think that the board's self-evaluations and the auditor's (external) evaluations are appropriate.

5.6. Recommendation

The following recommendations are being made with the aim of helping to improve the risk management practice and system in banks and thus making them more competitive.

1. Training, which does not warrant much effort or money, is considered an overhead operation. On employees, there are few or no training professionals. The researcher therefore suggested that banks should prioritize the training of workers in the field of risk management.
 2. Need to develop the Corporate Risk Management (CRMs) should involve in strategy formulation; yet, risk assessment is only a part of the process of developing strategy, strategic plans, and strategic objectives.
 3. Need to establish a board provides oversight and direction to senior management by:
Setting (in cooperation with senior management) the organization's risk appetite (amount of risk an organization is willing to accept in pursuit of value) and Being apprised of the most significant risks to the organization and whether senior management is responding appropriately (i.e. in relation to the agreed upon risk appetite).
1. Should develop and implement that structural changes in risk management were implemented, but behavioural changes are lagging. Culture/practice is addressed as a prerequisite for effective risk management in all the major risk management works; therefore, banks should strengthen the culture/practice and change that behavior. Therefore, the biggest opportunity for improving corporate risk management is through strengthening the culture. Plus to the above recommendation, all employees should be surveyed in regards to risk management at least once a year. This process should be an integral part of annual or semi-annual performance reviews, as a question (or several) at the end of the review would be simple to administer.

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Appendices

Appendix 1: Questionnaire

Addis Ababa University

College of Business and Economics

MSc program

This questionnaire is designed to collect information about the risk management practice in Ethiopian commercial banks. The data or information collected in such a way shall be used as primary data in my thesis, which I am conducting as a partial fulfilment for the requirement of

My study in **MSc in at Addis Ababa University**. The researcher would like to thank you in advance for your kind response in giving your precious time in filling the questionnaire.

No need to mention your name and the information provided is to be used only for this study and any information given will be kept confidential.

Thank you for your Co-operation!!

Background Information

Instructions:

Please use this mark for each question to indicate your response.

What is your gender?

Male

Female

Select your age group:

18-30

46-60

30-45

Above 60

Select your highest academic or professional qualification?

Elementary school Secondary school

Diploma Bachelor degree

Master degree and above

Others, please specify _____

Years of service (Experience): 1- 5 years

6-10 years

Above 10 years

What is your qualification?

Accounting

Management

Marketing

Other _____

1. The Importance of Risk Management Practice

1: Strongly Disagree, 2: Disagree, 3: Neutral, 4: Agree, 5: Strongly Agree

No.	Questions	1	2	3	4	5
1.	The effective management of risk is central to your bank's performance.					
2.	The main business of your bank is to manage risk.					
3.	Application of risk management techniques reduces costs or expected losses to banks.					
4.	Managing risk is important to the bank's performance and success of your bank.					
5.	Effective risk management is one of the main objectives of your bank.					
6.	There is significant board and senior management involvement in the risk management in your bank.					

2. Risk Identification

7. Rank in order of importance your bank's risk exposure. State the first five. If the type of risk is not stated amongst the list given, feel free to add your own. The abbreviated term would be acceptable.
- A. Interest rate Risk (IRR)
 - B. Market Risk (MR)
 - C. Credit Risk (CR)
 - D. Off-Balance Sheet Risk (OBR)
 - E. Operational Risk (OR)
 - F. Foreign Exchange Risk (FXR)
 - G. Liquidity Risk (LR)
 - H. Other Risks please specify

1. _____ 2. _____ 3. _____ 4. _____ 5.

8. In response to question (7) above briefly explain the current measures in place to manage particular risk and state the level of success or failure for the method currently in use.

Risk (1)

Current measures in place to manage this particular risk

Level of success or failure

Risk (2)

Current measures in place to manage this particular risk

Level of success or failure

Risk (3)

Current measures in place to manage this particular risk

Level of success or failure

Risk (4)

Current measures in place to manage this particular risk

Level of success or failure

Risk (5)

Current measures in place to manage this particular risk

Level of success or failure

No.	Questions	1	2	3	4	5
9.	The bank finds it difficult to prioritize its main risk					
10.	It is important for your bank to emphasize continuous review and evaluation of the techniques used in risk management.					
11.	The bank is aware of the strengths and weaknesses of the risk management systems of the other banks					

Risk Monitoring

No.		1	2	3	4	5
12.	Monitoring the effectiveness of risk management is an integral part of routine management reporting.					
13.	The bank's response to risk includes an evaluation of the effectiveness of the existing controls and risk management responses					
14.	The bank's response to risk includes action plans in implementing decisions about identified risk					
15.	The level of control is appropriate for the risk it faces.					

Risk Management Practices

No.	Questions	1	2	3	4	5
16.	The bank's management regularly reviews the organization's performance in managing its business risk					
17.	The bank's risk management procedures and processes are documented and provide guidance to staff about managing risk					
18.	The bank emphasizes the recruitment of highly qualified people having knowledge in risk management					
19.	Your bank views the supervisory role of the National Bank of Ethiopia (NBE) as critical in risk management					

1: Yes, 0: No

No.	Questions	1	0
20.	Changed in risk are recognized and identified with the bank's rules and responsibilities.		

21.	Is your bank actively engaged in research to develop risk management instruments and techniques?		
22.	Is there a separation of duties between those who identify risks and those who manage and control risks?		

Finally, if you would like to comment or suggest any thing you feel about your bank's risk management system, please mention it.

Contact Information for Secondary data

Contact Person :

Position:

Ato Muluneh

VP Risk and compliance management of CBE

Ato Firew Girma

Risk and management manager of wegagen Bank