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ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF ACCOUNTING & FINANCE

**EVALUATING THE EFFECTIVENESS OF CREDIT RISK
MANAGEMENT PRACTICES IN ETHIOPIAN PRIVATE BANKS:**

A CASE STUDY ON SELECTED BANKS

BY

YITBAREK ESUBALEW

ADVISOR: ABEBE YITAYEW (PhD)

MAY, 2025

ADDIS ABABA, ETHIOPIA

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**ATHESIS SUBMITTED TO THE DEPARTMENT OF ACCOUNTING
AND FINANCE IN PARTIAL FULFILMENT FOR THE
REQUIREMENTS OF MASTERS' DEGREE IN ACCOUNTING&
FINANCE**

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MAY 2025

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DECLARATION

I, Yitbarek Esubalew, the under signed, declare that this thesis entitled "Evaluating the Effectiveness of Credit Risk Management Practices in Ethiopian Private Banks: A Case Study on Selected Banks" is my original work. I have undertaken this research work with guidance and support of the research advisor. This research has not been submitted to any degree or diploma program at this institution or any other institutions and all sources of material used for this thesis are duly acknowledged.

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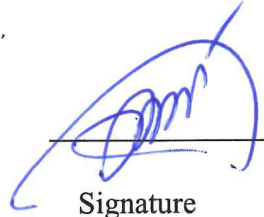
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This is to certify that the thesis entitled "Evaluating the Effectiveness of Credit Risk Management Practices in Ethiopian Private Banks: A Case Study on Selected Banks" submitted in partial fulfillment of the requirements for the degree of Masters' in Accounting and Finance and carried out by Yitbarek Esubalew GSR/1352/16, under my supervision, and no part of the thesis has been submitted for any other degree or diploma. The assistance and help received during the course of this thesis have been duly acknowledged. Therefore, I recommend it to be accepted as fulfilling the thesis requirements.

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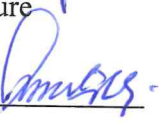
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CERTIFICATE OF APPROVAL

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ACRONYMS AND ABBREVIATIONS

BCBS: Basel Committee on Banking Supervision

CRM: Credit Risk Management

LLP: Loans Loss Provision

NBE: National Bank of Ethiopia

NPL: Non-performing Loans

SPSS: Statistical Package for the Social Science

VAR: Value at Risk Model

VIF: Variance Inflation Factor

ABSTRACT

This study aims to evaluate the effectiveness of credit risk management (CRM) practices in Ethiopian private commercial banks, using the Basel II and Basel III frameworks as the theoretical foundation. CRM effectiveness refers to how well a bank's risk management strategies specifically risk identification, risk measurement and analysis, risk mitigation, and risk monitoring prevent loan defaults, minimize financial loss, and maintain a sound credit portfolio. The Basel Accords, particularly the core principles outlined in Basel II and the enhanced regulatory standards in Basel III, provide a comprehensive structure for assessing these practices.

The study employed a descriptive research design and a mixed-methods approach, incorporating both quantitative (survey) and qualitative (document analysis) methods. A sample of 164 participants was selected from a total population of 276 staff members working in credit and credit risk assessment departments of five major Ethiopian private commercial banks. Systematic and purposive sampling techniques were used to ensure relevance and representativeness.

Data were collected through structured questionnaires and supplemented by secondary data from annual reports. Key performance indicators such as non-performing loan (NPL) ratios and loan loss provision (LLP) ratios were used to objectively assess CRM effectiveness. Data analysis was conducted using both descriptive and inferential statistics with the aid of SPSS version 26.

The findings revealed that all four core components of CRM were highly implemented across the selected banks. Regression analysis showed that these practices have a significant positive effect on overall CRM effectiveness. The study concludes that aligning internal CRM practices with internationally recognized frameworks like Basel II and III enhances financial stability, credit performance, and risk governance. It recommends that Ethiopian private banks continuously assess and improve their CRM strategies in line with Basel principles and real-world credit performance indicators.

Key Terms: Credit Risk Management, Commercial Banks, Risk Identification, Risk Mitigation, Risk Measuring, Risk Monitoring.

CHAPTER ONE

INTRODUCTION

Credit risk management involves a set of tool and techniques for measuring and controlling risks associated with credits offered by banks. The process of credit risk management involves risk identification system, risk assessment and analysis, risk monitoring system, and risk governance of firms. The main purpose of this research is to evaluate the effectiveness of credit risk management practices in Ethiopian private banks.

Credit risk management effectiveness refers to the extent to which a bank's credit risk practices successfully minimize loan defaults, reduce financial losses, and maintain a healthy loan portfolio. It reflects how well the bank identifies, assesses, mitigates, and monitors credit risks through established policies and procedures. In this study, credit risk management effectiveness is evaluated using both qualitative indicators (employee assessments via survey responses) and quantitative indicators (such as non-performing loan (NPL) ratios and loan loss provision (LLP) ratios). These metrics help determine whether the implemented credit risk strategies are achieving their intended objectives in protecting the financial health of the bank.

As an introduction part, the first chapter of the paper describes the background of the study, statement of the problem, research questions, objective of the study, significance of the study, scope of the study, and operational definition of key terms.

1.1 Background of the Study

The credit provided by financial institutions such as Banks, Insurance, and Micro finance institutions can enhance investors to participate in different investment areas. Credit creation is the main income generating activity of financial institutions (Kessey, 2015; Tekalign, 2015). Banks are financial institutions that accept deposit from people and make loans to customers who require money for investment, construction, merchandising activity and others. Erika (2024) described that the major income source for commercial banks worldwide is credit. That is, the primary credit sources for most borrowers are financial credits by commercial banks. From the practical observations, commercial banks in Ethiopia extend credit (loan) access to different types of borrowers for many different purposes.

Commercial banks are important for the community in providing credit for different activities. Now a day, in Ethiopia the number of private commercial banks has been growing. The report of

National Bank of Ethiopia (NBE, 2024), there are 30 private commercial banks licensed and functioning in the banking market. According to Erika (2024), even though credit creation is the major income generating activity for banks, it also involves variety of risks to both parties; the lender (banks) and the borrower (customers). If the trading partners of commercial banks do not fulfill their obligations as per the contract date between the borrower and the lender, financial functioning of banks faces huge risks. As a result, a bank with high credit risk has high bankruptcy risk that puts the depositors in danger bank failure (Kessey, 2015; Tekalign, 2015).

Credit risk is one of the most frequently occurred risks in the banking industry which can potentially cause financial losses. Kessey (2015) asserted that credit risk is not confined to the risk that borrowers are unable to pay; it also includes the risk of payments being delayed, which can also cause problems for the financial operation of the bank. Singh (2021) stated that credit risk is a means for lenders to lose money and causes borrowers to be charged higher interest rate on loans. The credit risk management of financial institutions can be measured by credit history, capacity to repay, capital, the loan's conditions, and associated collateral (Singh, 2021; Erika, 2024). Thus, to protect their own interest and the wealth of bank shareholders and depositors, banks need to investigate and monitor the activities of borrowers. Adequately managing of those risks related with credit is critical for the survival and growth of any financial institutions (Tekalign, 2015). In the banking industry, the issue of credit risk management is a great concern because of the higher level of perceived risk from clients and business conditions affects the financial operations of banks.

Credit Risk Management (CRM) is a structured approach to manage uncertainties arising from the probability that the borrower will default to pay the money that he/she takes as a loan, either the principal or interest or both (Kessey, 2015). Effective credit risk management in the banking sector has an impact on the profitability, liquidity, loan portfolio and financial leverage of commercial banks in every country. Supporting this statement, the study of Hosna, Manzura & Juanjuan (2019) shows that credit risk management has significant effect on the profitability of Commercial Banks in Sweden. On the other hand, Achou & Tenguh (2018) found that studied credit risk management has significant correlation with bank performance in terms of profitability and loan performance.

According to Atakelt & Veni (2015), Banks have to employ effective risk management system to deal that their fund is highly leveraged or public fund. This assertion shows that sound risk

management practice in banking sector is a matter of survival. Practicing effective risk management strategies play great role in protecting consumers and investors against risk of losing their deposits and capital by enhancing competitive advantage, improving mobilization and optimizing risk - return and reducing cost (Atakelt & Veni, 2015). Identifying key credit risk areas and situations is vital for commercial banks to handle them by applying suitable credit risk management strategies. There are some customers who cannot repay their credit for banks. Consequently, banks are announced different investment areas, houses and cars of these borrowers to sell in discounted prices through open procurement process. This selling and procurement process takes time, extra expense and procedures for legal actions of banks. Thus, to manage the business without additional efforts, the banks should practice pre-credit and post-credit management strategies. Such reasons are motivated the researcher to focus on this research problem. Therefore, the main purpose of this study is to evaluate the current credit risk management practices employed by private commercial banks in Ethiopia.

1.2 Statement of the Problem

Credit risk is one of the most critical challenges faced by financial institutions, particularly in the banking sector. As described by Erika (2024), credit risk refers to the probability of financial loss resulting from a borrower's failure to repay a loan. When borrowers default on their obligations, the lender is unable to recover the owed principal and interest, which interrupts cash flows and increases the costs of loan recovery. Kessey (2015) emphasizes that credit risk is considered the most significant of all banking risks because of its substantial negative impact on a bank's financial operations and stability. To reduce such risks, lenders typically assess the borrower's creditworthiness by examining factors such as current debt obligations, income levels, and repayment history.

In recent years, credit risk management (CRM) has gained prominence as a core operational priority in financial institutions due to heightened uncertainty surrounding borrowers' business activities (Singh, 2021). In the context of banking, CRM refers to a systematic process aimed at identifying, assessing, and mitigating the probability that a borrower will fail to meet repayment obligations. Its primary objective is to maximize the bank's risk-adjusted rate of return while keeping risks within acceptable limits (Tekalign, 2015). If loans are not properly managed, the negative consequences are felt not only by the banks themselves but also by the wider economy (Kessey, 2015). For this reason, Singh (2021) advises Ethiopian commercial banks to develop,

review, and regularly update their credit-related policies and procedures to reduce operational risks and safeguard financial performance.

The Ethiopian banking sector has undergone rapid expansion over the past two decades, with a notable increase in the number of private commercial banks and branches. This growth has intensified competition among banks, pushing them to attract and retain customers, shareholders, and borrowers through various marketing and service strategies. However, the core nature of banking in Ethiopia remains highly credit-oriented: a substantial proportion of bank income is generated from lending activities (Erika, 2024). While credit creation is a major revenue source, it inherently exposes banks to significant credit risk. Without robust CRM practices, sustained profitability and institutional stability are difficult to achieve (Singh, 2021). Common CRM techniques such as careful borrower screening, ongoing monitoring, long-term customer relationship management, and collateral requirements are applied to reduce risk, but their effectiveness varies across institutions.

Although some research has been conducted on CRM practices in Ethiopia, many studies have been limited in scope or methodology. For example, Singh (2021) examined Dashen Bank's Mettu branches and found well-structured credit policies, sound loan approval procedures, and appropriate risk assessment tools, including mechanisms for loan follow-up, risk identification, and monitoring. However, this study focused exclusively on a single bank. Similarly, Israel (2023) assessed CRM practices at Abay Bank, noting strong credit risk policies and effective loan appraisal procedures but identifying weaknesses in the monitoring process. Atakelt and Veni (2015) compared CRM practices between public and private banks and found no significant difference between them; however, their study did not focus solely on private commercial banks, which now dominate Ethiopia's competitive banking environment. Importantly, most previous studies relied heavily on primary survey data, often reflecting the perceptions of staff, and did not sufficiently integrate secondary data sources such as annual reports, non-performing loan (NPL) ratios, or loan loss provision (LLP) ratios. This methodological limitation makes it difficult to fully assess the actual effectiveness of CRM practices in reducing credit risk.

At present, there is a lack of comprehensive and up-to-date research that evaluates CRM practices across multiple Ethiopian private commercial banks while addressing all the key dimensions outlined in the Basel framework namely risk identification, risk measurement and analysis, risk mitigation, and risk monitoring and reporting. This knowledge gap is concerning

because weaknesses in CRM directly contribute to an increase in non-performing loans, reduced profitability, and the erosion of financial system stability.

From both literature review and preliminary observations, four major problem areas emerge in the CRM practices of Ethiopian private commercial banks:

1. Lack of proactive risk identification – Many banks fail to detect potential credit problems early, which increases their exposure to borrower defaults.
2. Weak risk measurement and analysis – Inadequate assessment methods lead to inaccurate evaluation of borrower creditworthiness and underestimation of default potential.
3. High loan defaults and ineffective risk mitigation – Even when mitigation tools such as collateral requirements and loan structuring are in place, they are not always adequately enforced.
4. Gaps in monitoring and reporting – Weak follow-up mechanisms, delayed interventions, and poor internal communication of emerging credit risks hinder timely corrective actions.

This study aims to address these critical gaps by conducting a multi-bank analysis of CRM practices in Ethiopian private commercial banks, integrating both primary and secondary data. By doing so, it seeks to provide an evidence-based, comprehensive understanding of CRM effectiveness and generate practical recommendations to strengthen credit performance, improve risk-return balance, and enhance the overall resilience of Ethiopia's private banking sector.

1.3 Research Questions

This study is guided by the following basic research questions:

1. How adequate are the credit risk identification policies in mitigating borrower-related uncertainties in the study area?
2. How robust are the credit risk measurement and analysis techniques used by private banks in the study?
3. How effective are the credit risk mitigation mechanisms employed by private banks in reducing non-performing loans in the study?
4. How effectively do banks monitor and report credit risks to prevent deterioration in credit quality in the study area?

1.4 Objective of the Study

1.4.1 General Objective

Credit risk management effectiveness refers to the degree to which credit risk management policies and procedures actually prevent loan defaults, improve asset quality, and enhance the financial stability of banks. In this study, effectiveness is measured using both subjective staff responses and objective indicators like the non-performing loan ratio and loan loss provision ratio.

The general objective of this research **is** to evaluate the effectiveness of credit risk management practices in Ethiopian private commercial banks.

1.4.2. Specific Objectives

Some of the specific objectives of this study are mentioned below.

- ✚ To assess the adequacy of credit risk identification policies in mitigating borrower-related uncertainties in the study area.
- ✚ To examine the robustness of credit risk measurement and analysis techniques used by private banks under the study.
- ✚ To evaluate the credit risk mitigation mechanisms employed and their effectiveness in reducing non-performing loans under the study.
- ✚ To investigate how effectively banks monitor and report credit risks to prevent deterioration in credit quality in the study area.

1.5 Significance of the Study

This study is expected to provide certain contributions to the board of banks, management of banks, financial policy makers and academicians who are interested on this area. The results of the study on credit risk management practices is believed to have the following importance to the academicians, researchers, bank managers, policy makers; and generally for financial institutions. Specifically, for commercial banks, it can help to clearly understand the types of credit risk management practices in private commercial banks, to identify the most significant strategies on credit risk management and to take remedial corrections by commercial banks for its effective business performance.

The findings of the study can be used as a reference for academicians and practitioners to get clear insights about credit risk management practices for healthy financial operations. The study

can contribute to narrow the gap in the literature on the credit risk management practices of financial institutions.

