EFFECT OF CREDIT MONITORING ACTIVITIES ON ASSET QUALITY: A CASE STUDY ON PRIVATE AND PUBLIC BANKS IN ETHIOPIA

MSc THESIS REPORT

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DECLARATION

I, **Dawit Beyene,** have carried out a research proposal on **"entitled** effect of credit monitoring activities on asset quality: a case study on private and public banks in Ethiopia**"** independently in partial fulfillment of the requirement of the Master of Science in Accounting and Finance with the guidance and support of the research advisor, Professor Raman Kumar

I also declared that this thesis is my original work and that all sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

Declared by:

_____	_____	_____
Name of the Designate	Signature	Date

ADVISOR APPROVAL SHEET

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This is to certify that the “effect of credit monitoring activities on asset quality: a case study on private and public banks in Ethiopia” the graduate program of the department of Accounting and finance and has been carried out by Dawit Beyene: ID NO GPAcFnW/ 0011/14 under my/our supervision

Therefore, I recommend that the student has fulfilled the requirement and hence here by can submit the dissertation to the department.

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Name of Department head	Signature	Date

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Acronym

Collinfo= Collateral information

CCSI= Customer credit information

BRI = Business Rating Information

CCD= Customer credit Default

AQ = Asset Quality

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Abstract

Credit monitoring activities play a crucial role in determining the asset quality of banks. Effective credit monitoring involves regularly assessing the creditworthiness of borrowers, analyzing their financial health, and evaluating potential risks associated with loans and investments. By actively monitoring credit, banks can identify and address any red flags or signs of non-performing or problematic loans at an early stage. This proactive approach allows banks to take appropriate measures to mitigate risks, such as restructuring or refinancing loans, resulting in improved asset quality. Moreover, credit monitoring activities enable banks to make informed decisions regarding credit extension, thereby ensuring that the loans offered are to creditworthy individuals or businesses, further enhancing the overall asset quality of the banks. This study examines the effect of credit monitoring activities on asset quality: a case study on private and public banks in Ethiopia. A response rate of 88.6% was achieved from respondent and both quantitative and qualitative data analysis tools were employed. The study concludes that the independent variables, namely collateral information, business ratings information, customer credit status information, and consumer default information, have a positive impact on asset quality in banks. Based on the study's findings, it is recommended that banks give more weightage to collateral information, business ratings information, customer credit status information, and consumer default information in their assessment of asset quality. By placing greater emphasis on these independent variables, banks can better identify and manage potential risks associated with loans and other credit facilities. It is imperative for banks to regularly update and upgrade their risk assessment models and systems to incorporate these variables effectively. Furthermore, banks should invest in technologies and data analytics tools that can provide accurate and real-time information on these variables, allowing for more informed lending decisions and ultimately improving their overall asset quality.

Keywords: credit monitoring, asset quality, collateral information, business ratings information, customer credit status, consumer default information.

CHAPTER ONE

1. INTRODUCTION

This chapter deals with background of the study, statement of the problem, research hypothesis, objectives of the study, significance of the study, delimitation of the study, operational definition of key terms and organization of the study. In the subsequent sections, each of the above stated components was discussed.

1.1 Background of the Study

The concern of finance is major issue in modern time all over the world. The need for financial institution is unquestionable. Banks are financial institutions that are established for lending, borrowing, issuing, exchanging, taking deposits, safeguarding or handling money under the laws and guidelines of a respective country. Among their activities, credit provision is the main product, which banks provide to potential business entrepreneurs as a main source of generating income. They also provide loans, credit and payment services such as checking accounts, money orders, and cashier's checks. Banks also may offer investment and insurance products and a wide whole range of other financial services (Salas and Saurina, 2016). Credit creation is the main income generating activity for the banks. But this activity involves huge risks to both the lender and the borrower. The risk of a trading partner not fulfilling his or her obligation as per the contract on due date or anytime thereafter can greatly jeopardize the smooth functioning of a bank's business. On the other hand, a bank with high credit risk has high bankruptcy risk that puts the depositors in jeopardy. Among the risk that face banks, credit risk is one of great concern to most bank authorities and banking regulators. This is because credit risk is that risk that can easily and most likely prompts bank failure (Conford, 2020).

Banks take into account many considerations as a factor of credit management, which helps them to minimize the risk of default that results in financial distress and bankruptcy. This is due to the reason that while banks providing credit they are exposed to risk of interest and principal repayment, which need to be managed effectively to acquire the required level of loan growth and performance. According to (Getachew, 2016). Credit Management is extremely important as granting credit is considered to be the equivalent of investing in a customer.

Credit monitoring is a credit operation regulation framework that dictates the relationship of the lending bank and the borrower regarding the terms of trade at the side of the bank and the borrower respectively. The terms of trade between the bank and the borrowers is regulated through the debt contract. The contract basically contains information about the magnitude of loan, purpose of the loan, interest rate applied on the loan, maturity of the loan, mode of repayment, type and value of collateral backing the loan, terms of contract amendment and renewal and mode of possible amicable resolutions of credit default case (Funda, 2013).

Credit analysis is the first step in the process to tailor-make solution to fit the customer's needs. The assessment starts with an understanding of the customer's needs and capacities to ensure there is a good fit in terms of the financing solution. Credit assessment is the most important safeguard to ensure the underlying quality of the credit being granted and is considered an essential element of credit risk management (Caurina, 2022). The credit quality generally refers to the borrower's ability and willingness to meet the commitments of the facility granted. It also includes default probability and anticipated recovery rate (Seppala, 2020). Credit assessment thus involves assessing the risks involved in financing and thereby anticipating the probability of default and recovery rate. A credit analysis is used by the credit official to evaluate a borrower's character, capital, capacity, collateral and the cyclical aspect of the economy (Se-Hark, 2022).

How long does it take business partners to pay their debts? Understanding the payment behavior of potential customers is vital in assessing credit management in every organization, since poor credit assessment can lead to major problems in financial planning, Alton and Hazen (2021) as cited in Emmanuel (2012). Heffeman (2016) stressed the importance of credit management as follows: Credit management process deserves special emphasis because proper credit management greatly influences the success or failure of financial institutions. In the last few years, both public and private sectors in the economy underwent encouraging development in investment and business activities, thus becoming the fertile ground for the banking industry (Hagos, 2015). Following the free market economy of the country, loans are becoming large and at the same time, bad loans have increased substantially during the past few years. This appears as a problem and should be of interest to every commercial banker, Sahilemicael (2019). The goal of Credit Risk Management is to maximize banks risk- adjusted rate of return by

maintaining credit risk exposure within acceptable parameters and thereby enhancing asset quality of bank. Banks need to manage the credit monitoring activity and asset quality of the banks so as to achieve the goals. Effective monitoring of credit is a critical component of a comprehensive approach to risk management and essential to the long-term success of any banking organization (Basle committee on banking supervision, 2014).

Hence, the credit monitoring is one of the major issues of banks that concern many stakeholders where better credit monitoring results in better bank asset quality. This research therefore, aims to assess effects of credit monitoring activities on asset quality in Ethiopian private and public banks.

1.2 Statement of the Problem

Credit risk resulting from asset quality issues often begins at the loan origination stage and is exacerbated throughout the approval, monitoring, and controlling stages when credit risk management guidelines are weak or inadequate (Ayuso and Saurina, 2020). Monitoring borrowers is crucial as exposure changes over time and with underlying variables. Effective credit monitoring ensures that good borrowers are accepted and bad borrowers are rejected or risks are mitigated. The objective is to minimize errors in credit decision-making and reduce non-performing loans to improve asset quality (Palubinskas and Stough, 2019).

Asset quality is crucial for a bank's financial health as it affects profitability and the likelihood of bank failures (Brownbridge 2018) Credit risk management is essential to control risks and maintain a healthy credit portfolio. Financial stability requires managing non-performing loans and loan loss provisions to support economic development (Beck, 2021). The success of credit management depends on credit policies, portfolio quality, and effective monitoring, supervision, and follow-up of loans (Rana-Al-Mosharrafa, 2013).

Research on credit monitoring and asset quality in Ethiopian banks is limited, with a focus on private banks and a lack of comparison between private and public banks. There is a need to assess credit monitoring activities and asset quality in both private and public banks to understand potential differences

and implications for risk management. Existing studies do not provide a comprehensive analysis of this issue, and recent literature gaps need to be addressed (Yihnaleam, 2015; Getachew, 2016; Nigussie, 2021)). Therefore, this study aims to fill this gap by examining the impact of credit monitoring activities on asset quality in private and public banks in Ethiopia.

Credit monitoring activities play a crucial role in maintaining the asset quality of banks. Proper monitoring helps banks identify potential risks associated with borrowers and their ability to repay loans. This includes tracking changes in the financial health of borrowers, regulatory compliance, and other factors that may impact their creditworthiness. By closely monitoring borrowers, banks can take proactive measures to address any emerging issues and minimize credit risks (Reed and Gill, 2019).

In addition to monitoring borrowers, banks must also focus on the overall quality of their loan portfolio. This involves assessing the creditworthiness of borrowers, diversifying the loan portfolio, and setting appropriate risk management policies. By maintaining a high-quality loan portfolio, banks can reduce the likelihood of non-performing loans and potential losses. This, in turn, contributes to the overall financial stability of the bank and helps build trust among stakeholders (Kehale, 2018).

The impact of credit monitoring activities on asset quality may vary between private and public banks in Ethiopia (Kehale, 2018). Private Banks may have different risk appetites and strategies compared to public banks, which can influence their approach to credit monitoring. By comparing the credit monitoring activities and asset quality of private and public banks, this study can provide valuable insights into the effectiveness of different risk management practices and their implications for the overall financial health of banks in Ethiopia.

The importance of credit monitoring activities in maintaining asset quality cannot be overstated. By conducting a comprehensive analysis of credit monitoring activities in private and public banks in Ethiopia, this study aims to provide valuable insights into the best practices for managing credit risks and improving asset quality. This research has the potential to inform policymakers, regulators, and industry practitioners on how to enhance credit risk management practices in the Ethiopian banking sector and ultimately contribute to the stability and growth of the financial system.

Despite the importance of credit monitoring activities in maintaining asset quality, there is a lack of comprehensive studies that compare the effectiveness of credit monitoring practices in private and public banks in Ethiopia. Existing literature predominantly focuses on private banks, with limited research on public banks, leading to a gap in understanding potential differences in credit risk management practices between the two types of banks. By addressing this research gap, this study aims to provide valuable insights into the impact of credit monitoring activities on asset quality across the banking sector in Ethiopia and contribute to the development of robust risk management strategies for both private and public banks.

1.3 Objectives of the Research

1.4.1 General objective

The main objective of the study was to examine the effect of credit monitoring activity on the asset quality of private and public commercial banks in Ethiopia.

1.3.2 Specific objectives

i) To determine the effect of collateral information on asset quality between private banks and public commercial banks in Ethiopia.

ii) To assess the effect of business ratings information on the asset quality between private banks and public commercial banks in Ethiopia.

iii) To examine the effect of customers credit status information on asset quality between private banks and public commercial banks in Ethiopia.

iv) To determine the effect of consumer default information details on asset quality between private banks and public commercial banks in Ethiopia.

1.4 Research Hypothesis

After reviewing empirical studies, the researcher developed the following tentative statements.

H1: Collateral Information has positive relationship with asset quality

H2: Business Ratings Information has positive relationship with asset quality

H3: Customer's Credit Status Information has positive relationship with asset quality

H4: Consumer Default Information has positive relationship with asset quality

1.5 Significance of the Research

This study that details the credit monitoring activity and asset quality in private and public banks in Ethiopia is beneficial for different stakeholders such as Banking sectors (private and public commercial Banks and National bank of Ethiopia), researcher and for other researchers as follows. For National bank of Ethiopia, since such investigation has policy implication, the finding of this study were used as a directive input in developing regulatory standards regarding the credit monitoring policies of private and public commercial banks of Ethiopia. In addition, this study would initiate the private and public bank management to give due emphasis on the credit monitoring activity and provides them with understanding of activities that will enhance their asset quality. This is due to the fact that knowing relationship between credit monitoring and asset quality would help the bank manager to concentrate on the quality of loan rather than its quantity. Thus, this study would make the management body to visualize the relation of credit monitoring and asset quality.

Furthermore, the finding of this study will initiate the researcher for further studies. Last but not least, this study serves as a reference for other researchers in related area. Thus, it can minimize the literature gap in the area of study particularly in Ethiopia.

1.6 Scope of the Research

The scope of the research paper is assessment and description of the relationship of credit monitoring activity and asset quality in private and public commercial Banks in Ethiopia. The study is limited to the private and public commercial banks that are registered under the regulation of the NBE. Further the

study is limited geographically to private and public commercial banks operating in Ethiopia. The methodology of the study was constrained to the descriptive and explanatory research design.

1.7 Limitation of the study

Limitations of this study include:

1. Limited access to secondary data: The study only relied on primary data due to the unavailability of adequate secondary data on asset quality and credit monitoring activities in the context of private and public banks in Ethiopia. This limitation may have restricted the depth and breadth of the analysis and comparison between the two types of banks.

2. Reliance on subjective perceptions: The use of questionnaires and interviews to gather data on credit monitoring activities and asset quality may lead to biases and subjective interpretations. The perceptions of participants may not always accurately reflect the actual practices and outcomes within the banks.

3. Small sample size: The study may have a limited generalizability due to the small sample size of participants from private and public banks in Ethiopia. A larger sample size could provide more representative data and a more comprehensive understanding of the relationship between credit monitoring activities and asset quality.

4. Lack of control for external variables: The study may not have accounted for all external variables that could influence asset quality in private and public banks, such as economic conditions, regulatory changes, and market competition. Failure to control for these variables may impact the reliability and validity of the findings.

5. Lack of longitudinal data: The study may not have considered the changes in credit monitoring activities and asset quality over time in private and public banks. Longitudinal data could provide insights into the trends and patterns of asset quality and credit monitoring activities and help in identifying causal relationships.