1.6 Delimitation of the Study

The current study is focused on evaluation of credit risk management practices in the case of Ethiopian private banks. **Geographically**, the study is delimited to district offices and head office of selected private commercial banks which are located in Addis Ababa city administration. The study was conducted only in Ethiopian private commercial banks including Awash, Cooperative Bank of Oromia, Goh Betoch Bank, Oromia International Bank and Wegagen Bank. The study is do not include public (state) Banks and do not include private banks with less than two years banking experience. **Conceptual scope**: it is conceptually delimited on the assessment of common CRM practices including risk identification, risk measurement, risk mitigation, and risk monitoring and reporting on banking supervision. The study is **methodologically scoped** on two types of data gathering instrument (questionnaire) and document analysis data collection tools. As a **time scope**, this study was performed in the year 2019/20-2024/2025.

1.7 Operational Definitions of Key Terms

Credit risk management: It is loss mitigation process through an understanding of adequacy of capital in the banks and reserves for loan that is lost at Particular time (Singh, 2021).

Credit risk: It is uncertainty that a borrower may not comply with the obligations that were agreed on in the terms.

1.8 Organization of the Study

The report of this research will be organized into five chapters. The first chapter contains the introduction part dealing with back ground of the study, the research problem, objectives of the study, research questions, scope and significance of the study. The second chapter discussed the literature review about the subject matter. It presents theoretical literature review, empirical studies, concepts and conceptual framework of the study relating to credit risk management practices. In chapter three the research methodologies are presented. Under methodology section, research design, data sources, data collection instruments, methods of data analysis and validity and reliability of the data are outlined.

Chapter four has presented the analysis and interpretation of results and discussion of the key findings of the study. Finally, the summary of major findings, conclusions and possible recommendations of the study were presented in chapter five.

CHAPTER TWO

REVIEW OF RELATED LITERATURES

2.1 Introduction

Risk is the fundamental element that drives financial effectiveness in financial institutions, particularly in banks. Without risk, managing the financial system would be simple. However, risk is common phenomenon in the real world. Particularly, financial institutions should manage the credit risks efficiently to survive in this highly competitive and uncertain business world. Credit risk is the major risk among others in the banking industry due to its negative effects on the financial operations (Kessey, 2015). In this section of the paper, the review of related literature is discussed by considering various issues relating to credit risk management of financial institutions.

The total over view of core issues of the study are presented and discussed in the literature part of the paper. It includes the theoretical framework for the study, various concepts and mechanisms of credit risk management, empirical evidences and conceptual framework of the study are discussed. A review on the literature is focused on credit risk, credit risk management practices and its determinants in the banking industry.

2.2 Theoretical Literature Review

2.2.1 Definitions and Concepts of Credit Risk

What is credit risk in financial institutions? According to the definition of Erika (2024), credit risk refers to the probability of a financial loss resulting from a borrower's failure to repay a loan. Credit risk is essentially occurred when lender (financial institutions) are not able to receive the principal and interest of loans from borrowers. The definition and concept of credit risk is described by different authors in different expressions with similar meaning. Credit risk is sometimes named as default risk, performance risk or counter party risk. Erika (2024) defined credit risk as the possibility of losing the outstanding loan partially or totally, due to credit events (default risk).

Hosna et al. (2019) also defined credit risk as the potential that a contractual party will fail to meet its obligations in accordance with the agreed terms. Singh (2021) defined that credit risk is a condition in which a borrower fails to pay its loan and does not act according to his/her obligation to service debt. That means, credit risk is a situation of failure to pay once credit

(principal or interest) on the due date agreement between lender and borrower. The chance of failure of repaying credits partially or fully is occurred due to different circumstances related to borrowers.

According to Tekalign (2015), credit risk refers to different types of financial threats caused by environment, technology, humans, organizations and politics. What is the impact of credit risk should be asked when dealing about this concept. In line with this idea, Erika (2024) asserted that credit risk results an interruption of cash flows and increased costs for collection of unpaid principal and interest money from borrowers. Thus, before credit risk is happening, lender banks have to mitigate credit risk by analyzing factors contributing borrowers' creditworthiness, through continuous assessment, which is called credit risk management.

2.2.2 Source of Credit Risk in the Banking Sector

Credit risk can be generated from different sources. Kessey (2015) pointed out that credit risk arises from uncertainty in counterparty's ability or willingness to meet its contractual obligations. Credit risk involves inability of a customer to meet commitments in relation to lending, trading, settlement and other financial transactions. The study of Kessey (2015) shows that ineffective monitoring, poor credit appraisal, and ineffective credit review process are the major factor contribute for bad debt. Singh (2021) recommended that it is very crucial for commercial banks to formulate and update their loan related policies and procedures so as to minimize risk associated with banks.

2.2.3 Credit Risk Management

Credit risk is the most significant risk faced by Banks and the success of their business depends on accurate measurement and efficient management of this risk. That is why Credit Risk Management (CRM) is essential for banks. It includes both preventive (before credit) and curative (after credit) risk management practices (Singh, 2021). Credit risk management is critical for the survival and growth of the financial institution like banks (Tekalign, 2015). As illustrated by Erika (2024), credit risk management in the banking sector is the practice of assessing and mitigating the risk that a borrower will not meet their obligations as per contractual deadlines. That is, CRM is aimed to maximize the bank's risk-adjusted rate of return within the acceptable parameters of the agreement between the bank and borrowers. Kessey (2015) suggested that effective credit risk management is essential to the long-term success of the banking institution.

For long term effectiveness of commercial banks, CRM practices are pillar activities of banks. That is, since poor CRM policy results in large financial risks of the bank, the banks have to practice strong CRM policies. Singh (2021) described that credit risk management practice is the process of analyzing and renewing CRM documents and apply constantly in actual credit granting process. The author extended that credit monitoring and risk controlling process with suitable credit risk understanding and identification is important to minimize the unfavorable effect of risk holding activities on the financial performance of banks. Singh (2021) and Erika (2024) mentioned some of the CRM practices including developing and implementing suitable credit risk strategy, policy and procedure, accurate identifications of risk, best credit granting process, credit administration, monitoring and reporting the process, controlling and reviewing credit policy and procedure frequently.

2.2.4 How Do Banks Manage Credit Risk?

Credit risks of financial institutions can be managed through several strategies. To manage credit risks in the banking sectors, at the very beginning stage banks can set specific standards for lending money. According to Erika (2024), the standards mainly include credit score from borrowers. After the lending contract has been agreed between the bank and borrowers, banks can regularly monitor borrowers' loan portfolios, assess any changes in borrowers' creditworthiness, and make any adjustments if it is necessarily required (Erika, 2024). Commonly, lender banks measure the credit borrowers using five weighted key factors (five C's components) for credit decision making process. These five key factors (five C's components) of credit are capacity, capital, conditions, character, and collateral differently. These five key factors of risk analysis in the banking sector are stated by Singh (2021) as follow.

Character: It is a measure of the reputation of the firm, its willingness to repay, and its repayment history. For example, it includes age factors.

Capital: This factor represents the equity contribution of owners and its ratio to debt (leverage). Capital is viewed as good predictors of bankruptcy probability. That is, high leverage suggests a greater probability of bankruptcy and low leverage shows less probability of bankruptcy.

Capacity: The other key factor of credit decision is capacity of borrowers. It refers to the ability borrowers to repay credit which reflects the volatility of the borrower's earnings.

Collateral: In the event of default, a banker has claims on the collateral pledged by the borrower. The greater the priority of this claim and the greater the market value of the underlying collateral, the lower the exposure risk of the loan.

Cycle (or Economic) Conditions: This factor shows the state of the business cycle of borrowers. Among others the economic condition is an important element in determining credit risk exposure, especially for cycle dependent industries.

2.2.5 Challenges of Effective Credit Risk Management Practices in the Banking Sector

Understanding and identification credit risk area is the key function of commercial banks to minimize occurrence of credit related risks. The effectiveness of CRM process in the banking sector is challenged by different variables related to either banks or borrowers. According to Singh (2021), some of the challenges for effective CRM practices include proper application of risk management documents, staff quality, credit culture, devoted top management bodies, sufficient training program, proper organizational structure, level of internal control, and performance of intermediation function.

2.2.6 Principles of Assessment of Credit Risk Management in Banking Sector

The Basel Committee on Banking Supervision (BCBS) (1999) had designed and documented CRM principles by involving four major activities of managing credit risk (Singh, 2021; Atakelt and Veni, 2015). All members of the Basel Committee agreed that the principles set out in this agreement are used in evaluating bank's credit risk management system. These four major activities of CRM principles are establishing an appropriate credit risk environment; operating under sound credit granting process; maintain appropriate credit administration, measurement and monitoring process; and adequate control overall credit risk.

Principle one (Establishing an appropriate credit risk environment): This standard aware each commercial bank to establish its own strategies and policies along with clear responsibilities of lender and borrowers. According to Atakelt and Veni (2015), the banks strategies and policies focused on developing, reviewing, approving, implementing, communicating and reporting risk related data, internal control system and monitoring compliance in order to ensure safety, soundness, and profitability of the bank. This principle states that the responsibilities of the Board and senior management are the key role player in CRM activities of the bank (Singh, 2021).

Principle two (Operating under sound credit granting process): The sound credit granting process standard of banks enforce each Bank to operate its credit granting activities through establishing and applying sound credit granting process. The credit policy of the bank should have well defined credit-granting criteria and comprehensive credit limits as well as undertaking creditworthiness analysis.

Principle three (maintain appropriate credit administration, measurement and monitoring process): The standards of credit administration, measurement and monitoring process necessitate each bank to establish appropriate credit administration and monitoring, procedures, developing and utilizing internal risk rating and management information system, and establishing system for monitoring the overall composition and quality of the credit portfolio and assessing potential future change (Singh, 2021; Atakelt and Veni, 2015).

Principle 4 (Adequate control of overall credit risk): This type of credit risk management standard emphasizes on establishing a system, policies and procedures for early identification of deteriorating credit sign, managing problem loans and efficient and independent internal credit quality review and reporting system of banks (Atakelt and Veni, 2015).

2.2.7 Credit Risk Management process

According to Kessey (2015), credit assessment process helps to identify the purpose, and structure of the transaction for which approval is requested by the bank. Kessey (2015) had mentioned some of the processes used to identify and analyze the components of credit risk. It includes non-financial issues (knowledge of customer, credit referencing bureau), and financial issues (awareness of the purpose for credit, identification and assessment of repayment sources, financial gearing, security analysis and assessing the business risk of the borrower). Some of commonly used credit risk management processes are discussed in the following sections.

2.2.7.1 Risk Identification

Identification of risks is the first and most difficult function for risk manager or administer of an organization. Credit risk management mainly focuses on identifying potential risks in financial transactions such as loans and leases. Risk identification is the process by which a business systematically and continually identifies property, liability and personnel exposures as soon as or before they emerge (Kessey, 2015). In this risk management step, the loss exposures of the business must be identified in advance. According to Singh (2021), failure to identify all the exposures is a difficult condition for risk management body to deal with those unknown

exposure. The concerned bodies of a firm have to employ suitable risk identification techniques since there is no single unique risk identification tool. Some of the risk identification method used to identify credit risk includes financial statement analysis, audit and physical inspection, inspections by bank's risk managers and other staff, internal communication, SWOT (strength, weakness, opportunity and threat) analysis, scenario analysis, process analysis, risk survey, incident investigation and stress testing. There are some common techniques in risk identification process as discussed below.

Organizational charts: The organizational chart helps the risk identifiers to take a birds-eye view of the organization about stock of risks which may exist (Singh, 2021).

Physical Inspections: Physical inspection is the most common and best technique to identify expected risks of an organization (Kelley, 2015). But, the inspection of the plant, processes or promises uses different approaches and is time consuming risk identification technique.

Checklist: The checklist can be used as a source of information for possible risks of a firm. Checklist is useful when the organization has no enough in-house staff to carry out the job of risk identification using the checklist.

The Financial statement Method: The financial statement method of risk identification technique is applied by analyzing the balance sheet, operating statements, and supporting records (Singh, 2021). The risk managers can identify possible risks using financial statements to deal financial forecasts and budgets.

Contract Analysis: Many of an organization exposure to risk arise from the contractual relationships with other persons and organizations. An examination of these contracts may reveal areas of exposure that are not responsibility to the other parties.

Statistical Records of Loss: The statistical records of loss are also employed in order to identify sources of risk that can be obtained from risk management information systems developed by risk manager. As described by Singh (2021), the statistical record of loss systems allow losses to be analyzed according to cause, location, amount and other issues of interest.

2.2.7.2 Risk Measurement and Analysis

The second credit risk management technique is risk measurement. Risk measurement is the process of determining the potential loss based on risk size and the probability of occurrence of risk (Singh, 2021). After risk is identified, the next step is measuring the risk exposures to examine their relative importance and to use most desirable combination of risk management

tools. It must be analyzed to determine its scope and impact by considering key risk indicators. The credit risk analysis examines leading indicators to risk exposure on loans, leases, or borrowers (Israel, 2023). The dimensions of risk measurement include loss frequency and loss severity.

Loss Frequency Measures: As stated by Singh (2021), loss frequency measure is the probability that a single unit will suffer one type of loss from a single peril during the year. The probability of loss frequency can be higher because of the additional possible causes of loss.

Loss-Severity Measures: Loss severity is measured to determine all types of losses which may occur due to a given event and their ultimate financial impact of the firm. In loss severity, the two measures commonly used are the maximum possible loss, and the maximum probable loss of finance.

2.2.7.3 Risk Mitigation

Risk mitigation requires discipline to avoid taking on unnecessary risks. As described by Singh (2021), risk mitigation requires adherence to credit risk policies, underwriting and purchase criteria, loan administration, and investment portfolio management. Risk mitigation is the way of reducing emerging risks in the organization.

2.2.7.4 Risk Monitoring and Reporting

Maintaining robust reporting on credit risk of banks is essential to check risk levels in the bank. According to Tilahun (2022), risk monitoring is used to ensure that risk management practices are in effective line and helps bank's management to discover mistake at early stage of the risk. Risk governance is the last step of credit risk management process. Credit risk governance includes the set of policies and mechanisms that ensure employees work within the specified parameters set by the CRM framework (Tilahun, 2022). On the other hand, Atakelt and Veni (2015) stated that credit risk governance provides a regimented set of rules that must be followed, including how loans are assessed, what scores or metrics must be achieved for lending, authority and approvals, risk limits, and general oversight.

2.2.7.5 Credit Risk Management Effectiveness

Credit risk management effectiveness has become a vital focus for banks aiming to enhance financial performance and reduce exposure to default. According to Kessey (2015), effective credit risk management involves not only the existence of policies and tools but also their real impact on controlling credit losses. A well-functioning credit risk system should result in lower

non-performing loan ratios and reduced loan loss provisions, both of which are used as performance indicators. The Basel Committee also emphasizes that effectiveness is achieved when banks are able to identify, measure, mitigate, and monitor credit risk in a way that aligns with strategic objectives and regulatory expectations. Studies by Hosna et al. (2019) and Achou & Tenguh (2018) have shown that effective CRM is positively correlated with bank profitability and asset quality. Therefore, this study applies both subjective evaluations and objective financial data to assess the effectiveness of credit risk management in Ethiopian private commercial banks.

2.2.8. Credit Risk Models

There are some risk models that are used in understanding and prediction of risk levels as well as credit risk management approaches (Singh, 2021). Some of theories and models related to risk management include value at risk model, the Merton model and credit Metrics model.

2.2.8.1 Value at Risk Model (VAR)

One of the recent risk models which focus on risk management tools is Value at Risk Model (VRM). This model indicates how much a company can lose or make with a certain probability in a given time horizon (Singh, 2021). VAR is useful to measure market risk and incorporates many other risks like foreign currency, commodities, and equities. According to Israel (2023), credit VAR models can be obtained in two main categories. The first one is default mode models, in which credit risk is recognized with default risk and a binomial approach is adopted. Based on the assumption of default mode model, only two possible events (default and survival) are expected and considerable. This model assumed that credit losses only arise when a default occurs (Singh, 2021). The second category of VAR is Mark-to Market models. This category of VAR includes all possible changes of the borrower creditworthiness (credit migrations). Mark-to market models are multinomial, and it suggested that losses arise when negative credit migrations occur (Altman, 2006).

2.2.8.2 The Merton Model

The other model related to risk is Merton model. Merton model simply predicted that default occurs when the value of a firm's assets (firm's market value) is lower than its liabilities (Singh, 2021). In this model, all important credit risk elements such as default and recovery at default are a function of the structural characteristics of the firm (asset levels, asset volatility or business risk

and leverage or financial risk. Altman (2006) stated that the probability of a firm bankrupt is significantly depends on the beginning period market value.

2.2.8.3 Credit Metrics model

The third credit management related model is credit metrics model. Credit Metrics is a strategy used for assessing portfolio risk due to changes in debt value that can be caused by changes in obligor credit quality (Singh, 2021). This model assesses the value-at-risk (VAR) and the volatility of value than expected losses. Credit metrics model helps to assess risk within the full context of a portfolio. Credit Metrics model helps to capture certain market risk components in the process of risk estimations.

2.3 Empirical Review

In this sub-section, some empirical research results were discussed to get clear insights about the practices of credit risk management in financial institutions.

A study was performed by Dr. Singh (2021) to assess credit risk management practices in the case of Dashen Bank in Mettu branches, Ethiopia. The study employed descriptive research design with mixed approach. The study used both primary data (questionnaire) and secondary data from 20 Branch office staff using who works on credit department. The study concluded that Dashen bank has well organized credit policy, good credit granting practice and uses suitable credit risk assessment tools and techniques including loan follow-up, risk identification, measuring, evaluating, monitoring and controlling mechanism. But, the bank has pitfalls such as absence of training for customers which results to loan diversion, absence of credit risk model that predict the risk level of the business and the priority sectors of the bank in terms of credit facility are highly exposed to credit risk. But, the study was focused on a single private commercial bank credit risk management practices.

Atakelt and Veni (2015) conducted a study to assess the level of credit risk management practice of Ethiopian commercial banks. The study employed descriptive research design with quantitative approach. Primary data was collected using survey questionnaire and statistical methods were computed to test hypothesis. The study concluded that risk identification methods such as financial statement analysis, audit and physical inspection, and internal communication respectively were widely practiced by commercial banks in Ethiopia. The study indicated that four aspects of Basel's CRM principles significantly explained the level of variation on CRM practice of Ethiopian commercial banks. Among them, establishing appropriate credit risk

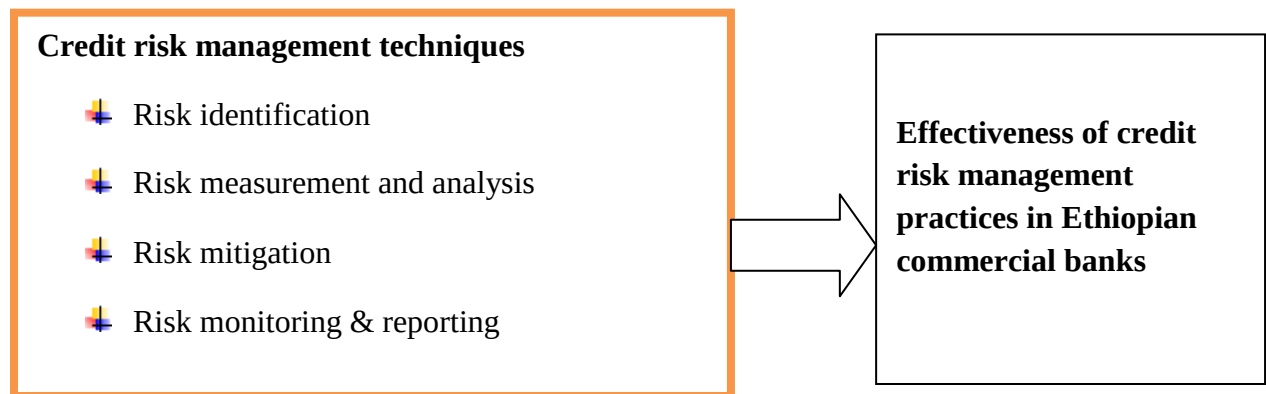
environment and ensuring adequate controls over credit risk were the most influential variables on level of CRM practice. This study considered both public and private commercial banks as a source of data. The study confirmed that there was no significant difference between public and private commercial banks in all aspect of credit risk management principles and practice. However, it failed to support primary data sources (questionnaire) by analyzing documents (annual reports) and non-performing loan ratios as a secondary data source.

Another study was done by Israel (2023) on credit risk management practices of Abay Bank, Ethiopia. The primary data was collected through self-administration questionnaires and analyzed using descriptive statistical tools. The study concluded that there is credit risk policy and procedures, credit risk strategy and communication and practical loan processing and appraisal activities at the bank are effective. Abay bank uses appropriate internal risk scoring system, credit limit established by the bank, adequate measure put to recover non-performing loans, and training of employees on CRM functions. But, the study found that there is a gap on monitoring activities undertaken at Abay bank. This study considered a single Bank for the assessment of CRM practices and its findings may show limitation to conclude in Ethiopian context. The study has shown limitation to use secondary data sources (non-performing loan ratio as a secondary data source) to support the result of questionnaire on the effectiveness of credit risk management.

The study of Tilahun (2022) was concerned with investigation of determinants of CRM effectiveness of private commercial banks in Ethiopian. The data was gathered through self-administered structured questionnaires and analyzed using quantitative approaches such as descriptive statistics and multiple linear regressions. The study shows that risk understanding, risk assessment and analysis, risk monitoring system, and risk evaluation was practiced highly while risk identification system is moderately practiced. The four predictors (risk understanding, risk identification system, risk assessment and analysis, and risk evaluation) were significantly and positively affected credit risk management effectiveness while risk monitoring system remains insignificant. But, the researcher used only primary data sources and it did not add the exact credit risk management effectiveness by considering non-performing loan ratio as a secondary data source.

2.4 Conceptual Framework of the Study

The conceptual framework illustrates the relationship between the Basel Committee's four core principles of credit risk management and the operational dimensions applied in this study. The Basel principles: - (1) establishing an appropriate credit risk environment, (2) operating under a sound credit granting process, (3) maintaining appropriate credit administration, measurement, and monitoring processes, and (4) ensuring adequate control over credit risk serve as the theoretical foundation. In this study, these principles are operationalized into four measurable CRM practice dimensions: risk identification (linked to establishing a credit risk environment), risk measurement and analysis (linked to credit administration, measurement, and monitoring), risk mitigation (linked to sound credit granting and adequate controls), and risk monitoring and reporting (linked to continuous monitoring and control). These dimensions are hypothesized to have a positive effect on the effectiveness of credit risk management in Ethiopian private commercial banks.



Source: Adopted from Singh (2021)

Figure 1: Conceptual Frame Work of the Study

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Selecting and applying an appropriate research methodology is crucial for producing credible, valid, and reliable results in any academic inquiry. The methodology forms the backbone of the research process, as it outlines the plan for collecting, measuring, and analyzing data in a way that addresses the research questions and objectives. In this study, the methodological approach was carefully designed to evaluate the effectiveness of credit risk management (CRM) practices in Ethiopian private commercial banks.

This chapter presents the methodological framework in detail, covering the research design and approach, target population and sampling strategy, clear definition of the variables, measurement tools employed, sources of data, procedures for data collection, and the methods used to ensure reliability and validity of the instruments. These methodological choices were made to ensure that the findings accurately reflect the real-world practices of CRM in the Ethiopian banking sector.

3.2. Research Design

A research design is the overall plan or structure that guides the process of collecting, measuring, and analyzing data in a way that ensures the study's objectives are addressed effectively. According to Saunders, a research design serves as the blueprint for conducting a study, linking the research questions to the data collection and analysis procedures. Kothari (2008) further explains that it provides a framework that specifies the type of information to be collected, the sources of data, and the methods to be used in data analysis.

In line with these definitions, the present study employed a descriptive research design. Descriptive designs are particularly appropriate for studies aiming to describe the characteristics of a phenomenon or to examine the current status of variables without manipulating the research environment (Creswell, 2014). This design allows the researcher to present an accurate profile of CRM practices and their effectiveness in the selected Ethiopian private commercial banks.

The selection of a descriptive design is justified by the study's objectives, which include identifying existing CRM policies, evaluating the extent of their implementation, and determining their influence on CRM effectiveness. descriptive research is valuable when the goal

is to obtain a clear and detailed understanding of existing conditions, relationships, and practices. This design is therefore well-suited for integrating both quantitative indicators (such as NPL and LLP ratios) and qualitative insights, providing a comprehensive evaluation of CRM effectiveness.

3.3. Research Approach

This study applied a mixed research approach, combining quantitative and qualitative methods to capture both measurable patterns and contextual explanations:

Quantitative Component: Structured questionnaires provided quantifiable data that could be analyzed using statistical methods to examine relationships between CRM practices and CRM effectiveness. The quantitative element is particularly suited for testing the hypothesized relationships and determining the strength and direction of associations between variables.

Qualitative Component: Open-ended questions and document review provided qualitative insights that help explain why certain practices are more effective than others. The qualitative dimension added depth to the numeric results and helped interpret findings in light of practical realities in the banking sector.

The rationale for using a mixed approach is that relying solely on either quantitative or qualitative methods could limit the scope of analysis. Quantitative data alone might overlook the contextual nuances of CRM implementation, while qualitative data alone may lack the generalizability provided by statistical analysis. By combining both, the study benefits from methodological triangulation, which enhances the robustness and credibility of the findings.

3.4 Target Population and Sampling Techniques

3.4.1 Target Population of the Study

The target population refers to the entire set of individuals, events, or elements that a researcher intends to study. As defined by Nge Chu (2004), a population is a well-defined group of people, services, elements, events, or objects that form the focus of given research.

In this study, the target population consists of staff working in the credit/loan departments and credit risk assessment departments located at the head offices or district offices of private commercial banks in Addis Ababa. These locations were specifically chosen because key activities related to credit risk such as the formulation of credit policies and guidelines, credit

assessment, and loan approval are primarily undertaken and authorized at the head office or district office level, rather than at branch level.

As of September 2024, the National Bank of Ethiopia reported that there are 26 licensed private commercial banks in the country. These include: Abay Bank, Addis International Bank, Ahadu Bank, Amhara Bank, Awash Bank, Bank of Abyssinia, Berhan Bank, Bunna Bank, Cooperative Bank of Oromia, Dashen Bank, Enat Bank, Gadda Bank, Global Bank Ethiopia, Goh Betoeh Bank S.C., Hibret Bank, Hijira Bank, Lion International Bank, Nib International Bank, Oromia Bank, Shabelle Bank, Siinqee Bank, Tsedey Bank, Tsehay Bank, Wegagen Bank, Zam Zam Bank, and Zemen Bank.

However, not all of these banks were considered suitable for inclusion in the study. A number of institutions namely Amhara Bank, Ahadu Bank, Tsehay Bank, Gadda Bank, and Tsedey Bank were established only in 2022. Given their relatively short operational history, these newer banks have not yet developed extensive experience in implementing and refining credit risk management (CRM) systems. Including them could therefore limit the reliability of findings related to CRM effectiveness.

For this reason, the study adopted a purposive selection approach, focusing only on banks with at least two years of operational experience. The researcher then applied additional selection criteria to ensure the study would capture a meaningful and representative range of CRM practices. Specifically, the chosen banks:

1. Have substantial operational experience in the Ethiopian banking sector, exceeding two years;
2. Possess large and diverse credit portfolios, making credit risk management a significant operational priority;
3. Maintain centralized decision-making for credit policies, assessments, and approvals at their head offices or district offices in Addis Ababa;
4. Offer accessibility for data collection, both in terms of organizational cooperation and physical location; and
5. Represent a mix of well-established and relatively younger (but experienced) institutions, providing varied perspectives on CRM implementation.

Based on these criteria, five private commercial banks were selected: Awash Bank, Cooperative Bank of Oromia, Goh Betoeh Bank, Oromia International Bank, and Wegagen Bank. The target

population for the study is therefore the 276 staff members working in the credit and risk assessment departments of these banks, located at their head offices or district offices in Addis Ababa.

3.4.2 Sampling Technique

Sampling is the process of selecting a sufficient number of elements from the population and can generalize the characteristics of a population. There are two basic sampling techniques which are probability (random, stratified, cluster and systematic sampling) and non-probability (purposive, convenience) sampling. For this study, both probability and non-probability sampling method were used. That is, first among 21 private commercial banks with more than two years banking experience, five banks (about 20% experienced banks) were taken using systematic random sampling method. That is, first the target banks were arranged alphabetically. Accordingly, using systematic random sampling method, Awash, Cooperative bank of Oromia, Goh Betocho, Oromia International Bank and Wegagen bank were used as specific target area.

Table 1: List of Private Commercial Banks

No.	Name of Banks	Year of establishment	Remark
1	Abay Bank	2010	
2	Addis International Bank	2011	
3	Awash International Bank	1994	1 st selected
4	Bank of Abyssinia	1996	
5	Berhan International Bank	2009	
6	Bunna International Bank	2009	
7	Cooperative Bank of Oromia	2004	2 nd selected
8	Dashen Bank	1995	
9	Debub Global Ban	2012	
10	Enat Bank	2012	
11	Goh Betocho Bank	2021	3 rd selected
12	Hijra Bank	2021	
13	Lion International Bank	2006	
14	Nib International Bank	1999	
15	Oromia International Bank	2004	4 th selected

16	Shabelle Bank	2021	
17	Siinqee Bank	2021	
18	United Bank	1998	
19	Wegagen Bank	1997	5 th selected
20	Zamzam Bank	2021	
21	Zemen Bank	2004	

Source: NBE, 2024

Secondly, to consider staff of credit/loan department and credit risk assessment departments, purposive sampling method was used. That is, purposive simple technique was used to select participants from head offices and district offices of selected private commercial banks. Purposeful sampling is used since such departments are directly associated and are experienced to give genuine responses about the current credit risk management practices employed by banks. Finally, simple random sampling method was used to select some portions of the staff from credit/loan department and credit risk assessment departments of head office and district offices.