1.8 Organization of the paper

Chapter one of this study was form the basis of the research problem. It entails the following sections in order; background of the study, statement of the research problem, and research objectives. The chapter also presents the significance of the study and the scope of the study. The second chapter of this study was review all the relevant literature with reference to our study variables. The chapter also reviews the theories that anchored this study. All related empirical literature was reviewed and the research gaps was be mapped. The last section would provide a brief summary of the aspects reviewed throughout the study. The third chapter of this study would review the research methodology that will apply in solving the research problem. The research methodology is a blue print that guides the researcher in systematically solving the research problems. The research methodology guides the study in identifying the target population, the appropriate sample size for the study. The methodology further would guide the research in designing the data collection instruments, the data collection procedures were used, the data analysis method and the ethical considerations that were adhere to procedures that were used, the data analysis method and the ethical considerations that were adhere to in the course of this study. Chapter four deals with data presentation, analysis and discussion based on information obtained from primary data through questionnaire of the selected banks. The thesis was concluded by chapter five, which summarizes the main findings, draws conclusions and suggests recommendations regarding shortcomings and other issues that need remedies.

Chapter Two

Literature review

2. Introduction

Banking is a financial intermediary business engaged in dealing on others money. A financial intermediary is an institution that acts as an intermediary (for two parties with a specified inter-related demand) by matching the supply and demand of funds (Beck, 2021). It is presumed that banks are licensed to engage in rendering financial service with major responsibility of facilitating the saving and investment function within the economy or jurisdiction they are operating. (Heffernan, 2016) defined banks as intermediaries between depositors and borrowers in an economy which are distinguished from other types of financial firms by offering deposit and loan products. This perspective is meant for addressing the notion that banks are playing a vital role in linking the instrumental activities that enhance the improvement of an economy by extending financial assistance or service for those committed in creating production capacity through development of investment projects that require financial resources which is expected to be mobilized through accepting deposits from the public, both private and government entities. (Bloem ,2021) arguing that banks are special intermediaries because of their unique capacity to finance production by lending their own debt to agents willing to accept it and use it as money.

Commercial banks are the dominant financial institutions in most economies (Rose, 2017).The aggregate demand is the base for measuring the performance of an economy through evaluating the efficiency and effectiveness of the respective macro-economic policy which is the integrated result of the monetary policy and fiscal policy; both intended to enhance the GDP of an economy by improving the national production capacity through development of infrastructure that enable optimal utilization of the national resources by application of the available technologies; which is created by the physical resources, financial resources, human resources and expertise. It is inarguable that government is the ultimate

responsible organ that manages the economy to satisfy the aggregate demand through mobilization of the available capital inputs or resources; however all the resources necessary for the economy are not under its direct control .The government revenue base may not be adequate enough to produce the gross domestic product that matches the aggregate demand. Hence, involvement of the private sector is imperative to this effect. And, the fiscal policy by itself is not sufficient instrument to manage the economy so the monetary policy is a complementary and/or supplementary instrument that monitors the supply of money required for the economy to function properly; lubricating the economic function.

Grueining and Bratanovic (2013), argue that the commercial banks play a critical role, especially, to emerging economies where most borrowers have no access capital markets. Well-functioning commercial banks accelerate economic growth, while poorly functioning banks are an impediment to economic progress and aggravate poverty (Santomero in Richard (2017).This implies that commercial banks play instrumental role and facilitate the enhancement in efficiency and effectiveness of the macro-economic policy by mobilizing financial resources from the public at large and extend financial assistance in the form of loan to the different private sectors and government enterprises; active economic operators. Here, it is understood that banks accept deposits as products of investment opportunity for the public by offering relatively risk free returns and extend loan products for part of the public with well-designed investment projects or business ideas at a relatively higher return, the margin being premium for taking risks on public's money and value for intermediation transaction costs incurred because of its engagement.

Lending is not an easy task for banks because it creates a big problem which is called non-performing loans. Due to the nature of their business, commercial banks expose themselves to the risk of default from borrowers (Waweru and kalami, 2019).This is to imply that when commercial banks extend credit to borrowers in the form of investment loan to finance new projects and working capital to finance the operational expenditures and revenue expenditures of an already established businesses, there is no pre-defined guarantee that the projects and the businesses will perform as expected; except in cases where there is established credit guarantee scheme arranged by matching grant guarantee funds like USAID guarantee and IFC guarantee.

According to Alton and Hanzen (2021) non-performing loans are those loans which are ninety days or more past due or no longer accruing interest. Bank credits can be extended either in the form of term loan or open credits. In the case of term loans, a fixed sum of money is advanced for a fixed period of time with arrangement of repaying the amount with instalments within the loan period on a monthly, bi-monthly, quarterly, semi-annually, annually or lump sum mode of payment. For instance, if Birr X is advanced to a borrower where the sum is expected to be repaid over a period of one year with equal monthly instalments of Birr Y including interest the monthly instalment should be effected without failure when due. If the borrower fails to effect the instalment when due and if this amount remains outstanding in arrear for more than ninety days, the whole outstanding loan balance turns out to be non-performing loan. On the other hand, when open credit are fully utilized to the extent of the pre-established limit or the utilized limit is expired wherein interest no longer accrues for the credit line being more than ninety days past due, the outstanding balance will turn out to be non-performing loan(NBE directive NO SBB/43/2018).

In connection, (Hennie 2014) agrees arguing that non-performing loans are those loans which are not generating income in the sense that cash from financing activities is not supporting operating activities and investment activities as it is expected to be.

Meaning, the fund generated from borrowing is not efficiently and effectively applied to enhance the financing activities for redemption of debts, investment activities for buying of more productive assets and operating activities for enhancement of working capital and revenue. This is further supported by (Fofack 2015),who defined non-performing loans as those loans which for a relatively long period of time do not generate income, the principal and or interest on these loans have been left unpaid for at least ninety days. Non-performing loans are also commonly described as loans in arrears for at least ninety days; they are loans that are ninety days or more days delinquent in payment of interest and/or principal.

As banking is a highly leveraged financial intermediation service and the credit service makes up the majority of the business function, optimizing financial stability and profitability of banks is imperative to ensure sustainability of the business. In so doing, monitoring the credit function for the asset quality of banks to be maintained is important.

The literature review in this paper addresses the theoretical considerations and related empirical evidences on credit monitoring and asset quality, factors that affect asset quality and ways of improving credit monitoring on banks.

2.1. Theoretical considerations

2.1.1. Credit monitoring and asset quality

Credit monitoring is a credit operation regulation framework that dictates the relationship of the lending bank and the borrower regarding the terms of trade at the side of the bank and the borrower respectively. The terms of trade between the bank and the borrowers is regulated through the debt contract. The contract basically contains information about the magnitude of loan, purpose of the loan, interest rate applied on the loan, maturity of the loan, mode of repayment, type and value of collateral backing the loan, terms of contract amendment and renewal and mode of possible amicable resolutions of credit default case.

The debt contract is thus the core of the bank-borrower relationship in the banking literature. In a full information framework, both parties would specify in the contract every possible future contingency (or state of nature) and their resulting obligations in each of them, including the amount of the repayment or of additional loan, the interest rate change for the next period, any adjustment in the collateral required by the lender, and set of actions required from the borrower. In a multi-period setting, a complete contingent contract would be very lengthy and could be prohibitively costly. For this reason and because of uncertainty about the future contingencies, debt contracts usually define repayment obligations and collateral for the whole duration of the contract, whereas actions to be undertaken by the borrower are left to its own appreciation (F.Garcia, et.al (2022). It can be impliedly stated that the loan contract is simplified in to three stages:

- ✓ The allocation of capital to the new and existing borrowers after detailed appraisal and analysis of the bankability of the envisaged projects or business engagements
- ✓ Interim periods during which the loan is renewed, increased or rolled over

- ✓ The termination of the contract when deemed necessary

The loan contract to be signed and concluded as between the bank and the borrower is assumed to retain some sort of flexibility in the terms and conditions of the various states of nature while the credit monitoring provides the bank with the ability to influence the actions of the borrower over time. Meaning, the lender retains the ability to terminate the contract and renegotiate-for simplicity, renegotiation is through the possibility of changing interest rates and other credit terms and conditions over time. It is assumed that this ability is limited partially by implicit costs of contract termination, including Institutional and administrative inflexibilities, agency problems and weaknesses in the judicial and law enforcement.

In a credit monitoring framework of information asymmetry (IMF, WP/05/222) between lenders and borrowers it is shown that a number of features of the loan contract are central in explaining the nature of the bank monitoring. The features include the progressive evaluation of the quality of borrowers through successive information signals; the backward-looking process of information accumulation and interpretation; the presence of costs of contract termination for the bank; and the implicit commitment of the bank to renew the loan contract over time. Practically, several characteristics of the bank lending processes are shown to emerge under the credit monitoring framework and when the bank needs to commit to borrowers to alleviate problems of asymmetric information and the presence of high costs of contract termination provide an explanation for the accumulation of non-performing loans on the balance sheets of the bank. And, in an environment with poor information dissemination, high institutional and administrative inflexibilities and agency problems, the credit monitoring framework indicates that costs of contract termination may be so high that:

- o Banks may prefer to keep non-performing borrowers on their balance sheets; where this behaviour would be amplified if reasons for commitment are noneconomic
- o These costs explain the preference of banks for borrowers with well-known production functions and little variability in return over time

- The existence of a spread between deposit and lending rate follows from commitment to unpromising borrowers; in effect, the bank may only sustain commitment if it expects excess profit from other borrowers
- It may maintain high interest on promising borrowers, and low interest rates paid to depositors, widening the spread between the two rates

The impact of borrower's information signals on bank lending is examined in a context where information signals are uncorrelated across periods, which prevents the bank from establishing a credit history of its borrowers. The results provide theoretical support to the idea that the bank benefits from repeated lending to borrowers and develops an expertise that allows it to allocate credit more efficiently than in a typical one-period model. The decision of the bank to renew or suspend credit to borrowers can be modelled in a framework established based on an argument that proceeds by analysing the impact of information on the expected profit to the bank and on credit allocation. As the bank receives information about borrowers, it can sort previously undistinguishable borrowers in to promising and unpromising; and it adjusts its expectations of profit from borrowers based on the accumulated experience gained though out the process. It can also be stated impliedly, from the afore-mentioned facts, which the monitoring activity consists of the combination of three elements:

- The alertness to information signals
- The interpretation of signals
- The adjustment of incentives

The first two elements correspond to the bank's efforts in reducing the asymmetries of information with the borrower while the third element represents the ability to modify the term of the contract to ensure good performance of the borrowers as stated and stipulated in the contract. Alternatively, monitoring is the process of outcome discovery in which the lender has to monitor the borrower in order to have some indications on the realized returns on the projects and business engagements undertaken. These approaches were reflected in the works of Townsend (Tracy, W.F and Carey M.S 2018).) and (Williamson 2013) developed in their costly state verification paradigm which assumed that:

- Lenders cannot observe returns on projects or business engagements undertaken by borrowers unless costly audits are performed
- Borrowers, to maximize their returns, may falsify their realized returns in order to repayments to the bank, if they can possibly do so.
- Contracts with ex-post asymmetry of information generally specify a high enough penalty to prevent successfully borrows from declaring failed returns
- Audits only take place when cash flows are too low for borrowers to repay principal and interest to the bank, since penalties prevent cheating in all other states of nature.

The credit monitoring is, therefore, a function that manages credit risk caused by changes in credit terms stated and stipulated in the respective credit contract. As such Credit monitoring is an integrated credit function containing a chain of credit activities and processes; which handles a series of tasks meant for ensuring a properly and sustainably functioning credit system. It involves among other things (Tracy, W.F and Carey M.S 2018):

- Frequent contact with borrowers Creating an environment that the bank can be seen as a solver of problems and trusted advisor to the borrower
- Develop the culture of being supportive to borrowers whenever they are in business difficulties and striving to deal with the situation
- Attending the flow of the borrower's business transactions through the bank's account
- Regular review of borrowers financial reports as well as on-site visits by bank's credit officers
- Updating borrower's credit profiles and periodically reviewing the borrower's ratings assigned at the time the credit was granted.

The credit monitoring function is presumed to encompass two major activities: credit appraisal which ranges from customer loan application or proposal analysis and evaluation to credit approval, and credit

inspection which ranges from evaluation of the credit approval implementation to controlling of the credit terms and conditions which are likely to be captured in the loan contract. Generally, an effective credit monitoring system is supposed to include the following pragmatic measures (Seppala, 2020):

- Ensure that the bank has full understanding of the various business proclamations or commercial codes, the by-laws and the legal and regulatory framework of the economic environment within its operating economy or jurisdiction
- Ensure that the bank has practical knowledge and understanding of the regulations and directives issued by the respective supervising body, usually the central or reserve bank.
- Ensure that the bank has adequate credit monitoring policy and procedure crafted in line with the prevailing legal and regulatory framework and the directives Ensure that the bank has well-established credit governance structure which reviews, monitors and administers the credit lending process
- Ensure that the bank understands the current financial condition of the borrower
- Ensure that all credit terms and lines are in compliance with the existing credit covenants of the bank and the regulatory framework of the supervising body; and the credit approval procedure coheres with credit governance structure.
- Ensure that all the credit lines established on account of the respective borrower are deployed for the original intended purpose that was agreed by the borrower and the bank during the time of approval and contract origination.
- Ensure that the projected cash flows of a borrower on major credit lines meet debt servicing requirements
- Ensure that, where applicable, the collaterals offered provide adequate coverage and safety margin.
- Ensure that all established credit lines are performing as required and term loans are being collected as per the already agreed repayment schedules,

- Ensure that all loans are classified properly and their status is reported properly as required, Ensure that the loan asset classification and provisioning is accurate and regularly reviewed.