3.4.3 Sample Size Determination

As shown in the previous section, the total number of participants in the head office and district office of selected banks is 276. It is difficult to consider the whole population as a source of information for a study due to various constraints such as time, finance and complexity of managing data. Thus, sampling is preferable. There are different sample size determination formulas adopted by various researchers. In this study, Yamane (1967) sample size determination formula was used. The formula is given as

$$n = \frac{N}{1+N(e)^2} \text{ where } N = \text{total number of employees (population of the study)}$$

n = sample size of the study

e = the level of precision.

By considering 95% confidence level or 5% margin error (e = 0.05) and N = 276, the sample size is

$n = \frac{276}{1+276(0.05)^2} = 164$. Therefore, the sample size of this study was 164 staff of head office and district office credit/risk departments.

Table 2: Population and Sample Size of the Study

No.	Name of Bank	Total population	Sample Size
1	Awash Bank	91	54
2	Cooperative Bank of Oromia	80	47
3	Goh Betoeh	13	8
4	Oromia International Bank	69	41
5	Wegagen Bank	23	14
	Total	276	164

Source: Banks' Human Resource Department, 2024/25

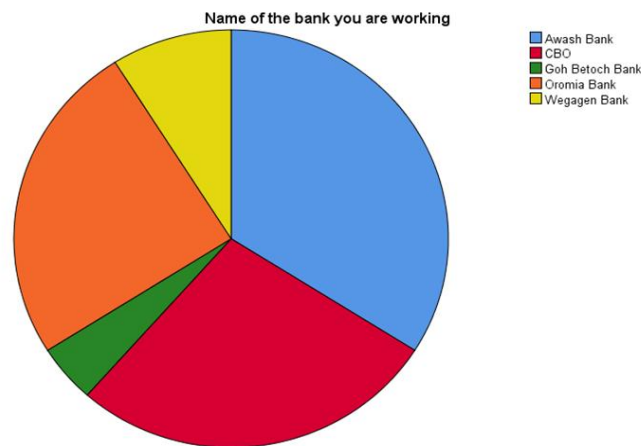


Figure 2: Sample size of the study

3.5. Sources of Data

Data can be extracted from two types of sources; namely primary sources and secondary sources of data. The study used both primary and secondary data sources to achieve objectives of the study.

3.5.1. Measurement Tools

Primary Measurement Tool – Questionnaire

The main instrument for collecting primary data was a structured questionnaire, designed to capture respondents' assessments of CRM practices and effectiveness:

Structure: 28 items rated on a 5-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree).

Content Source: Adapted from validated instruments used in previous studies (Tilahun, 2022) and refined through a review of literature and consultations with banking and academic experts.

Reliability: A pilot test with 20 respondents produced Cronbach's α values above 0.7 for each construct, with an overall $\alpha = 0.924$, indicating excellent internal consistency.

Validity: Face and content validity were ensured through expert review, ensuring items align with theoretical constructs and real banking practice.

Secondary Measurement Tool – Document Analysis

Secondary data were obtained from the audited annual reports of the sampled banks for the financial years 2019/20–2023/24. From these reports, two key ratios were computed:

NPL Ratio: Measures the percentage of loans that are in default or close to default.

LLP Ratio: Assesses the adequacy of reserves set aside to cover potential loan losses.

These measures are widely recognized in the banking industry, align with Basel standards, and provide an objective basis for evaluating CRM performance.

3.5.2. Data Collection Procedures

Data collection was conducted in two phases:

Primary Data Collection:

Upon approval, the researcher coordinated with department heads to distribute self-administered questionnaires to the selected respondents.

Clear instructions were provided, and respondents were given adequate time to complete the questionnaires to minimize rushed or incomplete responses.

Secondary Data Collection:

Audited annual reports were obtained directly from the finance departments of the selected banks. Where necessary, these reports were cross-verified against publications from the National Bank of Ethiopia (NBE) to ensure accuracy.

NPL and LLP ratios were computed for each bank for each year in the study period, creating a dataset to complement the primary survey data.

Triangulation was applied by integrating these two datasets (survey perceptions and financial performance indicators), enabling cross-validation of findings and improving the robustness of the results.

3.6 Data Collection Instruments

Data collection is the vital task of the research and it refers to the process of gathering and measuring information on variables of interest that enables to answer the stated research questions, and to evaluate outcomes. For this study, both questionnaire and document analysis data collection instruments were utilized. Primary data were collected from head office and district office staffs of selected private commercial banks using questionnaire. Questionnaire is the major data gathering tool for this study. The questionnaire was used to assess the current practices of credit risk management in private commercial banks in Ethiopia. The questionnaire was composed of 28 questions with Likert five-point scales starting from strongly disagree (1) to strongly agree (5) to measure variables. It was partially adopted from Tilahun (2022).

On the other hand, document analysis data collection method was employed to gather data from published sources. That is, the annual reports of commercial banks from 2019/20 to 2023/24 were considered to evaluate the effectiveness of credit risk management of commercial banks in Ethiopia. The calculation of non-performing loans ratio and loan loss provision ratio were used to cross check responses of employees on credit risk management effectiveness and actual credit performance of banks.

3.7 Reliability and Validity of Instruments

As stated by Kothari (2008), reliability represents the internal consistency of data gathering instruments. Cronbach's alpha is generally used as an instrument or measure of internal consistency or reliability of a given concept. It is an indication of how well a set of items measures the same concept. Therefore, to test the reliability of the questionnaire, first a pilot study (pre-test) was done on 20 randomly selected participants and the results were tested using Cronbach's Alpha reliability test.

Many researchers such as Creswell (2007) provided the following rules for interpreting reliability coefficients. If $\alpha \geq 0.9$, it is excellent; $\alpha \geq 0.8$, it is good; $\alpha \geq 0.7$, it is acceptable; $\alpha \geq 0.6$, it is questionable; $\alpha \geq 0.5$, it is poor; and $\alpha \leq 0.5$, it is unacceptable. The reliability test result of the data gathering instrument was summarized below.

Table 3: Reliability Statistics

No.	Variables	Alpha value	Number of items
1	Credit risk management	0.822	6
2	Risk identification	0.774	5
3	Risk measurement	0.778	6
4	Risk mitigation	0.771	5
5	Risk monitoring	0.859	6
	Overall reliability of questionnaire	0.924	28

Source: Own survey 2025

From the above table, the Cronbach's alpha reliability test coefficients of the questionnaire for the study variables were greater than 0.7. Therefore, the internal consistency of questionnaires as a whole is assured and accepted.

On the other hand, to check the validity of instruments, the questionnaire includes a variety of questions on each credit risk management dimensions. Before distributing the questionnaires, the face validity and content validity of instruments was checked by expertise persons and the advisor. Questions were prepared based on information gathered during the literature review to ensure that they are representative.

3.8 Data Analysis

In this study, credit risk management effectiveness is assessed through a combination of survey responses and actual credit performance indicators. The descriptive analysis captures staff perceptions on the implementation and success of CRM activities, while the inferential analysis, including regression models, examines the statistical relationship between CRM components such as risk identification, measurement, mitigation, and monitoring and the overall effectiveness of credit risk management. In addition, secondary data such as nonperforming loan ratios and loan loss provision ratios are used to validate the actual credit performance of banks, providing a more comprehensive view of CRM effectiveness.

In order to analyze the data gathered via questionnaire, quantitative data analysis methods were used with the help of Statistical Package for Social Science (SPSS) software. The study utilized both descriptive and inferential statistics methods.

3.8.1 Descriptive Statistics

The descriptive statistics includes the analysis of data using frequencies, percentages, standard deviations and mean value of variables. That is, to evaluate the effectiveness of risk management practices of private commercial banks, mainly mean, standard deviation and cutoff point (decision making point) were used. Different measures of descriptive statistics such as statistical tables and ratios were used as tools in the analysis.

3.8.2 Inferential Statistics

Inferential statistics is used to analyze a data that has quantitative nature. Inferential statistics allow the researcher to draw patterns and to make data analysis more meaningful. In this regard, Pearson's correlations, and multiple linear regressions analysis was employed. The purpose of multiple regression and correlation analysis is to determine which credit risk management process is significantly affected its effectiveness.

3.8.3 Model Specification

In the research design, the study proposed to examine the relationship between **credit risk management (CRM) processes** and the **effectiveness of credit risk management practices** in private commercial banks. The CRM processes considered as independent variables are risk identification, risk measurement and analysis, risk mitigation, and risk monitoring and reporting. The dependent variable is the overall effectiveness of credit risk management practices in the selected banks.

Consistent with the research design, the analysis employed a multiple linear regression approach to determine the relative contribution of each CRM process dimension to overall CRM effectiveness. This method enabled the researcher to quantify the extent to which variations in CRM effectiveness could be explained by the four independent variables, thereby providing a structured and evidence-based evaluation of the factors influencing effective credit risk management in Ethiopian private commercial banks.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k + \varepsilon; (k = 1, 2, 3 \dots n)$$

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where: Y is credit risk management effectiveness

β_0 is the regression constant term;

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$ are the coefficients of independent variables;

X_1 = Risk identification; X_2 = Risk measurement and analysis;

X_3 = Risk mitigation; and; X_4 = Risk monitoring and reporting

ε is the error term.

3.9. Ethical Consideration

Ethical considerations are important in any research project. Before beginning the data collection, a letter was sent from Addis Ababa University, Department of Accounting and Finance to the head office of selected banks requesting permission to conduct the research. As a return, permission was given from head offices. The participants were informed about the purpose of the study and assured that their responses will be kept confidential and used only for academic purposes. After obtaining the participants' consent, they were provided with a self-administered questionnaire to complete and return. The researcher did not compel any staff to participate without their voluntary consent.

CHAPTER FOUR

RESULTS AND DISCUSSION OF FINDINGS

The main objective of this research is to evaluate the effectiveness of credit risk management practices in Ethiopian private banks. To achieve its objective, data was collected from credit assessment and credit risk management department of banks using questionnaire. Data analysis was made using descriptive statistical methods such as frequencies, percentages, mean value and inferential data analysis methods such as correlations and multiple linear regressions. The presentation, analysis and discussion of findings were provided under this chapter.

4.1 Response Rate

As described at section 3.4, the sample size of the study was 164. But, among the questionnaires distributed to participants, only 156 questionnaires were returned with complete responses. The rest 8 questionnaires were not totally returned to the researcher or contain incomplete responses. The response rate of the questionnaire is 95.1%. Data was analyzed using only completed responses of the questionnaire. The essence of determining the response rate is to enquire whether it is sufficient enough to generalize the results to the target population. According to Creswell (2009), a response rate of 60% is regarded as acceptable, 70 % would be preferable and a 70% to 80% response rate would be desirable. In this study, the response rate of the questionnaire was 95.1% and it is sufficient to analyze and interpret data.

4.2 Demographic Profile of Participants

Some of the demographic information of participants such as sex, age, education level, the bank they work and working experiences of respondents in the banking sector were presented in the following sections.

Table 4: Demographic Information of respondents

No.	Variables	Categories	Frequency	Percent
1	Age of participants	Below 30 years	0	0
		31-40 years	96	61.5
		41- 50 years	51	32.7
		above 50 years	9	5.8
		Total	156	100.0
2	Sex of participants	Male	108	69.2
		Female	48	30.8
		Total	156	100.0
3	Education qualification of respondents	Diploma/TVET	0	0
		Bachelor Degree	58	37.2
		Masters Degree and above	98	62.8
		Total	156	100.0
4	Working experience of respondents	Below 5 years	18	11.5
		5 to 10 years	55	35.3
		11 to 15 years	50	32.1
		Above 15 years	33	21.2
		Total	156	100.0

Source: Own survey, 2025

The result presented at table 4 shows that 69.2% respondents of the study were males and 30.8% of them were females. Majority of respondent staff of private commercial banks were males.

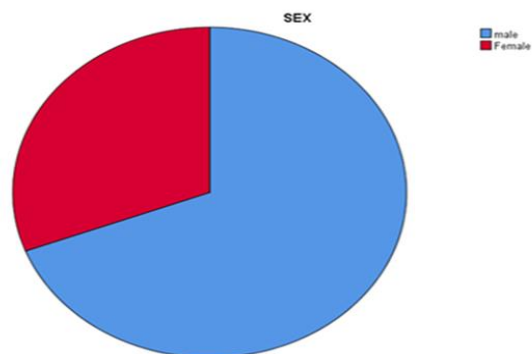


Figure 3: Sex of participants

Regarding to the age category of respondents, 61.5% respondents are under 31-40 years, 32.7% respondents are 41-50 years, and 5.8% respondents are above 50 years. This implies that most participant staffs working on the district office and head office level are belonged to 31-40 years age category.

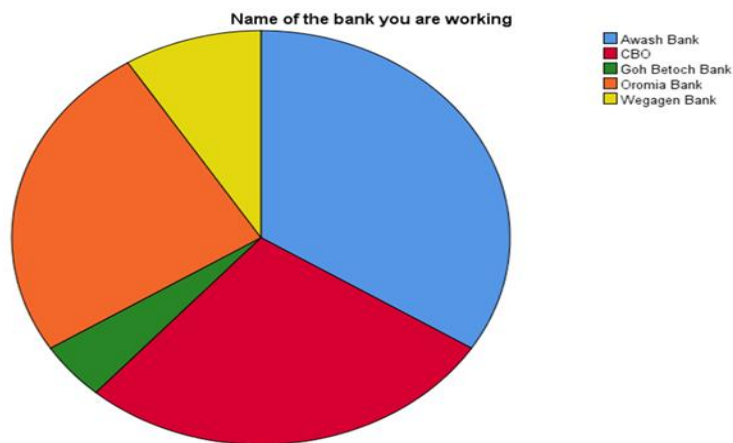


Figure 4: Age of participants

Concerning to the educational qualification of respondents, 37.2% respondents were Bachelor Degree holders and 62.8% respondents were Second Degree and above holders. Most staff of commercial banks those are working on the district office and head office level are Bachelor Degree holders. This shows that all employees are professionals.

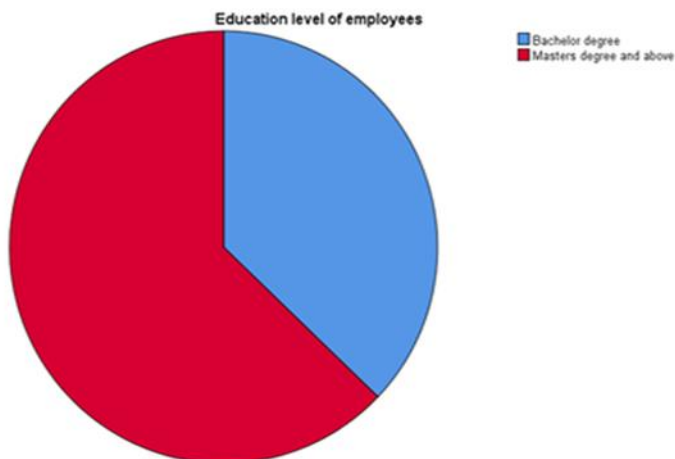


Figure 5 : Education level of Employees

Regarding to the work experience of participants, 11.5% respondents were below 5 years experienced, 35.3% respondents were experienced between 5 and 10 years, 32.1% respondents were experienced from 11 to 15 years and 21.2% respondents were more than 15 years experienced. That is, majority of staff of banks at district and head office level have 5-10 years working experience in the field and they are experienced to give genuine responses about the issue.

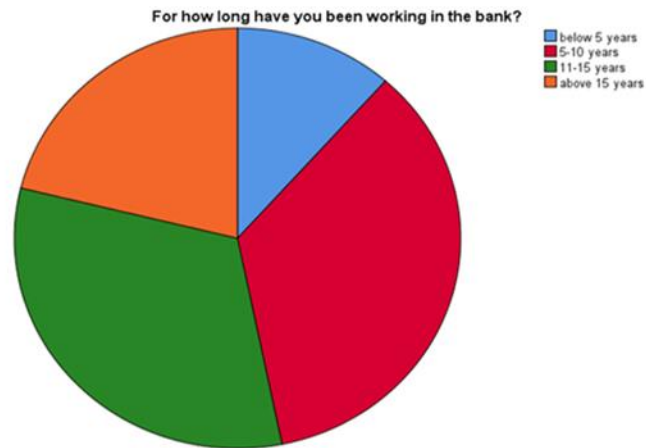


Figure 6 : Working experience of respondents

4.3 Descriptive Analysis of Data

In this study, the independent variable of the study were credit risk assessment practices (risk identification, risk measurement, risk monitoring and risk mitigation) whereas the dependent variable was effectiveness of credit risk management in private commercial banks in Ethiopia. The quantitative data was collected through questionnaire containing five-point Likert scale. The alternatives of both independent and dependent variables were assigned as strongly disagree (1), disagree (2), neutral (3), agree (4) and strongly agree (5).

The descriptive analysis was made using frequency, mean, standard deviation, percentages and cutoff interval score of the scale. To categorize a scale of a questionnaire as low/disagree, medium/neutral/average or high/agree, this study used Ahmed (2008) cutoff point interval. Ahmed (2008) suggested that the category level of a mean value is very low/strongly disagree if (1-1.8), low/disagree if (1.81-2.6), medium/neutral/average if (2.61-3.4), high/agree if (3.41-4.2) and very high/strongly agree if (4.21-5). Decisions were made based on these cutoff point intervals as summarized below.

Table 5: Cutoff point interval

No.	Cutoff point interval	Decision rule for the scale
1	1-1.8	Very low/strongly disagree
2	1.81-2.6	Low/disagree
3	2.61-3.4	Medium/average/neutral
4	3.41-4.2	High/agree
5	4.21-5.0	Very high/strongly agree

The analysis of descriptive statistics was made using the above decision rule for the aggregate mean scores of variables.

4.3.1 Descriptive Analysis of Credit Risk Management Techniques

The descriptive statistics of credit risk management tools and techniques such as risk identification, risk measurement and analysis, risk mitigation, and risk monitoring and reporting were analyzed using aggregate mean values, cutoff point intervals and standard deviation of data.

4.3.1.1 Risk identification practices

The first technique of credit risk management is identification of credit risks. Credit risk identification in the banking sector includes financial statement analysis, audit and physical inspection, internal communication, past repayment records, computation of loan ratios, and credit referencing activities. The analysis of credit risk identification techniques in some selected private commercial banks is presented under table 6.

Table 6: Risk identification

Items on risk identification practices	N	Mean	Std. dev.
The bank identifies and prioritizes its main credit risks.	156	4.53	.647
The bank registers the identified risk for further assessment.	156	4.35	.776
The bank involves different professionals to identify credit risk.	156	4.15	.874
The bank gives due consideration to formal brainstorming credit risk identification.	156	3.94	.859
The bank gives due attention to the quality of documents submitted by borrowers with respect to the business.	156	4.32	.787
Grand mean of risk identification	156	4.266	.57965

Source: survey result, 2025

From table 6 it was shown that the grand mean score of credit risk identification practice in the case of private commercial banks in Ethiopia was 4.26. This grand mean score is belonged to the cutoff point interval of 4.21-5.0. That is, the practice of credit risk identification in private commercial banks in Ethiopia is very high level. The result indicated that commercial banks are well practiced credit risk identification technique to manage credit risks. From the above findings, it can be summarized that banks have policy that helps them identify credit risks.

4.3.1.2 Risk measurement and analysis practice

The identified credit risks need to be measured and further analysis to arrive at certain conclusions. Credit risk measurement and analysis includes estimating frequency of each identified risk factors, credit scoring, and use of five key factors of credit (character, capital, capacity, collateral and cycle or economic condition) to provide response for the risks. The risk measurement and analysis practice in Ethiopian private commercial banks is presented using aggregate mean scores.

Table 7: Risk measurement and analysis practice

Items on risk measurement and analysis	N	Mean	Std. dev.
The bank develops action plans for implementing decisions and management plans for identified risks.	156	4.28	.726
The bank uses numerical measurement methods to analyze credit risks.	156	4.21	.751
The bank effectively assesses the likelihood of different risks occurring.	156	4.20	.749
The bank undertakes a credit worthiness analysis before executing transaction.	156	4.45	.665
The banks risk management process is well documented to provide guidance to staff about the management of risk.	156	4.29	.745
The bank has a computer-based support system to estimate/measure the earnings and risk management variability.	156	3.59	1.191
Grand mean of risk measurement	156	4.150	.4936

Source: survey result, 2025

As presented at table 7, the grand mean score of credit risk measurement and analysis practices in private commercial banks in Ethiopia was 4.15. This grand mean score is categorized under the cutoff point interval of 3.41-4.2. The descriptive analysis of data shows that the practice of credit risk measurement and analysis in private commercial banks in Ethiopia is high level. That is, Ethiopian private commercial banks are highly practiced credit risk measurement and analysis technique as a means of managing credit risks. From the analysis, we can recognize that banks have policy that helps them measure and analyze credit risks.

4.3.1.3 Risk mitigation

Risk mitigation is the way of reducing occurrence of risks in the organization. The practice of risk mitigation involves controlling credit risk conditions, loan securitization, credit rationing, and use of collaterals to control credit risk of banks. Mitigating credit risks is the most important activity in managing credit risks associated with banks. The analysis of credit risk mitigation practice in Ethiopian commercial banks is analyzed as follow.

Table 8: Risk mitigation practice

Items on risk mitigation	N	Mean	Std. dev.
The bank has its risk mitigation procedures adopted from credit policy and procedure in the bank.	156	4.33	.748
The bank has appropriate internal risk scoring system that distinguishes high and low risk areas.	156	4.01	.919
The Bank employs risk mitigation based scientific pricing.	156	3.53	1.038
Adequate measures are put to mitigate non-performing loans in the bank.	156	3.97	.834
The bank offers sufficient training for employees and borrowers on credit risk mitigation methods.	156	3.63	1.017
Grand mean of risk mitigation	156	3.876	.60292

Source: survey result, 2025

From table 8, the grand mean score of credit risk mitigation practice in Ethiopian private commercial banks was 3.87. This grand mean score is belonged to the cutoff point interval of 3.41-4.2. That is, the practice of credit risk mitigation in private commercial banks in Ethiopia is high level. That means commercial banks are highly practiced credit risk mitigation technique to

manage credit risks. The finding of the study shows us banks have policy that helps them mitigate credit risks.

4.3.1.4 Risk monitoring and reporting

The issue of risk monitoring and reporting credit risks to customers and stakeholders is significant activity. It includes contact with customers, follow-up customers, on site visit, and updating credit files. Such practices can aware borrowers to emphasis on credit risk issues. The data related to credit risk monitoring and reporting practices in Ethiopian commercial banks is presented and analyzed in the following section.

Table 9: Risk monitoring and reporting techniques

Items on risk monitoring and reporting	N	Mean	Std. dev.
The level of risk control by the bank is appropriate for the risk that it faces.	156	4.07	.828
The bank strict follow-ups methods about repayment of the loan performer.	156	4.19	.836
The bank monitors the allocation of the loan to the intended purpose and its progress.	156	3.92	.961
The bank communicates the credit performers for further actions	156	4.18	.799
The borrower's business performance is regularly observed and reported by the bank following the extension of financing.	156	3.87	.840
The existing monitoring and reporting process in the Bank considers National bank of Ethiopia compliance issues.	156	4.49	.714
Grand mean of risk monitoring and reporting	156	4.132	.58625

Source: survey result, 2025

As presented at table 9, the grand mean score of credit risk monitoring and reporting practices in private commercial banks in Ethiopia was 4.13. This grand mean score is categorized under the cutoff point interval of 3.41-4.2. The mean data analysis shows that the practice of credit risk monitoring and reporting in private commercial banks in Ethiopia is high level. That is, Ethiopian private commercial banks are highly practiced credit risk measurement and analysis technique as a means of managing credit risks. From the analysis, we can understand that banks have policy that helps them monitor and report credit risks.

4.3.1.5 Summary of credit risk management components

To compare the practices of credit risk management techniques in Ethiopian private commercial banks, the aggregate mean score of variables is summarized at table 10.

Table 10: Credit risk management techniques

No.	Credit risk management techniques	N	Mean	St. dev.	Rank
1	Risk identification	156	4.2668	.57965	1 st
2	Risk measurement	156	4.1506	.49369	2 nd
3	Risk mitigation	156	3.8765	.60292	4 th
4	Risk monitoring	156	4.1326	.58625	3 rd

Source: survey result, 2025

The grand mean values suggested that risk identification, risk measurement, risk mitigation and risk monitoring techniques were highly implemented in the credit risk management process of commercial banks in Ethiopia. As a summary, credit risk identification tool is largely practiced than other credit risk management tools, followed by risk measurement, risk monitoring and risk mitigation. The findings suggested that private commercial banks in Ethiopia highly implements policy that helps them to identify, measure& analysis, mitigate, and measure and report credit risks.

4.3.2 Descriptive Analysis of Credit Risk Management Effectiveness

Banks have designed their own credit risk management techniques, procedures and policies. Indeed risks in the banks (bankruptcy) can be credit risk, operational risk or liquidity risk (Atakelt & Veni, 2015). The practice of poor credit risk management strategy in banks can result with poor loan recovery performance. The extent of credit risk management in Ethiopian private commercial banks was analyzed using descriptive statistical methods by considering aggregate mean scores and standard deviation.

Table 11: Analysis of credit risk management effectiveness

Credit risk management effectiveness	N	Mean	St. dev.
The bank's executive management regularly reviews the organization's performance in managing its credit risks.	156	4.42	.663
The bank has highly effective continuous review / feedback/ on credit risk management strategies and performance.	156	4.27	.756
The bank's credit risk management procedures provide guidance to staff about managing credit risks.	156	4.26	.752
The bank's policy encourages training programs in credit risk management effectively.	156	4.11	.831
An efficient credit risk management is one of the bank's objectives.	156	4.51	.714
Overall, credit risk management in the bank is effective.	156	4.23	.726
Grand mean score of Credit risk management effectiveness	156	4.29	.5392

Source: survey result, 2025

The data presented at table 11 shows that the grand mean score of credit risk management performance in private commercial bank was 4.29 and it is belonged to the cutoff point interval of 4.21-5.0. That is, the performance of credit risk management is very high. That is credit risk management of Ethiopian private commercial banks is highly effective. From the results it can be summarized that commercial banks are effectively managing credit related risks by different means.

4.4 Inferential Analysis of Data

In this study, credit risk management effectiveness is assessed through a combination of survey responses and actual credit performance indicators. The descriptive analysis captures staff perceptions on the implementation and success of CRM activities, while the inferential analysis including regression models examines the statistical relationship between CRM components (such as risk identification, measurement, mitigation, and monitoring) and the overall effectiveness of credit risk management. In addition, secondary data such as non-performing loan (NPL) ratios and loan loss provision (LLP) ratios are used to validate the actual credit performance of banks, providing a more comprehensive view of CRM effectiveness.

4.4.1 Correlation between Variables

To analyze the relationship between the practice of risk management techniques and effectiveness of credit risk management in the banking sector of Ethiopia, Pearson's correlation data analysis method was performed. The correlation was computed based on the assumption of 95% confidence interval and it was calculated using SPSS version 26.0. The interpretation of correlation results was made by using the guidelines of Kothari (2008). According to the guidelines of Kothari (2008), the magnitude of relationship is determined as very low if the correlation coefficient (r) is below 0.20; low if the correlation coefficient is in the interval (0.20-0.39), moderate or medium if the correlation coefficient belongs to the interval (0.40-0.59), high if the correlation coefficient is under (0.60-0.79) and very high or strong relationship if the correlation coefficient is 0.8 or above.

Table 12: Strength of Correlation

No.	Correlation coefficients	Magnitude of relationship
1	Below 0.20	Very low
2	0.20-0.39	Low
3	0.40-0.59	Medium
4	0.60-0.79	High
5	0.80-1.0	Very high or large

The correlation between specified variables is described using the correlation matrix shown below.

Table 13: Correlation between Variables

Variables	Correlation coefficients	Risk identification	Risk measurement	Risk mitigation	Risk monitoring	Credit risk management effectiveness
Risk identification	Pearson Correlation	1	.595**	.518**	.544**	.628**
	Sig. (2-tailed)		.000	.000	.000	.000
	N	156	156	156	156	156
Risk measurement	Pearson Correlation	.595**	1	.654**	.691**	.746**
	Sig. (2-tailed)	.000		.000	.000	.000
	N	156	156	156	156	156

Risk mitigation	Pearson Correlation	.518**	.654**	1	.611**	.695**
	Sig. (2-tailed)	.000	.000		.000	.000
	N	156	156	156	156	156
Risk monitoring	Pearson Correlation	.544**	.691**	.611**	1	.664**
	Sig. (2-tailed)	.000	.000	.000		.000
	N	156	156	156	156	156
Credit risk management effectiveness	Pearson Correlation	.628**	.746**	.695**	.664**	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	156	156	156	156	156

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

Source: Survey result, 2025

From the above table 13 the correlation coefficient between risk identification practice and effectiveness of credit risk management was $r = 0.628$, sig. (2-tailed) value = 0.000, $p < 0.01$. This value of correlation suggested that there is statistically significant and positive relationship between risk identification practices and credit risk management performance ($p < 0.01$). The magnitude of relationship was high level. This result revealed that when Ethiopian commercial banks practice credit risk identification tools, they can manage credit related risks effectively.

As presented at table 13, the correlation coefficient between risk measurement and credit risk management effectiveness of banks was 0.746, sig. value = 0.000, $p < 0.01$. This value suggested that risk measurement and analysis techniques are significantly and positively correlated with credit risk management performance in private commercial banks of Ethiopia ($p < 0.01$). The magnitude of relationship between variables was high level. This correlation value suggested that when the practice of measuring and analyzing the identified risks is increased, the effectiveness of credit risk management of commercial banks also improved.

The result shown at table 13 revealed that the correlation coefficient between risk mitigation tools and effectiveness of credit risk management in the banking sector was $r = 0.695$, sig. (2-tailed) value = 0.000, $p < 0.01$. This value of correlation suggested that there is statistically significant and positive association between risk mitigation practices and credit risk management performance ($p < 0.01$). The magnitude of association between variables was high level.