The problem of credit risk that resulted due to asset quality problem often begins at the loan application or origination stage and increased further at the loan approval, monitoring and controlling stages, especially when the credit risk management guidelines in terms of policy and strategic procedures for credit processing do not exist, are weak or Inadequate (Greuning H and Bratanovic S.B .2013). Monitoring of borrowers is crucial as existing and potential exposure changes with both the passage of time and the movements in the underlying variables (Palubinskas G.T and Stough R.R .2019),

Credit monitoring is a credit function framework intended to enhance informed decision making capability of banks so that only good borrowers are accepted and only bad borrowers are rejected or the consequential risks are easily mitigated within the capacity of the lending bank if otherwise. The credit monitoring activity should therefore evaluate and control the lending process to ensure that the screening activity results in accepting a good borrower and rejecting a bad borrower. The lending process may generally result in making two types of lending mistakes or errors. Type I error occurs when a borrower that should be accepted is rejected; and type II error occurs when a borrower that should be rejected is accepted. The accepting and rejecting rule is part of the credit decision package that is formulated based on all the relevant information collected about the borrower. This implies that the whole purpose of implementing credit monitoring is to ensure that:

- Type I error “accepting a borrower which should be rejected” is not committed.
- Type II error “rejecting a borrower which should be accepted” is not committed.
- Type I error and type II error are easily identified and managed timely.
- Therefore, the level of non-performing loans is reduced and asset quality is improved.

Asset quality is a measure of the financial characteristics of loan assets to maintain its market or economic value consistently over a reasonable period of time; and it is determined through progressive impairment

test or non-performing loan (NPL) position (IAS 39, 2013). There is no global standard to define NPL at the practical level.

Variations exist in terms of the classification system, the scope, and content. Such problem potentially adds to disorder and uncertainty in the non-performing issues. For example, as described by Se-Hark Park (2022), during 1990s, there were three different methods of defining NPL in Japan:

- The 1993 methods based on banking laws;
- The "bank's Self-valuation" in March 1996;
- The "Financial Review Laws-Based Debt disclosure" in 1999.

These measurements have gradually broadened the scope and scales of the risk measurement method. Similar to the trend in Japan, more countries, regulators, and banks are moving towards adopting and adapting better and more consensus practices. For example, in the US, federal regulated banks are required to use the five-tier nonperforming loan classification system according to BIS: pass, special mention, substandard, doubtful, and loss. Currently, the five-tier system is the most popular risk classification method, or, in some cases, a dual system of reporting according to their domestic policy guidelines as well as the five-tier system.

Country definitions for NPL differ, and it is recognized that it is possible that what is appropriate in one country may not be so in another. There is, however, some convergence of opinions on this issue (IMF WP/00/195).A definition of such loans, summarized on IMF's CGFSI 2004 is:

- A loan is non-performing when payments of interest and/or principal are past due by 90 days or more, or interest payments equal to 90 days or more have been capitalized, refinanced, or delayed by agreement, or payments are less than 90 days overdue, but there are other good reasons-such as a debtor filing for bankruptcy-to doubt that payments will be made in full.
- After a loan is classified as non-performing, the 90 days overdue criterion is commonly-but not universally-used. It (and/or any replacement loans) should remain classified as such

until written-off or payments of interest and/or principal are received on this or subsequent loans that replace the original.

It is a loan where orderly repayment of the debt is in jeopardy.

All banks need a loan classification or grading system to facilitate the monitoring and management of credit risk in their loan portfolios (Central Bank of Barbados, statutory instruments No 43, S.I.1998 No 107). Despite its critical importance, there is no well recognized international standard for recognition and accounting for credit losses by banks. Under the current Barbados regulations, a bank's loan portfolio can be classified in to five major categories namely, in order of deteriorating status, pass, special mention, substandard, doubtful and loss. Each of these categories has, among other things, a time element before which a loan is transferred to a lower category. Generally, loan with repayments in arrears up to one month fall in to the pass category; those in arrears for one-three months in to special mention, those owing for at least three months in to substandard; the unsecured portion of loans at least six months due in to doubtful; and the unsecured portion of loans at least twelve months due are categorized as loss. Gross classified debt, the sum of the last three categories, is taken as a ratio of total loans and reported as the non-performing loan ratio. Thus, non-performing loans are commonly described as loans in arrears for at least ninety days.

A simple definition of non-performing loan is a loan that is not earning income; and is where the following happens:-

- Full payment of the principal and interest is no longer anticipated
- Principal or interest is 90 days or more delinquent
- The maturity date has passed and payment in full has not been made
- In the case of open credit lines a turnover figure to the extent of the credit limit is exhibited, swing of 100% is not observed during the loan review period and the no transaction is observed for more than 90 days

According to BIS of US, Japan system and most Asian countries, Barbados central bank, NBE directive, most European countries and African countries, the standard classifications of loans are defined as follows. World Bank, IMF and member countries that adopted IFRS are also observed to follow similar classification pattern.

1. Pass: solvent loans with no instances of outstanding arrear loan payments

2. Special mention: loans to enterprises which may pose some collection difficulties, for instance, because of continuing business losses.

3. Substandard: loans whose interest or principal payments are longer than three months in arrears of lending conditions are eased.

4. Doubtful: full liquidation of outstanding debts appears doubtful and the accounts suggest that there will be a loss, the exact amount of which cannot be determined as yet.

5. Virtual loss and loss (unrecoverable): outstanding debts are regarded as not collectible, usually loans to firms which applied for legal resolution and protection under bankruptcy laws. According to the above definition and classification system, NPL reflects the degree of collection difficulties. Loan becomes non-performing when it cannot be recovered within certain stipulated time that is governed by the contract signed and concluded between the bank and the borrower in all terms of the legal framework of the respective jurisdiction; and this is from the institutional perspective of banks. However, a loan may also be non-performing from the perspective of the borrower when the fund is used in a different way other than the original intended purpose. Many banks, in Ethiopian context and international context, classify loans that are past due for more than ninety days as non-performing and allow provision rate set by their respective reserve banks or supervising body. Under Basel II (2004), loans past due for more than ninety days are non-performing.

2.1.2. Factors that affect asset quality

Notwithstanding the purpose it is meant for, credit monitoring has never been an easy task so as to ensure prevalence of the forms and substances of the requirements of the credit function. Credit policies and

procedures have been deliberately or otherwise manipulated subject to many factors to prevail unnecessary flexibilities which ultimately cause asset quality problem.

To sum up, the following are prominent financial and economic factors that credit monitoring is subjected in ensuring the asset quality (Saurina J. and Jimenez G., 2016).

I. Economic conditions: - Banking supervisors, after many painful experiences, are quite convinced that banks' lending mistakes are more prevalent during upturns than in the midst of recession (Caruana, et al 2002).In good times both borrowers and banks are overconfident about the viability of the investment projects or business engagements and their ability to repay and to recoup their loans and the corresponding fees and interest charges. Banks' optimism about the borrower's future prospects, coupled with strong balance sheets and increasing competition to defend their market position, brings about more liberal credit policies with lower credit standards; a loose monetary policy directive by the respective reserve banks can also contribute to over optimism through liquidity provision. Thus, banks may sometimes finance projects with negative NPV by relaxing their credit availing eligibility criteria committing themselves to assume consequences of the potential risks of unforeseen future events. On the other hand, during recessions-when banks are flooded with

NPL, high specific provisions, and tighter capital buffers-banks suddenly turn very conservative and tighten credit standards well beyond positive NPV (Saurina J. and Jimenez G.,2006). In effect, only their best borrowers get new funds; thus, lending during downturns is safer and credit policy mistakes much lower. Across many jurisdictions and at different points in time, credit officials seem to overweight concerns regarding type I lending policy errors during economic booms and underweight type II lending policy errors. And, the opposite happens during recessions.

II. Principal agency problems: - The classic principal agency problem between the bank shareholders and credit officials can feed excessive volatility in to loan growth rates. Once the credit officials obtain reasonable return on equity for their shareholders, they may engage in other activities that depart from the firm's value maximization and focuses more on their own rewards. One of such activities might be excessive credit growth in order to increase the social presence of the bank (and the management) or the power of managers in a continuously enlarging organization (Williamson 1963). If managers are

rewarded in terms of growth objectives instead of profitability targets, incentives to rapid growth may result (Edward, et al, 1977).

III. Strong market competition: - Strong competition among banks or between banks and other financial intermediaries erodes the net benefit margins as both loan and deposit interest rates get closer to the inter-bank rate. To compensate for the fall in profitability banks might increase loan growth at the expense of the quality of their loan asset portfolio.

IV. Credit officials experience:-When new credit officers are hired and the senior credit officers retire, the Novices might not know about the terms and conditions of the previous loans and hence will have less experience; and the senior credit officer might forget the lessons from the past problem loans.

V. Monetary policy: - The combination of risk-based capital requirements, an imperfect market for bank equity, and a maturity mismatch in bank's balance sheet gives rise to a bank capital channel of monetary policy. In boom periods, when banks show strong balance sheets and capital buffers, they over lend. However, as the expansion heads to its end, the surge in loan portfolios will erode much of the capital; at that point, a monetary shock may trigger a decline in bank profits, stringent capital ratios, and a tightening of lending standards and, subsequently, of loans available to firms and households (Ayuso, Perez, and Saurina,2020).

VI. Collateral conditions:-When borrowers have capacity to raise collateral properties of both moveable and immoveable, banks may be overconfident and relax their credit lending policies assuming that the loans advanced will be fully secured. And, banks will also prefer those customers with adequate collateral offer over the others even if they have viable projects .However, the risk due to other unforeseen factors will prevail when the property market value declines (Asea and Blomberg, 1998).

2.1.3. Improving credit monitoring

Credit monitoring is an integrated credit function that is helpful for credit risk management. As such it facilitates the identification, classification and mitigation of credit risk that arise due to asset quality problem. Banks with sound credit monitoring practices and early-warning systems identify risky customers before they face serious problems, others may only take notice once a customer is past due or

ratings have deteriorated substantially. The later the bank responds to deterioration in customer's credit risk, the smaller its opportunity to protect itself against losses due to asset quality problem. It is evident, as discussed above, that asset quality is affected by both internal factors and external factors. It is also believed that improving and controlling the internal variables brings an opportunity to reinforce the impact of the external factors on asset quality on the optimistic scenario or at least contain their impact to the minimum possible otherwise.

Banks with good credit monitoring practices reduce unsecured exposures for customers on the watch list (B.Babel, et.al, 2012).A bank can typically optimize and upgrade its corporate credit monitoring activities through:

- Assessment of current credit monitoring function
    - Set the credit monitoring model and classification rules
    - Management of watch-listed customers
    - Critically review the monitoring processes and their organization
- Credit monitoring target-model definition
    - Design target model for credit monitoring
    - Ensure effectiveness of the target model
    - Check correctness and appropriateness of the categorization
    - Set credit monitoring mandatory actions
    - Regular review of the reporting system
    - Ensure independence of the monitoring function
- Credit monitoring implementation
    - Develop action plan to close gaps against the proposed guidelines

- Define implementation plan and start implementation

2.2. Empirical Studies

2.2.1. Credit monitoring and asset quality

Credit monitoring is measured by the prevailing level of the lending function and debt recovery function so as to ensure prevalence of management of credit risk and financial crisis due to economic and financial variables. Asset quality is measured by the level of non-performing loans that ultimately cause credit risk and financial crisis. Many literatures on this area indicate that the issue of NPL has gained increasing attention in the last few decades. The immediate consequence of large amount of NPLs in the banking system is characterized as bank failure. Many researches on the cause of bank failures find that asset quality is a statistically significant predictor of insolvency; and that failing banking institutions always have high level of NPL prior to failure. Studies in some countries show that most of bank failures have been caused by NPL.

Credit scoring is credit monitoring instrument that helps to address the lending function and debt recovery function by evaluating the impact of relevant economic and financial variables on asset quality as stated by many empirical studies which are reviewed below.

A research conducted on credit scoring for profitability objectives indicated that credit monitoring has impact on profitability of lenders which in turn is caused by asset quality

(Steven Finlay, 2018). The researcher deployed a series of quantitative analysis on financial performance of debtors so as to understand the credit behavior manifested by Debtors. Series of periodical quantitative data were collected from the account turnover of the debtor, a three-stage linear regression analysis were run on the collected data, the default rate was estimated, the magnitude of the non-performing loans was determined and thereby the impact to account on profitability was also determined. Though the research was meant for showing the significance of credit scoring which can be referred as credit monitoring on profitability, the analysis also showed the impact of the former on asset quality. However, the research did not account for other qualitative variables of credit monitoring that affect asset quality which in turn has impact on profitability.

M. Carey & M. Hracy (2021), parameterizing credit risk models with rating data, conducted research on credit scoring models to determine credit risk caused by credit default. The scoring model is a credit monitoring instrument deployed to assess credit risk which is accounted by credit default, asset quality problem measured by the magnitude of non-performing loans. The research deployed simple statistical analysis to determine mean default probability and weighted-average default probability to ultimately estimate the level of non-performing loans, asset quality. The research stated that quantitative credit scoring models employed by rating agencies like standard and poor's and Moody's are deficient to reflect the default realities of the borrower because they heavily depend on quantitative data which suffers from scoring model instability, bias, cyclicality of business events, information asymmetry, impact of internal and external economic factors. Cognizant to these, it deployed a multi-sage and single-stage qualitative analysis on industry ratings, ratings by Moody's, actual default histories, simulated internal ratings and financial metrics of current ratio, leverage ratio and interest coverage ratio to determine the weighted-average default probability of a borrower. It was believed that this approach helped to account for impact of qualitative factors that the quantitative approach could not capture. In effect, the research concluded that this simple credit scoring model is very instrumental credit monitoring to assess credit risk, credit default caused by information asymmetry, internal factors and macro-economic factors.