Furthermore, as displayed at table 13, the correlation coefficient between credit monitoring and credit risk management performance in Ethiopian banking sector was 0.664, sig. value = 0.000,

$p < 0.01$. This correlation value suggested that risk mitigation techniques are significantly and positively correlated with credit risk management effectiveness ($p < 0.01$). The magnitude of relationship between variables was also high level. Such correlation values informed that the practice of risk monitoring and reporting techniques can significantly enhance the effectiveness of credit risk management tasks in Ethiopian commercial banks.

4.4.2 Regression Analysis

The analysis of multiple linear regressions was performed to examine the effect of risk management techniques (risk identification, risk measurement, risk mitigation and risk monitoring) on the effectiveness of credit risk management in the case of private commercial banks in Ethiopia. The major advantage of multiple linear regression analysis is to evaluate individual contributions or combined effect of risk management tools on the credit risk management performance of banks.

4.4.2.1 Regression Assumption or Diagnosis Tests

It is a common activity to check regression assumptions (diagnostic tests) before performing multiple linear regressions analysis. Some of regression diagnosis tests are normality distribution of data, multicollinearity of variables, linearity of variables and homoscedasticity assumption tests as discussed below.

4.4.2.1.1 Normality Assumption Tests

Normality assumption shows that residually should be normally distributed. The normal distribution of data can be tested by using either graphical method such as histogram and straight lines plots, or by using statistical methods using skewness and kurtosis values of variables. Normal distribution of scores can be described by symmetrical curve which has the greatest frequency of scores lie in the center (middle) of the curve (Tabachinka & Fidel, 2007). According to Creswell (2012), a research data is said to be normally distributed when standardized statistics of skewness and kurtosis lies within the range ± 2 or $(-2, 2)$. For this study, statistical methods (skewness and Kurtosis) and graphical methods (histogram) were used to test normality of data.

Table 14: Normality test using Skewness and kurtosis values

Variables	N	Mean	Std. deviation	Skewness		Kurtosis	
				Statistics	Std. Errors	Statistics	Std. Errors
Risk identification	156	4.266	.57965	-.843	.194	.438	.386
Risk measurement	156	4.150	.49369	-.302	.194	-.482	.386
Risk mitigation	156	3.876	.60292	-.474	.194	.040	.386
Risk monitoring	156	4.132	.58625	-.325	.194	-.798	.386
Credit risk management	156	4.298	.53921	-.657	.194	.521	.386

Source: survey results, 2025

As shown at table 14, all the Skewness and Kurtosis values for each variable are belonged within the required normality assumption interval (-2, 2). Thus, the data collected for this research met the requirement of normally distribution.

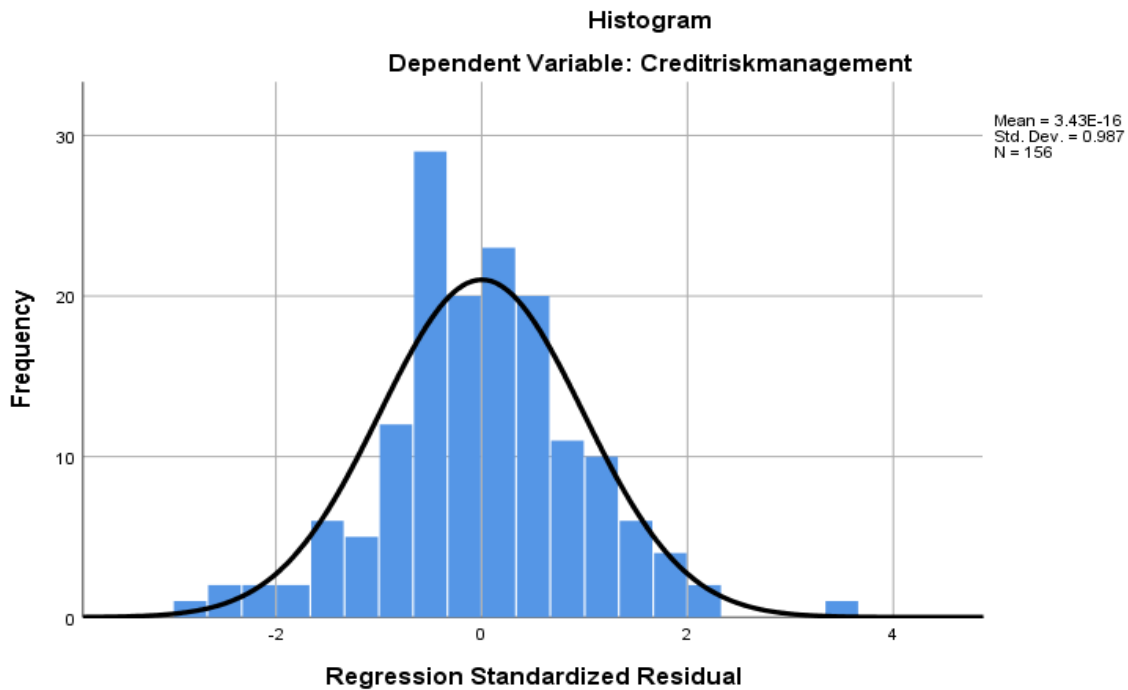


Figure 7: Normality test using histogram

The histogram shown at figure 7 shows that majority of the data points are located in the middle (center) of the histogram. The histogram suggests that the data is approximately normally

distributed (no more deviations were observed) and it supported statistical methods of normality test.

4.4.2.1.2 Multicollinearity Assumption Test

Multicollinearity assumption suggested that the existing correlation between each independent variable should not be too high. According to Tabachnick & Fidell (2007), if the correlation between independent variables is too high ($r \geq 0.8$), it is better to omit one of the independent variables. In this study, multi-collinearity among risk management techniques was checked using VIF (variance inflation factor) and Tolerance values (Tabachnick & Fidell, 2007). Tabachnick and Fidell (2007) suggested that multicollinearity assumption is not violated if Tolerance value greater than 0.1 or VIF value is less than 5. The multi-collinearity diagnosis test using tolerance and VIF values were provided below.

Table 15: Multicollinearity test Using Tolerance and VIF values

No.	Independent Variables	Tolerance	VIF
1	Risk identification	.597	1.674
2	Risk measurement	.403	2.484
3	Risk mitigation	.511	1.956
4	Risk monitoring	.463	2.158

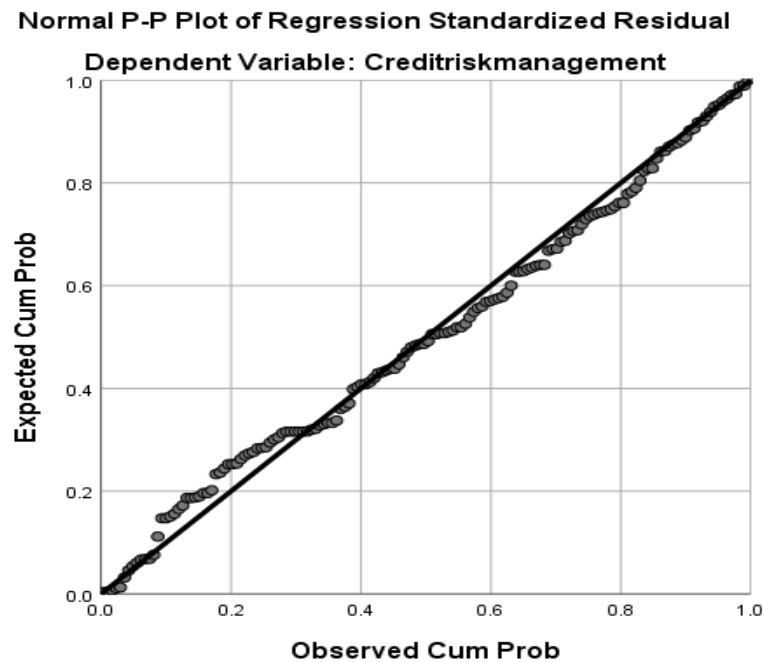
Sourec: Survey output, 2025

At presented at table 15, all tolerance values of variables were above 0.1 and all VIF values were less than 5. Therefore, the correlation among variables is low and multicollinearity problem did not exist. This test revealed that the assumption of multicollinearity is not violated and all variables are retained (accepted) in the model estimation.

4.4.2.1.3 Linearity Assumption Test

The linearity assumption of multiple regression shows that independent variables (predictors) in regression have straight (linear) relationships with the dependent variable (outcome variable).

For linear relationship between variable, the points in p-p plots roughly fall along a straight diagonal line.



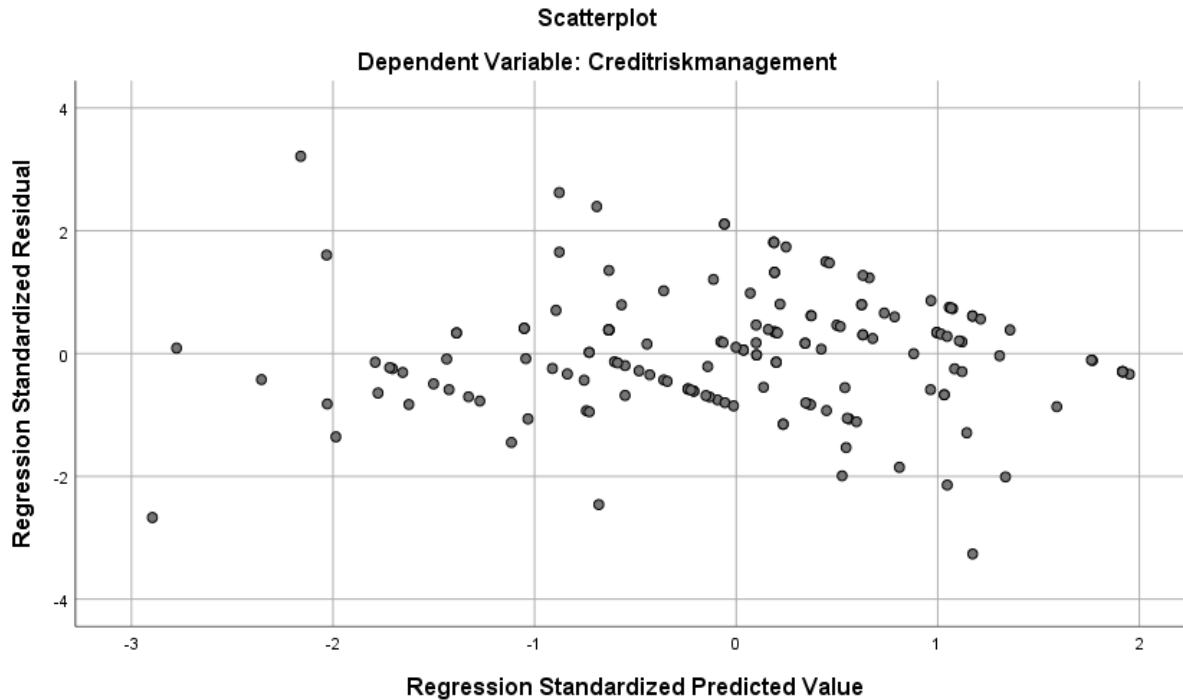
Source: survey output, 2025

Figure 8: Linearity Assumption Test

The points in the p-p plots are approximately fall along a straight diagonal line. Therefore, linearity assumption of multiple linear regressions is almost checked.

4.4.2.1.4 Homoscedasticity Test

The term homoscedasticity refers to whether residuals are equally distributed (constant variance of error term) or spread far apart. This assumption can be tested using scatter plots. In the scatter plots, the dots should not form a clear visible pattern (do not form regular pattern like cone or fan shaped patters). To test homoscedasticity of data (not heteroscedastic), the points in the scatter plot are expected to belong between -3 and 3. Graphically, the homoscedasticity assumption test was presented as follow.



Source: Own survey output, 2025

Figure 9: Homoscedasticity Assumption Test

The scatter plot of points at figure 9 shows that there is no clear pattern in the curve and the dots are distributed between -3 and 3, particularly it lies on (-3, 2). Therefore, there is no violation of homoscedasticity assumption test (not heteroscedastic). Thus, there is constant variance of error term or residuals.

4.4.2.2 Regression Model Summary

In this section of the paper, the contribution of each risk management techniques (risk identification, risk measurement, risk mitigation and risk monitoring tools) on the response variable (effectiveness of credit risk management in banks) is examined using multiple linear regressions analysis. The purpose of multiple linear regressions analysis is to decide which risk management practice significantly affects the performance of credit risk management in the case of Ethiopian private commercial banks.

Table 16: Regression model summary

Model	Sum of Squares	Df	Mean Square	R	R ²	F	Sig.
Regression	30.301	4	7.575	0.820	0.672	77.479	.000
Residuals	14.764	151	.098				
Total	45.065	155					

Source: survey output, 2025

Predictors: risk identification, risk measurement, risk mitigation and risk monitoring

Dependent variable: Credit risk management effectiveness

From table 16 of regression model summary, $F(4, 151) = 77.479$, sig. value = 0.000 ($p < 0.01$) describes that the combination of risk management techniques (risk identification, risk measurement, risk mitigation and risk monitoring practice) significantly predict the effectiveness of credit risk management process in Ethiopian banking sector. As displayed at table 16, the correlation coefficient (R) value 0.820, $R^2 = 0.672$ ($R^2 \times 100 = 67.2\%$) explained that the combination of this risk management policy together contributed about 67.2% credit risk management effectiveness in private commercial banks in Ethiopia.

Table 17: Regression Coefficients

Model	Unstandardized Coefficients		Standardized Coefficient	T	Sig.
	B	Std. Error	Beta		
(Constant)	.425	.227		1.875	.063
Risk identification	.185	.056	.199	3.306	.001
Risk measurement	.375	.080	.343	4.676	.000
Risk mitigation	.247	.058	.276	4.239	.000
Risk monitoring	.138	.063	.150	2.188	.030

Source: survey output, 2025

The Standardized Beta value of the regression result indicates the individual effect of risk identification, risk measurement, risk mitigation and risk monitoring policy on the effectiveness of credit risk management process. Thus, by comparing Standardized Beta values, the result shows that the significant contributor to the performance of credit risk management operation in Ethiopian banking sector were risk identification policy (Beta = 0.199, $p < 0.01$), risk

measurement and analysis policy (Beta = 0.343, $p < 0.01$), risk mitigation policy (Beta = 0.276, $p < 0.01$), and risk monitoring and reporting policy (Beta = 0.150, $p < 0.05$).

The analysis of data revealed that all risk management policies were statistically significant contributors to the effectiveness of credit risk management in Ethiopian commercial banks. The regression model analysis can be predicted as follow:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$$

Where: Y is credit risk management effectiveness

β_0 is the regression constant term;

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$ are the coefficients of independent variables;

X_1 = Risk identification; X_2 = Risk measurement and analysis; X_3 = Risk mitigation; and; X_4 = Risk monitoring and reporting

That is, by using Unstandardized Coefficients (B values), the model becomes

$$Y = 0.425 + 0.185X_1 + 0.375X_2 + 0.247X_3 + 0.138X_4$$

$$Y = 0.425 + 0.185 * \text{Risk Identification} + 0.375 * \text{Risk Measurement} + 0.247 * \text{Risk Mitigation} + 0.138 * \text{Risk Monitoring}$$

Overall, the risk management tools used by Ethiopian commercial banks were significantly contributed for the effective credit risk management performance. But, among the risk management practices considered in this study, the dominant significant contributor for the effectiveness of credit risk management in the banking sector is risk measurement and analysis technique.

4.4.3 Analysis of Non-Performing Loans (NPLs) of Banks

In addition to primary data, secondary data were collected from Annual reports of some selected private commercial banks in Ethiopia. The secondary data were gathered using document analysis methods and it supports results of primary data. Credit risk management of banks can be checked using various methods. One of the ways to identify credit risk level of banks is Non-Performing Loan (NPL) ratio. Non-Performing Loan (NPL) refers to loans that are not repaid for more than three consecutive months or 90 days. Lowest NPLs ratio shows borrowers are with no risk or lowest credit risk and they are payable of their credits. On the other hand, highest NPLs ratio revealed high credit risk rate indicating borrowers have little or no likelihood of repayment for credits. According to IMF (2020), the maximum credit risk level of banks is above 5%. The

NBE (2023) illustrated that, the average credit risk level of Ethiopian banks as measured by NPL ratio was 3.9% in 2022 and it was 3.6% as of 2023, which is under the category of moderate credit risk level. This data shows that there is improvement in credit risk management of banks in Ethiopia.

The NPL is a key metric used to assess the quality of a bank's loan portfolio. NPL ratio is a key financial metric used by banks, regulators, and investors to assess the health of a bank's loan portfolio. It indicates the proportion of loans that are not being repaid as agreed, which can signal credit risk and potential financial instability. Non-performing loans ratio is calculated by considering total non-performing loans to the total outstanding loans. The ratio of NPLs is determined using the formula provided below:

$$\text{NPL Ratio} = \left(\frac{\text{Total Non-performing loans}}{\text{Total outstanding loans}} \right) \times 100$$

The general banking practices and regulatory guidelines of IMF (2020) and NBE (2020) provided non-performing loans ratio as a measure of credit risk level of banks as follow. The NPL ratio of Goh Betoch bank was not computed since it is not reported.

Table 18: Credit risk category using non-performing loans ratio

No.	Risk measurement	Credit risk level	Interpretation
1	NPL ratio less than 5%	Low risk	Indicates a healthy loan portfolio with minimal credit risk.
2	NPL ratio 5%- 10%	Moderate risk	Suggests rising stress in the loan book; may require closer monitoring.
3	NPL ratio greater than 10%	High risk	Shows significant credit problems and may necessitate regulatory intervention.

Source: IMF (2020); NBE (2020)

Using the above NPL ratio formula and the classification of credit risk level, the NPL ratio of the five selected private commercial banks is given below.

Table 19: Analysis of non-performing loans of Banks

Bank	Measurement	2019/20	2020/21	2021/22	2022/23	2023/24
Awash	Total outstanding Loans (in Millions)	57,274,280	87,539,286	129,244,185	161,952,420	183,515,655
	NPL (in thousands)	999,792	1,640,271	2,440,263	1,807,237	2,811,767
	NPL ratio	1.75%	1.87%	1.89%	1.12%	1.53%
CBO	Total outstanding Loans (in Millions)	31,936,531	54,581,394	83,986,035	102,073,071	100,016,045
	NPL (in thousands)	1,083, 717	1,211,007	1,703,685	3,406,214	8,772,417
	NPL ratio	3.39%	2.65%	2.03%	3.34%	8.77%
Oromia Int'l Bank	Total outstanding Loans (in Millions)	17,394,205	25,755,755	32,183,058	37,590,569	43,660,725
	NPL (in thousands)	755,435	642,984	635,948	700,972	986,992
	NPL ratio	4.34%	2.50%	2.00%	1.87%	2.26%
Wegagen Bank	Total outstanding Loans (in Millions)	23,421,762	27,639,247	30,273,057	41,223,277	45,223,277
	NPL (in thousands)	1,273,943	2,954,396	3,249,716	2,966,904	2,650,049
	NPL ratio	5.44%	10.67%	10.74%	7.19%	5.87%
Average	Average of NPL ratios per year	3.73%	4.42%	4.16%	3.38%	4.61%

Source: Annual Report of Banks and NPL ratio computation

The document analysis presented at table 19 indicated that the percentage of NPL ratio for Awash bank in the last five years is below 2%. That is, Awash bank has shown lowest credit risk level and it indicates a healthy loan portfolio with minimal credit risk. Overall, the credit risk level of Awash bank is under low category. Similarly, the percentage of NPL ratio for Oromia International Bank ranges from 1.87% to 4.34% and it is below 5%. This NPL ratio suggested that Oromia International Bank has low credit risk level and moderate level non-performance level.

On the other hand, the percentage of NPL ratio for Cooperative bank of Oromia is 2.03%-8.77%. The NPL ratios indicated that the credit risk level of Cooperative bank of Oromia is medium. In Wegagen Bank NPL ratio ranges 5.44%-10.74%. In some years, the NPLs ratios are above 10%

and such NPL ratios indicated that the credit risk level is high in Wegagen Bank. The percentage of NPL ratios revealed that Wegagen Bank is categorized under moderate to high credit risk level.

In comparison, relatively Awash bank and Oromia bank respectively are categorized under low credit risk level. That is, the two banks have better credit risk management level and they are managing loans effectively. However, Cooperative bank of Oromia and Wegagen bank are found under medium credit risk level and need to monitor their loans.

By considering the average NPL ratio of the five consecutive budget years of banks, from 2019/20 to 2023/24 the NPL ratio ranges from 3.38% to 4.61%. That is, overall, the average credit risk level of commercial banks in Ethiopia is low level.

4.4.4 Analysis of Loans Loss Provision (LLPs) of Banks

Loan Loss Provision (LLP) coverage ratio is the other indicator of credit risk management of banks. The loan loss provision (LLP) coverage ratio is a critical metric used by banks, investors, and regulators to assess a bank's financial resilience and credit risk management. According to NBE (2018), provisions of loan losses account mean a balance sheet valuation account established through charges to provisions expense in the income statement in respect of possible losses in the loans or advances portfolio. That is, loan loss provision is the amount of money a bank reserves to cover potential losses from loans that may default or become non-performing. Loan loss provision is used to cover different kinds of loan losses such as non-performing loans, customer bankruptcy, and renegotiated loans that incur lower than previously estimated payments (NBE, 2018).

loan provision (LLP) coverage ratio is calculated as the ratio of total loan loss provision to total non-performing loans multiplied by 100. That is,

$$\text{Loan loss provision (LLP) coverage ratio} = \left(\frac{\text{Total Loan loss provision}}{\text{Total Non-performing loans}} \right) \times 100$$

Credit risk level of loans can be classified into categories like standard, sub-standard, doubtful or loss assets (NBE, 2018). A higher ratio of LLP suggests better protection against credit losses. The credit risk category of banks using loan loss provisions or coverage ratio (LLP) is given below.

Table 20: Credit risk category using loan loss provision ratio

No.	Risk measurement	Credit risk level	Source
1	LLP ratio greater than or equal to 100%	Low credit risk	Provisions cover > 100% of NPLs (Provisions equal or exceed NPLs)
2	LLP ratio of 70% -99%	Moderate credit risk	Provisions cover 50%-100% of NPLs
3	LLP ratio less than 70%	High credit risk	Provisions cover only< 70% of NPLs (Potential under provisioning)

Source: IMF (2020); NBE (2020)

In this study, the LLP ratio of five selected commercial banks was calculated to measure the effectiveness of credit risk management of banks. At Goh Betoch bank, provisions existed, but no loans were reported as non-performing. Therefore, LLP ratio was not computed for Goh Betoch bank. Since Goh Betoch Bank, which was part of the sample selected and formally opened for business in 2021, it is a specialized bank that primarily originates mortgage loans for the purchase, construction, expansion, and renovation of residential homes as well as the ability to control a large position with a small amount of capital. In accordance with asset classification and regulatory directives of NBE, the Bank measures loss allowances at an amount equal to lifetime ECL (Expected Credit Loss) without taking non-performing loans into account in order to mitigate associated credit risk. According to the annual report's secondary data evaluation, the loss provision is as follows:

Table 21.: Analysis of loan loss provision of Goh Betoch Bank.

Bank	Measurement	2021/22	2022/23	2023/24
Goh Betoch Bank	Total Loan Loss Provision (in thousands)	15	6,936	25,745
	Total NPL (in thousands)	00.00	00.00	00.00
	Percentage of LLP coverage	There were provisions, but no loans were listed as non-performing.	There were provisions, but no loans were listed as non-performing.	There were provisions, but no loans were listed as non-performing.

From table was shown that, we can see Goh Betoeh Bank under the componets of risk measurement and analysis and risk moniroring and reporting proces, it controls the Expected credit risk.

Table 22: Analysis of loan loss provision of Banks

Bank	Measurement	2019/20	2020/21	2021/22	2022/23	2023/24
Awash Bank	Total Loan Loss Provision (in Millions)	993,925	1,506,161	2,349,500	2,582,034	2,191,599
	Total NPL (in Millions)	999,792	1,640,271	2,440,263	1,807,237	2,811,767
	LLP coverage ratio	99.41%	91.82%	96.28%	142.87%	77.94%
CBO	Total Loan Loss Provision (in Millions)	820,336	903,138	1,269,177	1,998,909	3,111,456
	Total NPL (in Millions)	1,083,717	1,211,007	1,703,685	3,406,214	8,772,417
	LLP coverage ratio	75.70%	74.58%	74.50%	58.68%	35.46%
Oromia Bank	Total Loan Loss Provision (in Millions)	547,027	600,680	75,4557	891,360	804,396
	Total NPL (in Millions)	755,435	642,984	635,948	700,970	986,992
	LLP coverage ratio	72.41%	93.42%	118.65%	127.16%	81.50%
Wegagen Bank	Total Loan Loss Provision (in Millions)	456,310	1,254,425	1,361,846	1,626,885	1,876,223
	Total NPL (in Millions)	1,273,943	1,954,396	3,249,716	2,966,904	2,650,049
	LLP coverage ratio	35.82%	42.46%	41.91%	55.45%	70.80%
Average of LLP ratios		70.83%	75.57%	82.83%	96.04%	66.42%

The LLP ratio of banks was different from to bank. In Awash bank, the LLP ratio ranges from 77.94 to 142.87% indicating moderate to low level credit risk management. Similarly, in Oromia bank, LLP ratio ranges from 72.41% to 127.16%, which indicates low to moderate credit risk level. Relatively, Awash bank and Oromia bank have low level credit risk as compared with other banks. That is, the two banks have practiced effective credit risk management.

In CBO, the LLP ratio ranges from 35.4% to 75.70% for the last five years. This data shows that CBO is found under high risk level. Similarly, In Wegagen bank LLP ratio ranges from 35.82%

to 70.80%, which shows that the bank is found under high credit risk. From the above data it can be said that CBO and Wegagen bank shows high level credit risk and this implies that the effectiveness of credit risk management practices in the two banks is poor.

By considering the average LLP ratios of four banks within five years, the LLP ratio is between 66.42% and 96.04%. These mean scores are belonged to the category of moderate credit risk level (70% - 99%). Thus, it can be summarized the overall credit risk level of commercial banks is medium.

4.5 Discussion of Results

As shown in the previous sections, data were analyzed using various methods. The key findings of the study were discussed based on the objectives of the study with the integration of related empirical literatures reviewed in section two.

A) Risk management practices in the Banking sector

From descriptive analysis of data, the aggregate mean score revealed that risk identification (mean = 4.26), risk measurement and analysis (mean = 4.15), risk mitigation (mean = 3.87) and risk monitoring and reporting (mean = 4.13) were highly practiced bank credit risk management policies in commercial banks of Ethiopia. The result of the study indicated that the banks are focused on credit risk management policies by identifying risk sources, measuring and analysis of identified risks, mitigating risks, and monitoring and reporting risks.

A study of Singh (2021) on credit risk management practices in the case of Dashen Bank in Ethiopia concluded that Dashen bank uses suitable credit risk assessment techniques including risk identification, measuring, evaluating, loan follow-up, monitoring and controlling mechanism. The study of Tilahun (2022) of determinants of CRM effectiveness of private commercial banks in Ethiopian shows that risk understanding, risk assessment and analysis, risk monitoring system, and risk evaluation was practiced highly. However, risk identification system is moderately practiced (but higher risk identification in this study). The findings of this study are similar with Singh (2021) and Tilahun (2022).

B) Effectiveness of credit risk management in Ethiopian banks

In line with the effectiveness of credit risk management of banks, the grand mean score of credit risk management performance in private commercial bank (mean = 4.29) indicated that the effectiveness of credit risk management is very high. That is commercial banks are effectively

managing credit related risks by implementing credit risk management policies and techniques. The findings of Israel (2023) on credit risk management practices of Abay Bank concluded that credit risk policy and procedures, credit risk strategy and communication and practical loan processing and appraisal activities at the bank are effective.

Secondary data were collected from annual reports of banks. To decide credit risk level of banks, NPL and LLP ratios were computed. The percentage of NPL ratios revealed that some banks such as Cooperative bank of Oromia and Wegagen Bank are categorized under moderate to high credit risk level. But, credit risk level of Awash bank and Oromia bank is low level and these banks are managing loans effectively.

The aggregate mean of NPL ratios of the five banks from 2019/20 to 2023/24 indicated that the NPL ratio ranges from 3.38% to 4.61%. Overall, the average credit risk level of commercial banks in Ethiopia is low level. The report of NBE (2023) shows that the average NPL ratio of Ethiopian banks was 3.9% in 2022, and it was 3.6% in 2023. The current NPL ratio in the five selected banks considered under this study is closer to the report of NBE (2023).

On the other hand, the average LLP ratios of four banks within five years, the LLP ratio is between 66.42% and 96.04%. These mean scores are belonged to the category of moderate credit risk level (70% - 99%). Thus, it can be summarized the overall credit risk level of commercial banks is medium.

C) Risk Identification Practices

The descriptive statistics in Table 6 reveal that the mean score for risk identification practices across the sampled private commercial banks is above 4.0, which falls within the “high/agree” range. This indicates that respondents strongly agreed that their banks actively implement risk identification mechanisms such as financial statement analysis, credit referencing, audit and inspection, and internal communication. Such a result suggests that risk identification is not only widely practiced but also considered a priority in the credit risk management process of Ethiopian private banks.

This finding is significant because effective risk identification is the first step in mitigating potential loan defaults and ensuring the stability of banks’ loan portfolios. By proactively detecting potential risks before loan approval and throughout the credit lifecycle, banks reduce exposure to borrower defaults and improve their overall financial health. Hence, the result

directly addresses the first research question, which aimed to assess the adequacy of credit risk identification policies in mitigating borrower-related uncertainties.

When compared with existing literature, the result shows strong consistency. Kessey (2015) highlighted that effective risk identification is crucial for reducing non-performing loans by enabling banks to detect default risks at an early stage. Similarly, Singh (2021) emphasized the role of financial statement analysis and borrower background checks as key tools for identifying risk exposures, which aligns with the practices reported in this study. On the other hand, the result slightly differs from Israel (2023), who found that Abay Bank exhibited weaknesses in its monitoring and identification mechanisms, highlighting variation across institutions.