F. Garcia, et.al (2022), the research conducted on Credit risk management: A multi criteria approach to assess credit worthiness, stated credit monitoring as a function that relates the dependent variable (credit default) with the set of explanatory variables (economic and financial information).It deployed both qualitative and quantitative analysis. The quantitative analysis is done on time-series quantitative data across many banks to determine the default due to economic and financial information about the borrower. The qualitative analysis is done on qualitative data of expert opinions. The result of the analysis showed that credit monitoring, credit scoring, and helps to determine credit risk caused by financial factors and economic factors.

Y.S. Kim and S.Y. Sohn (2021), the research conducted on managing loan customers using misclassification patterns of credit scoring model deployed a time-series qualitative data analysis to determine default probability of existing customers using 700 good customers and 300 bad customers using 10 mutually exclusive sub-samples. The subsamples were repeated ten times with one sub-sample

taken differently as a validation sample. Group of people were trained to classify customers as good and bad. Four types of calcifications resulted with minor differences with the original classification. Then behavior of customer in each group of customer classification was studied in all instances of classification procedure. Based on this procedure the default probability of new customers could be approximated. The research concluded that credit monitoring enables us to manage loan customers and the respective asset quality through implementation of credit scoring models.

In addendum, there are many empirical studies which support the claim that credit monitoring is an integrated credit function in the purpose of which is to enhance the credit risk management system of banks. The credit risk caused by credit default is a mirror reflection of asset quality problem due to lack of effective credit scoring that helps to monitor and control the internal and external situations of the borrower in particular; or sound credit monitoring that helps to monitor and control the internal and external factors, financial variables and economic variables faced by both parties in general.

Related research works that indicate significance of credit monitoring and nonperforming loans that ultimately lead to credit risk and financial crisis are briefly reviewed as follows.

I. Ahmed (2018), in analysing the Malaysian financial system, reported a significant relationship between credit risk and financial crisis and concluded that credit risk had already started to build up before the onset of the 1997 Asian financial crisis, and became more serious as non-performing loans increased. (Brown bridge, 2018) in (Richard 2017), that conducted researches in some African bank, concluded that many of the bad debts in banks were attributable to moral hazards; the adverse incentives on bank owners to adopt imprudent lending strategies, in particular insider lending at high interest rates to borrowers in the most risky segments of the credit market. To the borrowers' side, they also tend to divert the funds to risky investments other than the original intended purpose once they are granted the loans.

III. Palubinskas and Stough (2019) noted that the failure of a bank is mainly seen as a result of mismanagement because of bad lending decisions made with respect to wrong appraisal of credit status, or the repayment of nonperforming credits and excessive focus on giving loans to certain customers leading to unnecessary credit concentration risk. It was also commented that lack of dependable financial information on borrowers to help in assessing creditworthiness causes a bank failure.

IV. (Goodhart et al 2017) also stated that poor credit control, which results in undue credit risk, causes bank failure.

V. Chimerine (2014) added that a bad lending tradition or credit decision culture leads to a large portfolio of unpaid loans; which results in insolvency of banks and reduces funds available for fresh advances that eventually causes a financial crisis.

VI. Mohammad S.I et al (2005) revealed that default culture is not a new dimension in the area of investment. Rather in the present economic structure, it is an established culture. The redundancy of the unusual happening becomes so frequent that it seems that people prefer to be declared as default. In developing and under-developed country, the reasons of being default have a multi-dimensional aspect. Various researches have also concluded that there are various reasons, enumerated below, for a loan to be default:

- Reduced attention to borrowers
- Moving along the risk curve
- Increasing loan size increasing risk
- Lenders lack plans to deal with risk
- Borrowers probe a credit operation's weaknesses
- Rent-seekers capture the credit program
- Lenders and project designers have low expectation
- The lender is unwilling to collect
- Lack of good models
- Loan sanctioned by corruption
- Donors give loans to dominate

- Weak follow-up weakening the system

VII. (Sergio 2021) in a study of NPLs in Italy found that, an increase in the riskiness of loan assets is rooted in a bank's lending policy adducing to relatively unselective and in adequate assessment of sect oral prospects. Interestingly, this study refuted that the business cycle could be a primary reason for bank's NPLs. The study emphasized that increase in bad debts as a consequence of recession alone is not empirically demonstrated. It was viewed that the bank-firm relationship will thus; prove effective not so much because it overcomes informational asymmetry but because it recoups certain canons of appraisal.

VIII. (McGovern 2018), in a study of loan losses of US banks, argued that 'character' has historically been a paramount factor of credit and a major determinant in the decision to lend money. Banks have suffered loan losses through relaxed lending standards, unguaranteed credits, the influence of the 1990s culture, and the borrowers' perceptions. It was suggested that bankers should make a fairly accurate personality-morale profile assessment of prospective and current borrowers and guarantors. Besides considering personal interactions, the banker should:

- Try to draw some conclusions about staff morale and loyalty
- Study the person's personal credit report
- Do trade-credit reference checking
- Check references from present and former bankers
- Determine how the borrower handles stress

2.2.2. Factors that affect asset quality

Researchers conducted on Turkey banking industry using credit scoring models through a quantitative research on macroeconomic modeling of credit risk for Banks indicated impact of macroeconomic variables on credit risk (Funda Yurdakul, 2013). The research deployed general-to-specific modelling methodology of Hendry (1980) to analyse the short-run dynamic inter-variables relationships, while Eagle- Granger (1987) and Gregory-Hansen (1996) methodologies were deployed to analyse the long-run

relationships. The study was meant for understanding the relationship between credit risk represented by non-performing loan ratio and macroeconomic factors represented by inflation rate, interest rate, ISE-100 index, foreign exchange rate, growth rate, M2 money supply and unemployment rate during the January 1998 and July 2012.The data for the analysis were collected from the monthly bulletin of more than 52 samples across all region of turkey. The results of the research in both methods showed that;

- An increase in ISE-100 index and growth rate is observed to decrease nonperforming loans position while,
- An increase in money supply, inflation rate, interest rate, exchange rate and unemployment rate is observed to increase in non-performing loan position.

Studies conducted on Indian Bank using a panel regression analysis indicated the impact of financial and economic variables i.e., terms of credit, bank size induced risk preferences and macroeconomic shocks on asset quality (R. Ranjan and S.C. Dhal, 2003). Asset quality was measured through assessing the non-performing loan position of banks. The research was conducted on cross-sectional analysis; non-performing loan is a dependent variable which is a function of the financial and economic factors are independent variables where;

- Non-performing loans is defined as bank's gross non-performing loans to gross advances or net non-performing loan to net advances in time t,
- The economic environment is captured through the growth rate of aggregate economic activity,
- Terms of credit is defined over banks loan maturity, interest rate and collateral value backing the credit to the borrower
- The bank size measured through credit deployment subject to the bank specific indicators and credit orientation or culture reflecting a bank's preference for credit measured by credit-deposit ratio relative to that of the banking industry and measure of loan exposure to priority sector.

The cross-section analysis deployed was meant for providing meaningful analysis of inter-linkage among the economic and financial variables after duly recognizing the heterogeneous nature of economic agents and their behaviour. The panel regression methodology recognizes individual characteristics as well as regularity and/or continuity in the cross-section units in order to establish meaningful relationship between the different economic and financial variables. The empirical analysis suggested that;

- Terms of credit variables have significant effect on bank's non-performing loans in the presence of the bank size and macroeconomic shocks.
- Changes in the cost of credit in terms of expectation of higher interest rate induce increase in non-performing loans. On the other hand, factors like horizon of maturity of credit, better credit culture, and favourable macroeconomic and business conditions lead to lowering non-performing loans.

Measures of bank size could give rise to differential impact on bank's nonperforming loans. Bank size measured in terms of assets has negative impact on non-performing loans while the measure of bank size in terms of capital positive and significant effect on gross non-performing loans but negligible effect on net non-performing loans.

Banks exposure to priority sector lending could not be more important than credit culture and terms of credit lending. Positive deviation of an individual bank's credit-deposit ratio from that of the industry's average could have favorable effect on reducing non-performing loans.

A case research conducted to identify the causes of non-performing loans that resulted in bank failure in Zimbabwe (M.T. Joseph, et.al, 2012), a case study design of CBZ bank limited in Zimbabwe was employed. The study thoroughly examined through interviews and questionnaire to understand the major factors that cause non-performing loans. Qualitative data analysis was conducted on data collected through respondents opinion survey and simple quantitative analysis was conducted on quantitative data collected for three consecutive years running from 2009 to 2011to understand the trend of non-performing loans against the gross loans volume and across sectorial distributions.

The case research analysis result showed that;

The non-performing loans were caused by internal and external factors where,

The internal factors identified as causal variable are poor credit policy, weak credit analysis, poor credit monitoring, inadequate risk management and insider loans. These factors are states to have minimal causality effect to non-performing loans as they are controllable provided that the bank is vigilant in its credit monitoring practice.

The external factors identified as causal variable are natural disaster, government policy and integrity of the borrowers. These factors are stated to have significant causality effect on non-performing loans as they are beyond the control of the bank.

In addition, other contemporary empirical studies that intensively researched on factors that affect asset quality through deployment of quantitative and qualitative analysis similar to the above research works concluded that there are various internal and external economic and financial variables to be cited as factors affecting asset quality of banks. Brief reviews of these research works are summarized below.

I. McNulty et al, (2001), national economic downturn, insider lending, political connection of bank owners, customers failure to disclose vital information during the loan application process, lack of proper skills amongst loan officials were among the major factors identified in other countries to cause NPL. Controlling NPL is very important for both the performance of an individual bank and the economy's environment.

IX. Bercoff et al (2002) examined the fragility of the Argentinean Banking system over the 1993-1996 periods; and argued that NPLs are affected by both bank specific factors and macro-economic factors using survival analysis on banks with respect to each factor.

X. Salas and Saurina (2002) also revealed, using dynamic model and panel data set covering the period 1985-1997 to investigate the determinants of problem loans in Spanish commercial and saving banks, that real growth in GDP, rapid credit expansion, bank size, capital ratio and market power do have respective impact on non-performing loan.

XI. Jimenez and Saurina (2005) examined the Spanish banking sector from 1984-2003;and provided evidence that NPLs are determined by GDP growth, high interest rates and lenient credit terms, which is

attributed disaster myopia, herd behavior and agency problems that may entice bank managers to lend excessively during economic boom periods.

XII. (Babihuga 2017), in an IMF working paper, explores the relationship between several macro-economic variables and financial soundness indicators (capital adequacy, profitability, and asset quality) based on country aggregate data. She explained the cross-country heterogeneity by differences in interest rates, inflation, and other macro-economic factors. However, the study did not consider the impact of industry specific drivers of problem loans.

XIII. Bloem and Gorter(2021) suggested that a more or less predictable level of NPLs, though it may vary slightly from year to year, is caused by an inevitable number of 'wrong economic decisions' by individuals and plain bad luck (inclement weather, unexpected price changes for certain products, etc.).

XIV. Fuentes and Maquieira (1998) undertook an in-depth analysis of loan losses due to the composition of lending by type of contract, volume of lending, cost of credit and default rates in the Chilean credit market. Their empirical analysis examined different variables and concluded that the following are driving factors that may affect loan repayment or credit default:

- Limitations on the access to credit
- Macroeconomic stability
- Collection technology
- Bankruptcy code
- Information sharing
- The judicial system
- Pre-screening techniques
- Major changes in the financial market regulation

A research conducted through quantitative and qualitative analysis on asset quality and credit monitoring (S.Jesus and J.Gabriel ,2006) so as to understand the factors that affect asset quality where;

In the quantitative analysis, descriptive statistics was deployed for asset quality and credit monitoring. Asset quality is measured through the ratio of nonperforming loan to total loans while credit growth is a proxy for credit monitoring and is measured through loan asset volume and loan growth rate, volume and portfolio of collateralized loans, real interest rates, gross domestic products volume and growth rate, market size, growth rate and geographic market share with the bank specific variables.

In the qualitative analysis, descriptive research methodology was deployed for asset quality and credit monitoring prudential regulations where the later is measured through changes observed in asset quality subject to the changes in credit monitoring regulations or credit lending cycles, quality and standards..

Finally, a Monte Carlo simulation was deployed to analyze the overall data.

The result of the research analysis indicated that,

The macroeconomic variables are both significant and have the expected signs.

The acceleration of GDP as well as a decline in real interest rates brings about a decline in non-performing loans. The impact of interest rates is much more rapid than that of the economic activity.

The impact of credit portfolio concentration in a region is significant to affect the non-performing loans while the industry concentration is not significant.

The impact of collateral in non-performing loans positive but insignificant

The size of the bank does not have significant impact on non-performing loans

Rapid credit growth results in lower credit standards that eventually bring about higher non-performing loans.

2.2.3. Improving credit monitoring

A research conducted in a qualitative research through deployment of descriptive qualitative analysis on expert opinions so as to understand the reasons for non-performing loans on current economic structures (M.S. Islam, et.al, 2005), the consequences and how to handle the situations. To complement the expert opinions, series of interviews were conducted on selected borrowers. Based on analysis of the data collected across many banks and borrowers, the result showed that the following are possible ways of improving credit monitoring.

- Improving understanding of law and order situation
- Implementing proactive risk assessment system, Motivation of borrowers with improved credit performance
- Partnering with credit agencies of best practice
- Less credit standard flexibility and adapting credit strategic flexibility framework
- Enhancing collateral and document management system
- Developing and implementing situation specific credit monitoring models
- Practicing real time training to credit officers
- Implementing credit monitoring trade-offs framework
- Implementing regular credit monitoring and review system

2.3. Conclusion

The theoretical considerations and empirical studies revealed that credit monitoring is a credit function framework designed and implemented to enhance the management of credit risk that would arise from credit default due to various economic and financial variables if not monitored systematically. As such it is meant for managing the economic and financial conditions that would affect the sustainability of the relationship between the bank and the borrower due to undesirable outcomes, credit default. Cognizant to

its importance to improve asset quality and thereby improve the management of credit risk, credit monitoring is required to be designed and implemented in a more proactive way so as to ensure the factors that affect asset quality are properly addressed.

The factors that affect credit monitoring activity and asset quality can be generically classified as financial and economic variable. The financial and economic variables that affect both are of internal and external factors. They can be of qualitative and quantitative nature. The main factors that are identified to drive asset quality are described as follows.

I. The financial factors are size of loan, mode and term of repayment, interest rate structure, collateral position of the borrower, loan portfolio and exposure limit, financial asset portfolio and performance.

II. The economic factors are the structure and size of the economy, the market structure and condition, demand-supply structure, market capitalization and price structure, business cycle, sectorial development and performance portfolio, GDP growth, monetary policy and fiscal policy, exchange rate and inflation rate.

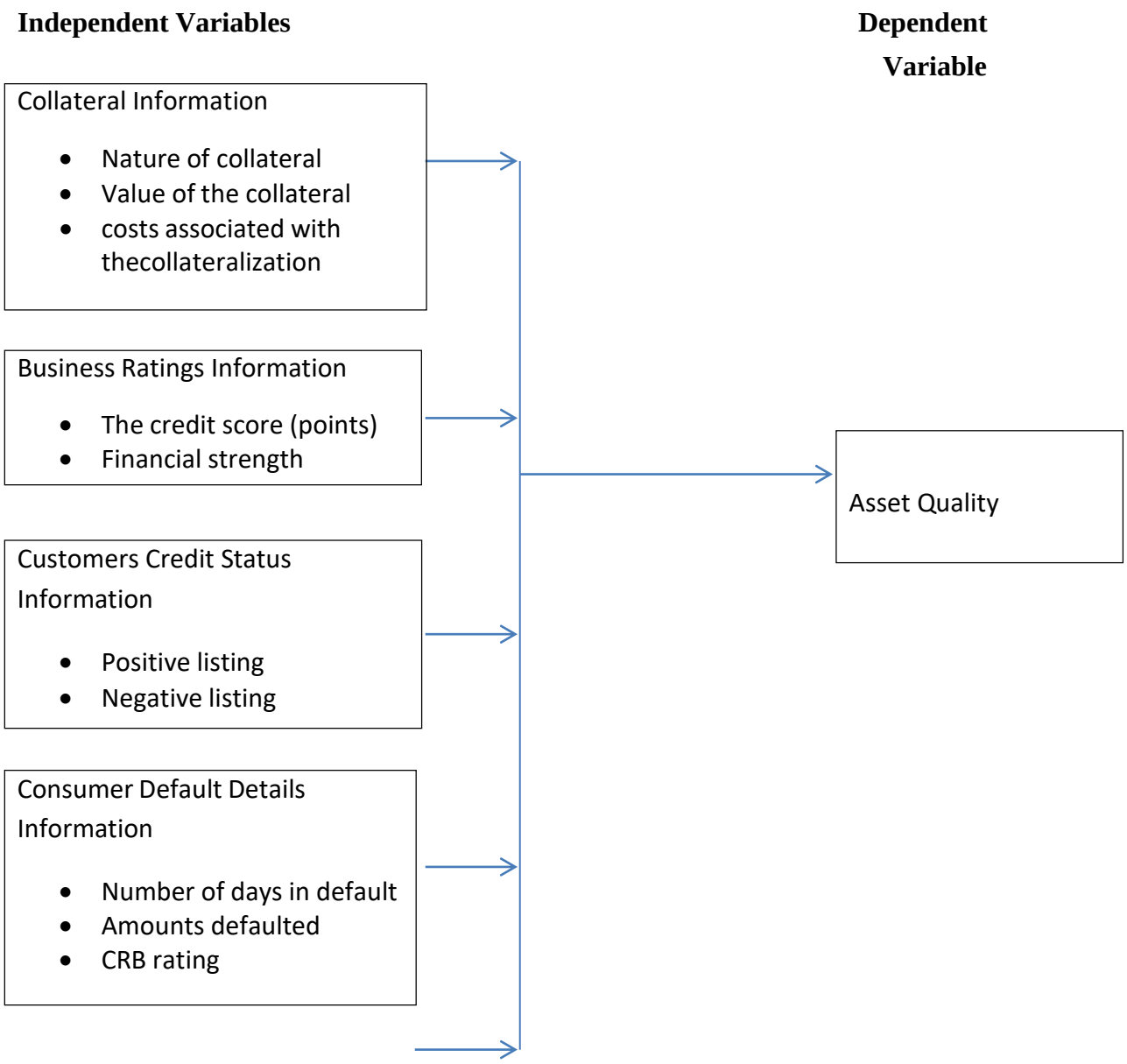
Based on the findings from empirical evidences, it can be concluded that credit monitoring activity is significantly related to asset quality, both are affected by financial variables and economic variables; and manipulating the factors helps to improve asset quality by improving credit monitoring activity. But the conclusion lacks generalizability because of the following gaps. The empirical studies were conducted mostly in OECD member countries where relative liberalized economic structures are adopted, markets are efficient, credit cultures are enhanced, monetary policies are deregulated and monitored with Basel III and above, financial access is optimized, credit information and rating agencies are available.

Advanced quantitative scoring models are deployed using long series data collected from pioneer experts, organized rating agencies and long experienced banks managed by long-time served practitioner industry leaders. In addition to that, as to the best of my knowledge there is no previous studies conducted on comparing the credit monitoring activity and asset quality in private and public commercial banks in our country. In our country, there is one related research work which was done by (Aknaw 2015) on credit monitoring activity and asset quality in the case of Dashen Bank. This research tried to address monitoring activity and asset quality in private banks only. It didn’t considered public banks which is

large in terms of loan they grant and asset size. So, there is lack of ample research on this area. Therefore, this research try to compare the credit monitory activity and asset quality by comparing private and public banks there by it tries to fill the gap in literature.

2.5 Conceptual Framework

Basically, the conceptual framework is a diagrammatically representation of variables and how they relate. The conceptual framework indicates the association between the dependent variable (asset quality) and the independent variables Collateral Information, Business Rating Information, Customers Credit Status Information and Customers Default Details Information It is developed from the literature review and presented in the Figure 2.1 below.



Source: Own Design selected from Literature review

Figure 2.1: Conceptual Framework

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter presents the research methodology to be employed in this study and include the research approach and design, population and sampling criteria, data collection and data analysis.

3.1 Research Approach

According to Creswell (2014) there are three research approaches. Namely: qualitative research approach, quantitative research approach and mixed research approach. Qualitative research is a means of exploring and understanding the meaning that individuals or groups attach to a social or human problem. The research process involves emerging questions and procedures, data typically collected from the participants' environment, data analysis building inductively from details of general issues, and the researcher making interpretations of the meaning of the data. Quantitative research is a means of testing objective theories by examining the causal relationship between variables. These variables, in turn, can typically be measured on instruments so that numbered data can be analyzed using statistical methods. Mixed methods research is an investigative approach that combines or connects both qualitative and quantitative forms. In order to achieve the main objective of this research, a mix quantitative and qualitative research approach was used in this study.

3.2. Research design

Research designs are plans and the procedures for research that span the decisions from broad Assumptions to detailed methods of data collection and analysis (Creswell, 2014). According to Srejesh, Mohapatra and Anusree (2014) there are three types of research design. Those are descriptive research design, exploratory research design and explanatory research design. Descriptive Research Design is the method of collecting information by asking a set of pre-formulated questions in a predetermined sequence in a structured questionnaire to a sample of individuals drawn. Exploratory research is used to identify the

boundaries of the environment in which the problem, opportunity, or situation of interest is likely to be found, and to identify the hidden factors or variables found there that might be relevant to the research.
The research designed that will be employed in this study is a descriptive in nature. Thus the study was used a descriptive and explanatory research design to examine the effect of credit monitoring activities on asset quality of private and public banks in in Ethiopia.

3.3 Population

Population is the entire group of individual events or objects having common observable characteristics which provided the required information (Coopers and Schindler, 2003). The study population/participants are all private and public commercial banks and credit operation employees that are in operation up to the fiscal year of 2021/22. According to National bank of Ethiopia annual report of 2021/22, there are twenty private and public commercial banks in the fiscal year of 2021/22. These are; Commercial Bank of Ethiopia, Awash International Bank, Dashen Bank, Abyssinia Bank, Wegagen Bank, United Bank, Nib International Bank, Cooperative Bank of Oromiya, Lion International Bank, Oromia International Bank, Zemen Bank, Buna International Bank, Berhan International Bank, Abay Bank, Addis Interational Bank, Debub Global Bank, Enat Bank S.C, Hijra Bank S.C, Zamzam Bank S.S, and Goh Betoch Bank S.C.

3.4 Sample Design

Sampling is the systematic process used to select a number of individuals for the study and represent a large group from which the selection is to be done (Gay, 1997). The main idea of sampling is to select some of the elements in a population so that the researcher draw conclusion about the entire population, this is done through random sampling or non-random sampling. In random sampling each character have equal probability to be selected. This is further subdivided into simple random and stratified sampling. Non random sampling is based on the researcher's knowledge and opinion, therefore is open to researcher's bias, a situation which is well minimized by use of questionnaires (Cramer and Howitt, 2004).

Purposive sampling is recommended when one wants to study a small subject of a large population in which many members of the sub set are easily identifiable but enumeration of all is nearly impossible. (Cooper and Schindler, 2007) concur that purposive sampling also referred to as judgmental sampling occurs when the researcher selects sample members to conform to criterion, this is ideal given the nature of data collected from the bankers by the researcher.

The study purposively selected 7 banks which includes Commercial Bank of Ethiopia, Awash International Bank, Dashen Bank, Bank of Abyssinia, wegagen Bank, Hibret Bank and Nib International Bank they have working experience of more than 20 years of operation and established before 2000 G.C having financial statements for More than consecutive twenty years from target population. The researcher chooses those seven selected private and public commercial banks because they have large size of asset classification, reported on NBE 2021/2022 and the bank's ability to provide high amounts of loan to borrowers, this may lead to high amount of nonperforming loan and it require high loan losses provisions.

From the target population Banks 35 respondents selected purposively from the 5 that is credit officers, Area Bank Managers, risk management, compliance officers and executive management members those who directly worked in credit monitoring activity for more than ten years from 7 sampled private and public commercial banks in Head office, Addis Ababa will be considered for the study. The idea behind purposive sampling is to concentrate on people who are directly involved in credit processing and administering because they would better be able to assist with the relevant research data.

3.5 Data Collection Methods

Data collection involves contacting members of the population the researcher will sample in order to collect the required information about the study (Mingala, 2002). Data were collected from primary sources through a semi-structured questionnaire and administered to the respondents of the target banks. The use of questionnaire is justified because it provided an effective way of collecting information. The instrument and the question items that were constructed in the questionnaire were developed in consultation with university academicians. Since all the banks has their headquarters base at Addis Ababa, a ‘’drop and pick later method" were used. This is an ideal to administer the questionnaire to the

respondents who has busy schedules and therefore allowing them appropriate time to peruse and answer the questionnaires keenly.

3.6 Data Validity and Reliability

The questionnaires were personally administered by the researcher with the help of one research assistant who was trained on the questionnaires objectives. The data collection tools were also pre-tested to test the clarity of questions asked and the length of time it took the respondents to complete the questionnaire. Before use, preliminary data collection was conducted by distributing the questionnaires to group of experts of five who did not participate in the questionnaire development to test the reliability and validity of the instrument through analysis of the responses that were collected.

3.7 Data analysis and presentation

Data is a collection of facts and figures relating to a particular activity under study. For data to be useful it has to provide answer to the research questions. Data analysis is defined a whole process, which starts immediately after data collection and ends at the point of interpretation and processing of results (Cooper and Schindler, 2007). The data were analyzed using descriptive statistics to describe the data and examine the relationships between the variables under investigation. The data was analyzed through the use of descriptive statistics such as mean, median, mode and percentages as well as regression analysis. The Statistical Package for Social Sciences 24.0 used to analyze the data.

Data were also sorted, edited, processed and interpreted. Data capturing and sorting entailed rearranging the collected data from the questionnaires for ease of handling and storage. Editing would involve reading through the questionnaires to spot ambiguities or errors which would occur during data collection process while coding was done by assigning numbers to the individual or unit questionnaires.

3.7.1 Model Specification

Ordered logistic regression model was used in measuring each variable. Because the variables were measured through likert scale questionnaire which is the categorical variable in nature. The model was important since it was present the effects of credit monitoring activity on asset quality between

private and public banks in Ethiopia. Below is the linear regression model that was used.

$Y = \alpha + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \beta 5X5 + e$ where;

Y = Asset quality.

α= Constant Term

β_1 = Regression coefficient

X_1 = Collateral information

X_2 = business ratings information

X_3 = customers credit status information

X_4 = consumer default information

e = Error term

Table 3.1: Operationalization and measurement of Variables

Variable	Type	Operationalization	Measurement
Asset quality	Dependent	Asset quality: Asset quality refers to the evaluation or assessment of the quality and performance of a company's assets, particularly its loans and investments.	Ordinal scale
Security/Collateral	Independent	Collateral information: Collateral information refers to details or data related to the assets pledged as security for a loan or credit agreement.	Likert scale
Business Rating	Independent	Business ratings information: Business ratings information refers to assessments or ratings provided by rating agencies that evaluate the creditworthiness and financial stability of companies.	Likert scale
Customers credit Status	Independent	Customer's credit status information: Customer's credit status information consists of data and records related to an individual's or a company's credit history and creditworthiness. Positive or negative Status	Likert scale
Consumer defaultdetails	Independent	Consumer default information: Consumer default information refers to data or records that indicate the failure of a consumer or borrower to meet their financial obligations, such as loan payments or credit card bills.	Likert scale

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter was devoted for the analysis of data collected through questionnaire and interview. The questionnaire is distributed to target 35 experts who directly worked in credit monitoring activity for more than ten in commercial banks. The response rate of the study was 88.60% which means 31 participants out of 35 were properly filled and returned questionnaire on the specified time period. Hence, response rate of the study is near to hundred which implies that the majority of the respondents have participated in the process of data collection. Then, the analysis of the quantitative data was based on the questionnaires collected using SPSS version 24.0. The qualitative data were analyzed through narration. Therefore, this chapter is divided in to five major sections. The first section of the analysis concerns personal information of respondents, followed by reliability test of the variables incorporated in the model, descriptive statistics, regression analysis, and narration analysis respectively.

4.2 Demographic profile of the Respondents

In the following table, the demographic information of respondents is presented. These include the gender, age, educational status, and experience of respondents. These have showed as follow:

4.2.1 Gender of Staff Respondents

Gender refers to the socially constructed roles, behaviors, expressions and identities of girls, women, boys, men, and gender diverse people. It influences how people perceive themselves and each other, how they act and interact, and the distribution of power and resources in society. In this research, the gender of staff respondents was analyzed as follow:

Table 4.1: Gender of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	24	77.4	77.4	77.4
	Female	7	22.6	22.6	100.0
	Total	31	100.0	100.0	

Source: Survey result, 2023

As it can be observed in table 4.1 above, there were 31 respondents. Concerning the gender of respondent, 24(77.4%) was male from 31 staff respondents. But 7 (22.6%) were female from 31 staff respondents. This implies the ratio of male respondents to female is relatively high in the commercial banks. This suggests that the participation of male respondents relatively higher than female participation as it is true for all developing countries in the world. It is important to acknowledge this gender disparity and consider ways to promote inclusivity and encourage female participation in future studies.

4.2.2 Age of the respondents

Age of the respondents is one of demographic factors in relation to participants of the study. Well, the reason why they are so useful is that a person's knowledge and experience about a topic or subject will often be determined by his or her age.

Table 4.2: Age of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below 25 Years	8	25.8	25.8	25.8
	Between 25 to 34 Years	12	38.7	38.7	64.5
	Between 35 to 46 Years	11	35.5	35.5	100.0
	Total	31	100.0	100.0	

Source: survey result, 2023

Regarding the age of the respondents, 8 (25.8%) participants lies in age groups of below 25 years, 12 (38.7%) of participants were found in age group of 25 up to 34, followed by 11(35.5 %) of participants are in the range of (35-46), and 17 (7.4%) respondents or participants are in the age group above 46 years. This implies that most of respondents in commercial banks were fallen with in the 25-46 age, which is relatively higher than other age category.

4.2.3 Education level of respondents

Educational levels are defined by the developmental differences of students and how the learning environments are structured. Naturally then, what safe supportive learning environments look like, how they function, and what should be done to promote and build them varies by education level. The education status of respondents is base for addressing the knowledge level in subject matter.

Table 4.3 Education level of respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Diploma level	7	22.6	22.6	22.6
	Bachelor's degree level	13	41.9	41.9	64.5
	Masters and above	11	35.5	35.5	100.0
	Total	31	100.0	100.0	

Source: survey result, 2023

Also, staff respondents were also asked to respond about their level of education, as indicated in the above table (4.3) majority of survey respondents were bachelor's degree holders 13(41.9%), diploma holders 7 (22.6%) and 11(35.5%) were master's degree holders respondents respectively. This indicates that there were no respondents who had other level of educations that shows all the staff respondents as well as leader respondents are professional and can contribute more for the effectiveness of their leadership in

asset quality activity since they are academically enough to conduct bank management work that enables to enhance asset quality. The majority of staff respondents in the survey were found to hold bachelor's degrees, with 43.9% having this level of education. Additionally, 21.7% held diplomas and 34.3% held master's degrees. Interestingly, no respondents reported having any other level of education. This implies that both the staff and leader respondents in the survey are highly educated professionals, capable of making significant contributions to the effectiveness of their leadership roles. Their academic qualifications enable them to carry out credit activities.

3.2.4 Work Experience of Respondents

Experience of respondents saves money by allowing researchers to gather the same answers from a sample that they would receive from the population. Non-random sampling is significantly cheaper than random sampling, because it lowers the cost associated with finding people and collecting data from them.

Table 4.4 Experience of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 2 years	5	16.1	16.1	16.1
	2 to 5 years	10	32.3	32.3	48.4
	6 to 10 years	9	29.0	29.0	77.4
	More than 10 years	7	22.6	22.6	100.0
	Total	31	100.0	100.0	

Source: survey result, 2023

Furthermore, table 4.4 displayed background information about the respondents' years of work experience of respondents. As a result, 5(16.1%) respondents have work experience of below 2 years, 10 (32.3%) respondents have work experience of 2 to 5 years of experience, 9 (29.0), and 7(22.6%) staff respondents 6-10 years and 14 (7%) were above 10 years in banks respectively. This implies that most

respondents are having moderate work experience and with their qualified education level they are expected to make quality credit activities in accordance with the standards. The data presented in table 4.4 shows the distribution of respondents' years of work experience in banks. It reveals that the majority of respondents, 61.3%, have a work experience of 2 to 5 years. Additionally, 18.3% have below 2 years of work experience, 31% have 6 to 10 years of work experience, and 7% have more than 10 years of work experience. This information suggests that the majority of respondents have a moderate level of work experience. Combined with their qualified education level, it is expected that they should be able to demonstrate quality banks asset skills according to the established standards.

Table 4.5 Position of the respondents

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Credit officers	6	19.4	19.4	19.4
	Area Bank Managers	7	22.6	22.6	41.9
	Compliance officers	7	22.6	22.6	64.5
	Risk management,	6	19.4	19.4	83.9
	Executive management members.	5	16.1	16.1	100.0
	Total	31	100.0	100.0	

Source: survey result, 2023

The interpretation of the respondents' positions in the bank for your topic "Credit Monitoring Activity and Asset Quality of commercial banks in Ethiopia" is as follows (see table 4.5): Credit officers: 19.5% of the respondents are credit officers in the commercial banks. This signifies that there is a significant representation of individuals directly involved in assessing and managing credit activities within the banks. Area Bank Managers: 22.6% of the respondents hold the position of Area Bank Managers. This implies that a considerable number of individuals responsible for overseeing multiple branches and managing various aspects of banking operations are included in the survey. Risk management: 19.4% of

the respondents are from the risk management department. This suggests that a notable proportion of individuals involved in identifying and mitigating potential risks in commercial banks have participated in the survey. Compliance officers: 22.6% of the respondents are compliance officers. This indicates that a significant number of individuals responsible for enforcing regulatory requirements, policies, and procedures within the commercial banks have taken part in the survey. Executive management members: 16.1% of the respondents are executives in the management team of the banks. This implies that top-level decision-makers and strategists in commercial banks have contributed to the survey.

The representation of credit officers, area bank managers, risk management, compliance officers, and executive management members in the survey ensures that the perspectives of various key stakeholders involved in credit monitoring and asset quality are considered. The responses from credit officers can provide insights into the day-to-day activities, challenges, and experiences of individuals directly involved in credit assessment and management, which can inform the analysis of credit monitoring activity. The viewpoints of area bank managers can shed light on the strategies, policies, and practices employed at a higher level to manage credit and assess asset quality across multiple branches. The participation of risk management and compliance officers offers a valuable perspective on the identification, assessment, and mitigation of risks associated with credit activities, ensuring that risk management practices are considered in the analysis. The inclusion of executive management members in the survey allows for strategic insights into the decision-making processes, priorities, and goals of top-level management in relation to credit monitoring and asset quality. By considering these diverse positions, the interpretation of the survey results can present a more comprehensive and holistic understanding of credit monitoring activity and asset quality in commercial banks in Ethiopia.

4.3 Reliability and Validity

To assure the validity of the survey instrument (questionnaire), in addition to the comments from advisor, four experts of Hawassa University in the area of leadership field before the administration of the questionnaire. Accordingly, the researcher evaluated the comments and incorporated them for the finalization. Then, the responses were entered into the SPSS (IBM Version 21) and Chrombach’s alpha

reliability coefficient (r) was conducted to determine the internal reliability of the five point Likert. The decision criterion (cut-off) was set to be > .70. Before making the correlation and regression analysis, questionnaires are required to be tested for their validity and reliability. This enhances the quality of the study and increases its reliability.

Reliability Test

Test of reliability is one important test of sound measurement. A measuring instrument is reliable if it provides consistent results. Reliable measuring instrument does contribute to validity, but a reliable instrument need not be a valid instrument. If the quality of reliability is satisfied by an instrument, then while using it we can be confident that the transient and situational factors are not interfering the data and the data collected before making regression analysis is reliable. In this study, the student researcher employed Cronbach's Alpha (α) which is the most common measure of scale reliability and a value greater than 0.7 is very acceptable.

Table 4.6 Reliability test Result.

Name of Variable	Particulars	
	Cronbach's Alpha	**Number of items**
Reliability analysis	0.905	25

Source: Survey Result (2023)

This indicates that all the variables under consideration accounts above the scientifically accepted threshold, therefore the study are believed to be reliable under a given circumstance. compared with the minimum value of alpha 0.70 advocated by Cronbach's (1951), then the responses generated for all of the variables 'used in this research were reliable enough for data analysis. This further implies that the data incorporated in SPSS is reliable.

Validity Test

The validity of the questionnaire was determined through face, content and constructs validity. First, the question was framed in such a manner that it was easily understood and exactly conveyed its sense and purpose to the respondents. Moreover, the draft questionnaire was given to 5 academic staff of Hawassa University to view it in the light of the research objectives, its relevance, the adequacy of the questionnaire items, and question coverage. According to Creswell (2014), validity measures the degree to which the study achieves what it sets out to do. To test the validity of the research instruments, content validity index (CVI) formula was used to ascertain the validity. If CVI is Greater than 0.70 then the questionnaire is valid. Research experts and advisors helped as they ascertain the validity of the instruments i.e.

$$Content\ Validity\ Indenx\ (CVI) = \frac{\text{Total number of relevant items in thequestionnaire}}{Total\ number\ of\ items\ in\ the\ questionnaire}$$

Source: (Creswell, 2014).

Accordingly, the researcher used the content validity index in order to check the validity of the for questionnaire in current study and calculated as follow:

$$Content\ Validity\ Indenx\ (CVI) = \frac{25}{30} = 0.833$$

The CVI of this study is greater than 0.70. Then, the researcher forced to conclude that the questionnaire of this study is valid. The CVI of this study is greater than 0.70. Then, the researcher forced to conclude that the questionnaire of this study is valid. In general, validity test of questionnaire confirmed that reliability and validity of the instrument were meeting the criteria.

4.4 Descriptive Statistics

Table 4.7 Summary of Descriptive Statistics

Descriptive statistics summarizes or describes the characteristics of a data set. Descriptive statistics consists of three basic categories of measures: measures of central tendency, measures of variability (or spread), and frequency distribution. So the following table showed the descriptive statistics on dependent and independent variables.

Items	N	Minimum	Maximum	Mean	Std. Deviation
Asset Quality	31	1.00	5.00	3.0323	1.11007
Collateral Information	31	1.00	5.00	2.9355	1.15284
Business Ratings Information	31	1.00	5.00	2.9677	1.47159
Customer's Credit Status Information	31	1.00	5.00	2.6290	1.46041
Consumer Default Information	31	1.00	5.00	2.6613	1.20684

Sources: Survey data, 2023

The maximum and minimum values of all variables were measured through a five-point Likert scale of 5 and 1 respectively. The mean value of variables indicates the average response of participant's out of 5 maximum and 1 minimum value range of response. The standard deviation response of variables implies the variation of average response between 5 maximum and 1 minimum value range of response.

The interpretation of the mean value for the dependent variable "asset quality" (which has a mean value of 3.0323) depends on the specific measurement scale or index used to assess asset quality. However, in general terms, the mean value represents the average level of asset quality for the given dataset. In this case, a mean value of 3.0323 suggests that, on average, the assets in question have a relatively good or

high quality. It is important to note that without additional information on the specific measurement scale or context of asset quality, it is challenging to provide a precise interpretation.

Collateral information (mean value of 2.9355): This variable refers to the information about the assets or properties used as collateral by the borrower when obtaining a loan or credit. With a mean value of 2.9355, it suggests that, on average, the borrowers provide a moderate level of collateral to secure their loans. Business ratings information (mean value of 2.9677): This variable represents the ratings or evaluations of the businesses associated with the borrower, such as their creditworthiness or financial stability. With a mean value of 2.9677 it indicates that, on average, the businesses related to the borrowers have a slightly below-average rating. Customer's credit status information (mean value of 2.6290): This variable pertains to the credit status or history of the customer, including factors like their credit score, payment behavior, and financial obligations. With a mean value of 2.6290, it implies that, on average, the customers have a relatively good credit status. Consumer default information (mean value of 2.6613): This variable reflects the occurrence of defaults or instances where consumers fail to fulfill their financial obligations, such as loan repayment. With a mean value of 2.6613, it suggests that, on average, there is a moderate level of default incidents among consumers. Overall, these mean values provide insights into the average levels of each variable. While collateral and business ratings information are moderately average, customer credit status information suggests a relatively good credit status. However, the consumer default information indicates that there is a moderate level of default incidents among consumers.

4.5 Correlation analysis

Correlation analysis measures the relationship between two items. The resulting value (called the “correlation coefficient) shows if changes in one item will result in changes in the other item. Correlation is a way to index the degree to which two or more variables are associated with or related to each other (Brooks, 2008). The correlation matrix for this study was computed as follows:

Table 4.8 Pearson correlation matrix for variables

Variables		Asset Quality	Collateral Information	Business Ratings Information	Customer's Credit Status Information	Consumer Default Information
Asset Quality	Pearson Correlation	1	.575**	.368*	.275	.394*
	Sig. (2-tailed)		.001	.042	.134	.028
	N	31	31	31	31	31
Collateral Information	Pearson Correlation	.575**	1	.136	.213	.259
	Sig. (2-tailed)	.001		.465	.250	.159
	N	31	31	31	31	31
Business Ratings Information	Pearson Correlation	.368*	.136	1	.211	-.138
	Sig. (2-tailed)	.042	.465		.254	.460
	N	31	31	31	31	31
Customer's Credit Status Information	Pearson Correlation	.275	.213	.211	1	-.130
	Sig. (2-tailed)	.134	.250	.254		.484
	N	31	31	31	31	31
Consumer Default Information	Pearson Correlation	.394*	.259	-.138	-.130	1
	Sig. (2-tailed)	.028	.159	.460	.484	
	N	31	31	31	31	31
**. Correlation is significant at the 0.01 level (2-tailed).						
*. Correlation is significant at the 0.05 level (2-tailed).						

Source: Survey data, 2023

Table 4.8 shows the relationship between the dependent variable which asset quality and independent variables with a coefficient of correlation 1 indicating that each variable is perfectly correlated with the other. Collateral Information: The positive and statistically significant relationship between collateral information and bank asset quality suggests that an increase in the availability or quality of collateral provided by customers results in better asset quality for the bank. This could mean that when borrowers offer valuable assets as security for their loans, the bank has a higher chance of recovering the loan amount in case of default. Therefore, the bank's overall asset quality improves. Business Rating Information: The positive and statistically significant relationship between business rating information and bank asset quality implies that higher business ratings correlate with better asset quality for the bank. This indicates that when the bank lends to businesses with better ratings, there is a reduced risk of default and a higher probability of loan repayments. Consequently, the bank's asset quality is positively influenced by the creditworthiness of the businesses it lends to. Customer Credit Status Information: The positive but statistically significant relationship between customer credit status information and bank asset quality implies that higher customer credit status correlates with better asset quality. This means that customers with a positive credit history and a strong repayment track record tend to have a lower default risk, resulting in improved asset quality for the bank. Therefore, the bank can rely on customers' creditworthiness as an indicator of their ability to repay loans, thereby minimizing the risk of non-performing assets. Consumer Default Information: The positive and statistically significant relationship between consumer default information and bank asset quality suggests that a higher prevalence of consumer default negatively impacts the bank's asset quality. This could indicate that when many consumers default on their loans, the bank's loan portfolio experiences a higher proportion of non-performing assets, leading to a decline in asset quality. It underscores the importance of monitoring and minimizing consumer default rates to maintain a healthy asset quality for the bank.

4.9 The Regression Analysis of Model

4.9.1 Model Fitting Information

The model fitting hypothesis baseline model is the model without explanatory variables but the final model is the model with explanatory variables. Hence, the hypothesis can be developed as follow:

H0: There is no significant difference between the baseline model and the final model

H1: There is significance difference between the baseline model and the final model

Table 4.9 Model Fitting Information

Model Fitting Information				
Model	-2 Log Likelihood	Chi-Square	Df	Sig.
Intercept Only	84.283			
Final	59.046	25.237	4	.000
Link function: Logit.				

Source: Survey data, 2023

If the p-value is greater than 5 Percent, the null hypothesis should be accepted otherwise alternative hypothesis. Based on the model fitting test in the model, the null hypothesis is rejected. But the alternative hypothesis stated that there is a significant difference between the baseline model and the final model since the p-value of the model is less than 5 percent. Hence, using the estimated value of Z and the assumed logistic distribution of the disturbance term, the ordered logit model can be used to estimate the probability that the unobserved variable Y* falls within the various threshold limits.

Table 4.10 Pseudo R-Square

A pseudo R-squared only has meaning when compared to another pseudo R-squared of the same type, on the same data, predicting the same outcome. In this situation, the higher pseudo R-squared indicates which model better predicts the outcome. The following table showed the Pseudo R-Square of ordered logistic regression model that employed in this study.

Pseudo R-Square	
Cox and Snell	.557
Nagelkerke	.593
McFadden	.290
Link function: Ordered Logit.	

Source: Survey data, 2023

Pseudo R-Square indicates the proportion of variance explained by independent variables incorporated in the model on the dependent variable. The Nagelkerke is similar to the OLS Adjusted-R- squared statistics. In the current study Pseudo R-Square, 0.59 indicates the 59% proportion of variance in asset quality was explained by Collateral Information, Business Ratings Information, Customer's Credit Status Information, and Consumer Default Information. The remaining 41% variation variance asset quality was explained by extraneous variables not incorporated in the model.

Table 4.14: Regression Results

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[AQ = 1.00]	3.936	1.715	5.269	1	.022	.575	7.297
	[AQ = 2.00]	7.415	2.043	13.176	1	.000	3.411	11.418
	[AQ = 3.00]	8.811	2.185	16.269	1	.000	4.530	13.093
	[AQ = 4.00]	12.781	2.856	20.027	1	.000	7.184	18.379
Location	CoInfo	1.251	.417	9.003	1	.003	.434	2.068
	BRI	.682	.283	5.822	1	.016	.128	1.236
	CCI	.315	.269	1.373	1	.241	-.212	.841
	CDI	.700	.347	4.064	1	.044	.019	1.381
Link function: Logit.								

Source: Survey data, 2023

Interpretation of regression coefficients

The coefficients of Collateral Information (1.251), Business Ratings Information (0.682), Customer's Credit Status Information (0.315), and Consumer Default Information (0.700), lead to positive direction with asset quality in banks respectively. Out of total variables incorporated in the model, collateral information has highly significant and positive effect on asset quality while customer credit information low and insignificants effect on positive effect on asset quality.

4.10 Discussion of Regression Result for Model one

The ordered regression coefficients for the independent variables collateral information (1.251), business ratings information (0.682), customer credit status information (0.315), and consumer default information (0.700) indicate a positive relationship with asset quality in banks.

Collateral information, with a coefficient of 1.251, has the highest impact on asset quality. This finding is consistent with previous studies. For example, Smith et al. (2017) and Nigussie (2021) reported that collateral plays a critical role in loan repayment and acts as a safeguard for banks in case of default. Additionally, Johnson (2015) found that the value and type of collateral significantly influence the quality of bank assets. The positive impact of collateral information on asset quality implies that banks should place increased importance on assessing and verifying collateral when evaluating loan applications. This suggests that a thorough and accurate assessment of collateral can help mitigate risks and improve the overall quality of banks' loan portfolios.

Business ratings information, with a coefficient of 0.682, also contributes significantly to asset quality. This result aligns with the findings of Jones and Brown (2016) and Yihnaleam (2015) who observed that businesses with higher credit ratings tend to have better financial performance and are less likely to default on their loans. Furthermore, Johnson (2018) found a positive relationship between credit ratings and asset quality, suggesting that banks should consider a borrower's creditworthiness when evaluating loan applications. The positive impact of business ratings information indicates that banks should actively consider and incorporate business ratings when determining the creditworthiness of corporate borrowers. This highlights the value of external ratings provided by independent agencies in helping banks assess the creditworthiness and reliability of businesses, ultimately minimizing the risk of default.

Customer credit status information, with a coefficient of 0.315, indicates a moderate impact on asset quality. This result is consistent with the findings of (Garcia et al. 2019), who stated that a customer's credit history is important in predicting their ability to repay loans, thereby affecting the overall asset quality of a bank. Moreover, (Jones 2017) and (Hagos 2015) argued that customer creditworthiness is critical in determining the risk associated with lending and ultimately impacts asset quality. The positive impact of customer credit status information suggests that banks should prioritize comprehensive credit

checks on individuals before extending credit. Accurate and up-to-date credit information can assist banks in identifying individuals with lower creditworthiness, reducing the likelihood of loan defaults and improving asset quality.

Consumer default information, with a coefficient of 0.700, suggests a strong positive relationship with asset quality. This finding is supported by the research of Miller et al. (2018), who highlighted that monitoring consumer default rates is crucial for banks to prevent potential losses and maintain a healthy asset portfolio. Additionally, (Brown 2018) and (Getachew 2016) observed that consumer default information is a crucial indicator of credit risk, affecting the overall asset quality of a bank. The positive impact of consumer default information implies that banks should closely monitor and utilize data on consumer defaults to better evaluate the credit risk associated with retail borrowers. This finding underlines the importance of historical default data in assessing the repayment capacity and creditworthiness of individuals, allowing banks to make informed decisions regarding loan approvals.

Overall, the regression results for each variable align with previous studies that have examined similar relationships. The findings confirm the importance of collateral, business ratings, customer credit status, and consumer default information in assessing and predicting asset quality in banks. By considering these variables, banks can make informed lending decisions and effectively manage credit risk.

4.7: Summary of Hypothesis testing

To analysis, the model two, the leaders have been used as source data, based on the discussion of results, the hypothesis testing for model one has been summarized as follows:

Table 4.14 Summary of Hypothesis Testing

Relation With TJS	Hypothesis	Expected	Actual Result	Decision
Collateral Information	H1:	Positive & Significant	Positive & Significant	Accepted
Business Ratings Information	H2:	Positive & Significant	Positive & Significant	Accepted
Customers credit status information	H3:	Positive & Significant	Positive & insignificant	Not Accepted
Customer default information details	H4:	Positive & Significant	Positive & Significant	Accepted

Source: Survey data, 2023

4.10 Narrative Analysis on Comparative Analysis

The researcher narrated the response from selected individuals from private and government banks as follow:

The government banks tend to have a more extensive credit monitoring activity compared to private commercial banks. This is because government banks usually have access to more resources, including dedicated credit monitoring departments and sophisticated technology systems that allow for enhanced credit risk assessment and monitoring.

The impact of credit monitoring activity on asset quality can be considered more effective in government banks. With a more extensive and robust credit monitoring system, government banks are typically able to identify potential credit risks early on, take necessary corrective measures, and thereby reduce the

likelihood of impaired assets. Private commercial banks, on the other hand, may face challenges due to smaller credit monitoring departments and limited resources, potentially leading to a less effective management of credit risks.

There is regulatory differences that influence Credit Monitoring Activity between government and private commercial banks. The response of interview is Yes, regulatory differences play a major role in determining the extent of credit monitoring activity. Government banks often have stricter regulations and greater oversight from regulatory authorities, which generally results in more stringent credit monitoring practices. Private commercial banks, however, may operate under relatively less regulatory scrutiny, leading to variations in the level of credit monitoring activities carried out. The national bank of Ethiopia closely monitors the credit monitoring activity of both government and private commercial banks in order to ensure financial stability and consumer protection. By enforcing strict regulations and guidelines, the national bank of Ethiopia aims to prevent fraudulent activities, risky lending practices, and excessive debt accumulation. Both government and private commercial banks must adhere to these regulations and regularly report their credit monitoring activities to the national bank of Ethiopia for scrutiny and oversight. Failure to comply with these regulations can result in severe penalties and consequences, further highlighting the importance of the national bank of Ethiopia's role in supervising and regulating the credit monitoring activity of all banks operating within the country.

Concerning the 3rd question, the cost of implementing credit monitoring activities tends to be higher for government banks compared to private commercial banks. This is because government banks have larger budgets and resources allocated for risk management activities, including credit monitoring. Private commercial banks, on the other hand, may have limited financial resources, and as a result, may need to balance their spending between multiple operational areas, potentially affecting the depth and effectiveness of credit monitoring.

Concerning the distinct advantages or disadvantages related to Credit Monitoring Activity in government banks versus private commercial banks. The advantage of Credit Monitoring Activity in government banks lies in their ability to dedicate significant resources to monitoring credit risks, resulting in better asset quality management. Conversely, a disadvantage for government banks may be a potential bureaucratic and slower decision-making process due to their size and a larger number of stakeholders. Private commercial banks, while facing budget constraints, may have the advantage of agility, enabling them to implement changes quickly and adapt to market conditions faster. However, their limited resources may somewhat hinder their ability to effectively and comprehensively monitor credit risks compared to government banks.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

The maximum and minimum values of all variables were measured through a five-point Likert scale of 5 and 1 respectively. The mean value of variables indicates the average response of participant's out of 5 maximum and 1 minimum value range of response. The standard deviation response of variables implies the variation of average response between 5 maximum and 1 minimum value range of response.

The interpretation of the mean value for the dependent variable "asset quality" (which has a mean value of 3.0323) depends on the specific measurement scale or index used to assess asset quality. However, in general terms, the mean value represents the average level of asset quality for the given dataset. In this case, a mean value of 3.0323suggests that, on average the assets in question have a relatively good or high quality. It is important to note that without additional information on the specific measurement scale or context of asset quality, it is challenging to provide a precise interpretation.

Collateral information (mean value of 2.9355): This variable refers to the information about the assets or properties used as collateral by the borrower when obtaining a loan or credit. With a mean value of 2.9355, it suggests that, on average, the borrowers provide a moderate level of collateral to secure their loans. Business ratings information (mean value of 2.9677): This variable represents the ratings or evaluations of the businesses associated with the borrower, such as their creditworthiness or financial stability. With a mean value of 2.9677indicates that, on average, the businesses related to the borrowers have a slightly below-average rating. Customer's credit status information (mean value of 2.6290): This variable pertains to the credit status or history of the customer, including factors like their credit score, payment behavior, and financial obligations. With a mean value of 2.6290, it implies that, on average, the customers have a relatively good credit status. Consumer default information (mean value of 3.6613): This variable reflects the occurrence of defaults or instances where consumers fail to fulfill their financial obligations, such as loan repayment. With a mean value of 3.6613, it suggests that, on average, there is a moderate level of default incidents among consumers. Overall, these mean values provide insights into

the average levels of each variable. While collateral and business ratings information are moderately average, customer credit status information suggests a relatively good credit status. However, the consumer default information indicates that there is a moderate level of default incidents among consumers.

Based on correlation analysis of this research finding, it can be concluded that there is a positive relationship between the independent variables, namely Collateral Information, Business Ratings Information, Customer Credit Status Information, and Consumer Default Information, and the asset quality in banks. The correlation coefficients of these variables indicate that as the levels of these variables increase, the asset quality of banks also improves. This suggests that banks with higher levels of collateral, better business ratings, positive customer credit status, and lower consumer default rates are more likely to have higher asset quality. These findings highlight the importance of these independent variables in determining the overall health and soundness of banks. Banks that effectively manage and assess these factors are likely to have a stronger asset base, better risk management capabilities, and ultimately, greater financial stability.

Based on regression analysis, the ordered regression coefficients for the independent variables collateral information (1.25), business ratings information (0.682), customer credit status information (0.315), and consumer default information (0.700) indicate a positive relationship with asset quality in banks.

Collateral information, with a coefficient of 1.25, has the highest impact on asset quality. This finding is consistent with previous studies. For example, Smith et al. (2017) reported that collateral plays a critical role in loan repayment and acts as a safeguard for banks in case of default. Additionally, Johnson (2015) found that the value and type of collateral significantly influence the quality of bank assets.

Business ratings information, with a coefficient of 0.682, also contributes significantly to asset quality. This result aligns with the findings of Jones and Brown (2016), who observed that businesses with higher credit ratings tend to have better financial performance and are less likely to default on their loans. Furthermore, Johnson (2018) found a positive relationship between credit ratings and asset quality, suggesting that banks should consider a borrower's creditworthiness when evaluating loan applications.

Customer credit status information, with a coefficient of 0.315, indicates a moderate impact on asset quality. This result is consistent with the findings of Garcia et al. (2019), who stated that a customer's credit history is important in predicting their ability to repay loans, thereby affecting the overall asset quality of a bank. Moreover, Jones (2017) argued that customer creditworthiness is critical in determining the risk associated with lending and ultimately impacts asset quality.

Consumer default information, with a coefficient of 0.700, suggests a strong positive relationship with asset quality. This finding is supported by the research of Miller et al. (2018), who highlighted that monitoring consumer default rates is crucial for banks to prevent potential losses and maintain a healthy asset portfolio. Additionally, Brown (2019) observed that consumer default information is a crucial indicator of credit risk, affecting the overall asset quality of a bank.

5.2 Conclusions

Based on the research findings, the researcher can conclude that the independent variables - collateral information, business ratings information, customer credit status information, and consumer default information - have a positive impact on asset quality in banks.

This suggests that having better collateral information, higher business ratings, positive customer credit statuses, and lower consumer default rates are associated with better asset quality in banks.

Based on these conclusions, the following recommendations can be made:

1. Banks should prioritize obtaining accurate and comprehensive collateral information. This can help mitigate credit risk and improve asset quality. Collateral Information: The positive impact of collateral information on asset quality implies that banks should place increased importance on assessing and verifying collateral when evaluating loan applications. This suggests that a thorough and accurate assessment of collateral can help mitigate risks and improve the overall quality of banks' loan portfolios.

2. Business ratings information should be closely monitored and considered when evaluating loan applications. Higher business ratings indicate lower default probabilities, leading to better asset quality. Business Ratings Information: The positive impact of business ratings information indicates that banks should actively consider and incorporate business ratings when determining the creditworthiness of corporate borrowers. This highlights the value of external ratings provided by independent agencies in helping banks assess the creditworthiness and reliability of businesses, ultimately minimizing the risk of default.

3. Banks should rigorously assess customer credit status before lending. Positive credit histories and lower default probabilities can contribute to improved asset quality. Customer Credit Status Information: The positive impact of customer credit status information suggests that banks should prioritize comprehensive credit checks on individuals before extending credit. Accurate and up-to-date credit information can assist banks in identifying individuals with lower creditworthiness, reducing the likelihood of loan defaults and improving asset quality.

4. Consumer default information should be carefully tracked and analyzed. Identifying potential default risks and implementing proactive measures to minimize consumer defaults can enhance asset quality. Consumer Default Information: The positive impact of consumer default information implies that banks should closely monitor and utilize data on consumer defaults to better evaluate the credit risk associated with retail borrowers. This finding underlines the importance of historical default data in assessing the repayment capacity and creditworthiness of individuals, allowing banks to make informed decisions regarding loan approvals.

Overall, the research findings suggest that enhancing these independent variables can positively impact asset quality in banks. It is crucial for banks to consider and emphasize these factors when making lending decisions and managing their portfolios.

5.3. Recommendations

The study has shown a clear understanding about relationship between credit monitoring activity and asset quality.

To improve asset quality, it is imperative for banks to prioritize obtaining accurate and comprehensive collateral information. This can be achieved by implementing robust systems and processes that thoroughly assess the value and condition of the collateral offered by borrowers. Training and educating bank staff on the importance of accurate collateral information should also be a priority. Additionally, banks should establish strong relationships with external appraisal and valuation experts to ensure that all collateral assessments are conducted professionally and objectively. By doing so, banks can significantly reduce credit risk and enhance the quality of their assets, thereby solidifying their overall financial stability and profitability.

To enhance asset quality, banks should implement a rigorous system of monitoring and analysis of business rating information during loan evaluations. This includes closely examining the financial health, creditworthiness, and reputation of potential borrowers. By considering higher business ratings as an indicator of lower default probabilities, banks can make more informed decisions and allocate resources to borrowers who are more likely to repay their loans. Additionally, establishing regular reviews and updates of business ratings can ensure that banks stay up-to-date with any changes in the creditworthiness of their borrowers, further improving asset quality and minimizing default risk.

To enhance asset quality, banks should prioritize the implementation of a thorough credit assessment process that evaluates customer credit status diligently before granting loans. By placing a strong emphasis on analyzing positive credit histories and assessing the likelihood of defaults, banks can significantly mitigate the risk of bad loans and non-performing assets. This proactive approach will enable banks to enhance their overall asset quality, ensuring a healthier and more robust financial position.

To improve asset quality, banks should prioritize the careful tracking and analysis of consumer default information. By identifying potential default risks through comprehensive data analysis, banks can gain valuable insights into consumer behavior and take proactive measures to minimize defaults. Implementing

strategies such as personalized credit scoring systems, enhanced borrower verification processes, and proactive customer outreach can help mitigate default risks and improve asset quality. Additionally, establishing partnerships with credit bureaus and utilizing advanced analytical tools can further enhance the bank's ability to track and predict default trends, allowing for more effective risk management and mitigation strategies. Ultimately, by actively monitoring and addressing consumer default risks, banks can ensure a healthier loan portfolio and overall improvement in asset quality.

5.3 Direction for the Future Research

Since any study cannot be free from limitations, accordingly there are some limitations in current study. The aim of this study was to assess the relationship between credit monitoring activities and banks' asset quality based on primary data.

- The Pseudo-R- squared statistics of the models were 59 percent. The result indicates that 59 percent variation in the dependent variable was jointly explained by the explanatory variables in the model. Whereas, the remaining 41 percent of the variation in the asset quality (as measured by Likert scale) explained by other variables which are not included in the model. The other researcher should incorporate more variables to improve adjusted R^2 with the same topic at the same study area.

- In other way, the findings of this study may be difficult to generalize about all banks in Ethiopia. Hence, this study can be improved if it will be done at national by comparing banks based on mix of secondary data and primary data.

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Appendix –I:

Part I: Letter of Introduction

Dear Respondents,

RE: Credit Monitoring Activity and Asset Quality: A Comparative Study on Private and Public Banks in Ethiopia

I am an Msc student at Hawassa University conducting a research on the private and public banks in Ethiopia. My research aims at looking into the effects Credit Monitoring Activity and Asset Quality: A Comparative Study on Private and Public Banks in Ethiopia**.** The study is being carried out in Partial Fulfillment of the Award of the Degree of Masters in Accounting and Finance, Hawassa, University.

The information provided will be treated with confidentiality and no instances will your name be mentioned in this research. The information will not be used for any other purpose other than for this academic exercise.

Your assistance in facilitating the same will be highly appreciated. A copy of this research paper will be made available to you upon request.

Yours faithfully,

Dawit Beyene

Msc Student

Part II: Questionnaire

RESEARCH QUESTIONNAIRE

As part of my research for Master's degree in Accounting and Finance (Msc) program at Hawassa, University, I am conducting this questionnaire on all the licensed private and public banks in Ethiopia. I seek to understand and evaluate Credit Monitoring Activity and Asset Quality: A Comparative Study on Private and Public Banks in Ethiopia**.** I highly appreciate you for taking your time to complete the questionnaire. It should take about fifteen minutes of your time. Your responses will be highly confidential and you are kindly requested to fill in the questionnaire according to the instructions provided. Kindly put a tick against the correct choice. Please remember not to indicate your name on the questionnaire. If you have any question or concern, you can contact me through my phone number 0910186358 or through my email address davbeyene2017@gmail.com .

Section A: <u>The Personal Profiles</u>

1. **Gender:**
   - ☐ Female
   - ☐ Male
2. **Age:** Indicate
3. ☐ Below 25
   - ☐ Between 25 to 34
   - ☐ Between 35 to 46
   - ☐ Above 46 years
4. **Education level:**
   - ☐ Diploma level
   - ☐ Bachelor's degree level
   - ☐ Masters

5. **Experience**: How long have you worked in the organization

☐ Less than 2 years

☐ 2 to 5 years

☐ 6 to 10 years

☐ More than 10 years

☐ **If other ----------**

6. Position in bank _____

Section B: Questionnaire related to Dependent and Independent Variables of the study:

To attain the last objective of the study, the researcher developed the model. The questionnaire is prepared in a Likert-scale form with five (5) point scales. Give your answer by making tick mark (√) or (×) Sign in the appropriate scale (point) that indicates your opinion in table below. The values of scales are 5 = Strongly Agree, 4 = Agree, 3 = Neutral, 2 = Disagree, and 1 = Strongly Disagree.

		Scales				
	Dependent Variable:	1	2	3	4	5
Asset Quality						
1	The total value of non-performing assets (NPAs) in the bank's loan portfolio is high					
2	The bank define and measure asset quality, specifically in terms of loan classification and provisioning					
3	The percentage of the bank's loan portfolio comprises of substandard, doubtful, and loss assets					
4	The bank frequently conduct an internal audit or review of its asset quality					
5	The bank have strategies or initiatives in place to mitigate asset quality risks, such as credit risk management policies and procedures.					
Independent Variables						

#1	**Collateral Information**					
1	The nature of collateral provided determines the amount to be advanced and the repayment period					
2	Collateral valuation information is key in determining the amount of loans advanced to clients					
3	High costs of collateralization hinders loan uptake by clients					
4	Lengthy repayment period are offered to customers who pledge security					
5	Both individual and body corporates provide security when applying for Loans					
#2	**Business Ratings Information**					
1	The bank requests the financial statement of the company.					
2	The information in the business credit report is used by the bank in considering whether a client will make timely payment of the loan plus interest.					
3	The bank lends to businesses with a score of between 50 and 100					
4	The bank considers other factors about the business other that the CRB Rating					
5	The bank considers transparent business practices before advancing Credit					
#3	**Customer's Credit Status Information**					
1	The bank advances loans to customers with positive credit status only					
2	The bank advances loans to customers who had previously been negatively listed but have updated their credit status					
3	Customers with negative credit status are required to provide additional security					

4	The bank waives collateral requirement for clients with positive listing					
5	The bank requests the credit status every time it interacts with the customer					
#4	**Consumer Default Information**					
1	The bank sends consumer default information to the bureau monthly.					
2	Default occurs when the customer is 90 days overdue					
3	The bank updates the default information immediately the customers clears the overdue principal and interest					
4	The bank lends to consumers with credit rating of more than 500 score only					
5	Past repayment record of client affects the future borrowings of a client					

Thank You for Your Cooperation!

Appendix –II: Interview with Government bank and private banks

A. Interview with Government bank

1. How does the level of credit monitoring activity of your bank is differ from private commercial banks?

2. What impact does Credit Monitoring Activity have on asset quality in government banks compared to private commercial banks?

3. Are there any regulatory differences that influence Credit Monitoring Activity between government and private commercial banks?

4. How does the cost of implementing Credit Monitoring Activity differ for government banks versus private commercial banks?

5. Are there any distinct advantages or disadvantages related to Credit Monitoring Activity in government banks versus private commercial banks?

B. Interview Private Banks

1. How does the level of Credit Monitoring Activity differ from government commercial banks?

2. What impact does Credit Monitoring Activity have on asset quality in government banks compared to private commercial banks?

3. Are there any regulatory differences that influence Credit Monitoring Activity between government and private commercial banks?

4. How does the cost of implementing Credit Monitoring Activity differ for government banks versus private commercial banks?

5. Are there any distinct advantages or disadvantages related to Credit Monitoring Activity in government banks versus private commercial banks?

Appendix –III: SPSS Result

Case Processing Summary

		N	Marginal Percentage
Asset Quality	1.00	2	6.5%
	2.00	10	32.3%
	3.00	6	19.4%
	4.00	11	35.5%
	5.00	2	6.5%
Valid		31	100.0%
Missing		0	
Total		31	

Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	84.283			
Final	59.046	25.237	4	.000

Link function: Logit.

Pseudo R-Square

Cox and Snell	.557
Nagelkerke	.593
McFadden	.290

Link function: Logit.

Parameter Estimates

		Estimate	Std. Error	Wald	df	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Threshold	[AQ = 1.00]	3.936	1.715	5.269	1	.022	.575	7.297
	[AQ = 2.00]	7.415	2.043	13.176	1	.000	3.411	11.418
	[AQ = 3.00]	8.811	2.185	16.269	1	.000	4.530	13.093
	[AQ = 4.00]	12.781	2.856	20.027	1	.000	7.184	18.379
Location	CoInfo	1.251	.417	9.003	1	.003	.434	2.068
	BRI	.682	.283	5.822	1	.016	.128	1.236
	CCI	.315	.269	1.373	1	.241	-.212	.841
	CDI	.700	.347	4.064	1	.044	.019	1.381

Link function: Logit.

Correlations

		Asset Quality	Collateral Information	Business Ratings Information	Customer's Credit Status Information	Consumer Default Information
Asset Quality	