Overall, this study contributes to the existing literature by confirming that Ethiopian private banks have made considerable progress in strengthening their risk identification processes. Unlike earlier research that often examined single institutions, this study provides broader evidence from multiple private banks, showing that risk identification tools are consistently applied across the sector. This suggests that Ethiopian private banks are increasingly aligning their practices with the Basel framework, thereby enhancing the effectiveness of their credit risk management.

D) Risk Measurement and Analysis Practices

The results in Table 7 show that the mean score for risk measurement and analysis practices is also above 4.0, indicating that the majority of respondents agree their banks employ strong mechanisms for measuring and analyzing credit risks. These practices include borrower creditworthiness assessments, loan ratio analysis, and the evaluation of repayment capacity. This implies that Ethiopian private banks apply structured methods to quantify the likelihood and impact of borrower default, thereby enabling them to make informed credit decisions.

The importance of this finding lies in its role in addressing the second research question, which sought to examine the robustness of credit risk measurement and analysis techniques. Effective measurement and analysis not only enhance credit appraisal processes but also provide a scientific basis for credit approval, reducing reliance on intuition or experience alone.

These results correspond with the findings of Singh (2021), who asserted that risk measurement is a crucial step that combines both loss frequency and severity measures to anticipate potential credit failures. Similarly, Israel (2023) emphasized that credit scoring systems and internal rating mechanisms improve the accuracy of loan evaluations. However, unlike Tilahun (2022), who

reported that monitoring systems were weak in Ethiopian banks, the present study demonstrates that measurement and analysis techniques are relatively robust.

This research contributes to the body of knowledge by highlighting that Ethiopian private banks are systematically applying risk measurement and analysis practices across different institutions, thus moving toward international best practices as suggested by the Basel Committee. This strengthens their capacity to manage portfolio risks more effectively and enhances institutional resilience against credit shocks.

E) Risk Mitigation Practices

Table 8 illustrates that respondents reported a mean score of above 4.0 for risk mitigation practices, reflecting agreement that banks implement effective strategies such as collateral requirements, diversification of loan portfolios, and structured repayment schedules. These practices show that banks attempt to minimize the adverse effects of borrower default by reducing their exposure to concentrated or high-risk loans.

This result is important as it addresses the third research question, which focused on evaluating the effectiveness of risk mitigation mechanisms in reducing non-performing loans. Strong mitigation practices are vital to safeguarding bank assets and ensuring that even if defaults occur, the financial losses are minimized.

The findings are in line with Kessey (2015), who emphasized that collateralization and loan restructuring are central to minimizing credit losses in commercial banks. Achou and Tenguh (2018) similarly found that effective risk mitigation correlates with improved bank performance and reduced loan losses. However, this study provides a more comprehensive perspective than Israel (2023), who found gaps in monitoring but gave less emphasis to mitigation strategies.

The contribution of this study lies in demonstrating that Ethiopian private banks are not only adopting traditional mitigation tools like collateral but also complementing them with modern practices such as loan portfolio diversification. This integrated approach ensures that their mitigation strategies are effective in both reducing default risk and enhancing institutional performance, thereby aligning with Basel principles.

F) Risk Monitoring and Reporting Practices

The descriptive statistics in Table 9 indicate that the mean score for risk monitoring and reporting is slightly lower than other CRM dimensions but still within the “high/agree” range. This implies that while monitoring systems are in place, there are variations in how consistently

they are applied across different banks. Respondents noted that regular reporting, follow-up of loan performance, and early-warning mechanisms are part of their institutions' practices, but these processes may not be as rigorously enforced as risk identification or mitigation.

This finding is highly relevant because it addresses the fourth research question: how effectively do banks monitor and report credit risks to prevent deterioration in credit quality? Monitoring ensures that banks can detect early signs of loan default and take timely corrective action. Weakness in this area could undermine the overall effectiveness of credit risk management, even when other practices are strong.

The results align with the observations of Tilahun (2022), who found that monitoring systems were often underdeveloped in Ethiopian private banks, suggesting that while policies exist, practical enforcement lags behind. In contrast, Singh (2021) argued that strong monitoring and governance mechanisms are indispensable for maintaining credit portfolio quality. The present study confirms that Ethiopian banks are progressing in this area but still face challenges, particularly in standardizing monitoring practices across institutions.

This study adds to the literature by offering a multi-bank perspective, showing that while Ethiopian private banks have improved in monitoring and reporting compared to earlier findings, there remains room for further strengthening. The contribution lies in highlighting monitoring as the relatively weaker link in CRM practices, thus providing actionable insights for policymakers and bank managers seeking to align Ethiopian practices with Basel standards.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

In this section, the main findings of the study were summarized and conclusions were drawn based on the research findings. Finally, based on the conclusion's recommendations were suggested by the researcher for the concerned bodies.

5.1 Summary of Basic Findings

The study was conducted to evaluate the effectiveness of credit risk management (CRM) practices in Ethiopian private commercial banks with a focus on four major components: risk identification, risk measurement and analysis, risk mitigation, and risk monitoring and reporting. Both primary data (collected through questionnaires) and secondary data (including non-performing loan ratios and loan loss provision ratios) were used to triangulate the findings and ensure validity.

The results revealed that banks under the study have well-structured policies and procedures for risk identification. Tools such as financial statement analysis, collateral assessment, and credit referencing were frequently used. However, it was also observed that in many cases, risk identification was reactive rather than proactive, which limited banks' ability to detect potential problem loans at an early stage.

Risk measurement and analysis practices were found to be in place, mainly relying on traditional approaches such as repayment capacity analysis, financial ratios, and loan portfolio assessment. Nevertheless, the use of advanced statistical models and credit risk scoring systems was limited, thereby constraining predictive accuracy and comprehensive evaluation of borrower creditworthiness.

Regarding risk mitigation, private banks employed several mechanisms including collateral requirements, credit diversification, loan restructuring, and credit limits. These measures were effective to some extent in reducing credit defaults. However, the study highlighted gaps in enforcement, as well as limited adaptation of innovative instruments such as credit insurance and derivatives, which are increasingly common in international banking practice.

Risk monitoring and reporting systems were found to be operational, but not sufficiently robust. Many banks had periodic reporting frameworks; however, the reports often lacked timeliness and

integration, which reduced their usefulness for real-time decision-making. Moreover, gaps in internal communication hindered the flow of critical information across departments.

Overall, the findings indicate that Ethiopian private commercial banks have established the basic structures of credit risk management and have achieved moderate effectiveness. However, the lack of proactive identification tools, advanced measurement techniques, innovative mitigation strategies, and integrated monitoring systems continues to undermine the full effectiveness of their CRM practices.

5.2 Conclusions

Based on the findings, the study concludes that the credit risk management practices in Ethiopian private commercial banks are moderately effective but require significant improvement to align with international best practices.

Firstly, although risk identification frameworks are in place, they remain more reactive than preventive. This gap increases the likelihood that risks are only detected once they have already materialized, thereby limiting the ability of banks to prevent loan defaults.

Secondly, risk measurement and analysis practices rely heavily on conventional approaches, which, while useful, are insufficient in today's complex and dynamic financial environment. The limited use of advanced predictive tools weakens the accuracy of credit risk assessments and exposes banks to unforeseen losses.

Thirdly, risk mitigation mechanisms such as collateral enforcement and loan diversification are applied by most banks. However, the absence of innovative mitigation strategies like risk-sharing mechanisms and credit insurance shows that banks have yet to modernize their mitigation tools in line with global standards.

Fourthly, while monitoring and reporting systems exist, they are not fully integrated or real-time. This reduces the efficiency of managerial decision-making and weakens the overall governance of credit risk. Delayed and fragmented reporting limits the banks' capacity to intervene promptly in cases of emerging loan defaults.

In general, although private commercial banks in Ethiopia demonstrate awareness of credit risk and implement various risk management practices, their effectiveness is constrained by methodological, technological, and structural gaps. To ensure sustainable financial performance, there is a pressing need for Ethiopian banks to modernize and continuously improve their CRM practices in line with Basel guidelines and international benchmarks.

5.3 Recommendations

In light of the conclusions drawn, the study proposes the following recommendations aimed at strengthening the effectiveness of credit risk management practices in Ethiopian private commercial banks:

1. Enhance Risk Identification Systems:

Banks should strengthen early warning systems and adopt more advanced risk identification tools. Predictive analytics, stress testing, and scenario analysis should be integrated into risk assessment processes to enable banks to detect potential problem loans before they materialize. This will help shift risk management from a reactive to a proactive approach.

2. Improve Risk Measurement and Analysis:

While traditional financial ratio analysis is useful, it should be complemented with modern credit scoring models, probability-of-default estimates, and portfolio stress-testing techniques. Banks should invest in analytical software and data science capabilities that enhance the accuracy of credit assessments and allow for better forecasting of potential borrower defaults.

3. Strengthen Risk Mitigation Strategies:

Beyond collateral enforcement and loan diversification, banks should adopt innovative mitigation measures. This includes using credit derivatives, risk-sharing arrangements, and credit insurance mechanisms that are widely employed in international banking. By diversifying risk-mitigation tools, banks can reduce overreliance on collateral and minimize exposure to default risks.

4. Develop Robust Monitoring and Reporting Systems:

Banks should establish integrated, real-time monitoring and reporting platforms that allow credit risk information to be communicated across all levels of management. Automation and digital dashboards can enhance accuracy and timeliness of reports, thereby enabling management to take swift corrective measures. A stronger emphasis on risk governance structures will further enhance accountability and oversight.

5. Capacity Building and Training:

Continuous professional development is crucial for ensuring the effectiveness of credit risk management. Banks should invest in regular training programs for credit officers, risk managers, and top executives, focusing on modern CRM techniques, Basel guidelines, and

international best practices. A more knowledgeable workforce will be better equipped to implement effective risk management strategies.

6. Policy and Regulatory Support:

The National Bank of Ethiopia (NBE) should strengthen its regulatory framework by enforcing minimum standards for CRM practices. Standardization of risk assessment tools and reporting formats across banks will enhance comparability, consistency, and transparency. Furthermore, closer supervision and periodic evaluation of banks' CRM practices will encourage compliance and continuous improvement.

By implementing these recommendations, Ethiopian private commercial banks will not only improve the effectiveness of their credit risk management practices but also enhance their overall financial stability, profitability, and resilience in an increasingly competitive and uncertain banking environment.

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APPENDIX
ADDIS ABABA UNIVERSITY
DEPARTMENT OF ACCOUNTING AND FINANCE
SURVEY QUESTIONNAIRE

Dear Respondents:

My name is Yitbarek Esubalew and I am a student in Addis Ababa University. I am doing a research for the partial fulfillment of Master's Degree in Accounting and Finance. This questionnaire wishes to analyze and evaluate the effectiveness of credit risk management practices in Ethiopian private banks. This survey is conducted only for academic purpose. Responses to this questionnaire will be kept firmly confidential. The findings of this study will aware private commercial Bank to understand how banks evaluate credit risk management for effective financial performance. The success of this study is determined by your genuine response and therefore you are kindly requested to give your exact responses. Thus, you are kindly requested to spare 20 minutes from your precious time to complete this questionnaire.

Thank you for your cooperation.

Researcher Contact Information:

YitebarekEsubalew

Phone: - +251926757328

Directions:

- ✓ No need of writing your name.
- ✓ Put (✓) mark on the space provided or encircles the choice containing your agreement answer

Part 1: - Background Information of Respondent

1. **Gender:** -----
2. **Age:** -----
3. **What is your educational qualification level?**
(A) Diploma/TVET B) Bachelor's Degree (C) Master's Degree and above (D) Other (specify): _____

4. The name of bank you are working in: -----

5. How long you have been working in the banking sectors?

A) Below 5-year B) 5-10 years C) 11-15 years D) more than 15 years

Part 2: Credit risk management practices in private commercial banks

This part of the questionnaire includes questions related to credit risk management practices in the case of private banks in Ethiopia as measured using five-point liker scale (1= Strongly disagree, to 5= strongly agree). Choose your alternative and tick on the space provided using the following represented values. After you read each of the questions, show your agreement level by putting a tick mark (✓) under the choices below.

Strongly Disagree = 1, Disagree = 2, Average/Neutral = 3, Agree = 4, & Strongly Agree = 5

Credit risk management practice measurement						
No.	A. Risk Identification	1	2	3	4	5
1	The bank identifies and prioritizes its main credit risks.					
2	The bank registers the identified risk for further assessment.					
3	The bank involves different professionals to identify credit risk.					
4	The bank gives due consideration to formal brainstorming credit risk identification.					
5	The bank gives due attention to the quality of documents submitted by borrowers with respect to the business.					
	B. Risk measurement and analysis					
6	The bank develops action plans for implementing decisions and management plans for identified risks.					
7	The bank uses numerical measurement methods to analyze credit risks.					
8	The bank effectively assesses the likelihood of different risks occurring.					
9	The bank undertakes a credit worthiness analysis before executing transaction.					
10	The banks risk management process is well documented to provide guidance to staff about the management of risk.					
11	The bank has a computer-based support system to estimate/measure the earnings and risk management variability.					
	C. Risk mitigation					

12	The bank has its risk mitigation procedures adopted from credit policy and procedure in the bank.					
13	The bank has appropriate internal risk scoring system that distinguishes high and low risk areas.					
14	The Bank employs risk mitigation based scientific pricing.					
15	Adequate measures are put to mitigate non-performing loans in the bank.					
16	The bank offers sufficient training for employees and borrowers on credit risk mitigation methods.					
	D. Risk monitoring and reporting					
17	The level of risk control by the bank is appropriate for the risk that it faces.					
18	The bank strict follow-ups methods about repayment of the loan performer.					
19	The bank monitors the allocation of the loan to the intended purpose and its progress.					
20	The bank communicates the credit performers for further actions					
21	The borrower's business performance is regularly observed and reported by the bank following the extension of financing.					
22	The existing monitoring and reporting process in the Bank considers National bank of Ethiopia compliance issues.					

Source: Tilahun (2022)

Part 3: Credit risk management Effectiveness in private commercial banks

This section of the questionnaire provides questions related to credit risk management effectiveness in the case of private banks in Ethiopia as measured using five-point liker scale (1= Strongly disagree, to 5= strongly agree). Choose your alternative and tick on the space provided using the following represented values. After you read each of the questions, show your agreement level by putting a tick mark (✓) under the choices below.

Strongly Disagree = 1, Disagree = 2, Average/Neutral = 3, Agree = 4, & Strongly Agree = 5

Credit risk management effectiveness measurement						
No.	Credit risk management effectiveness	1	2	3	4	5
23	The bank's executive management regularly reviews the organization's performance in managing its credit risks.					
24	The bank has highly effective continuous review /feedback/ on credit risk management strategies and performance.					
25	The bank's credit risk management procedures provide guidance to staff about managing credit risks.					
26	The bank's policy encourages training programs in credit risk management effectively.					
27	An efficient credit risk management is one of the bank's objectives.					
28	Overall, credit risk management in the bank is effective.					

Source: Tilahun (2022)

29. What are the main challenges in the effectiveness of credit risk management practices in commercial banks? -----

30. What is your opinion on the overall effectiveness of credit risk management practices in commercial banks?

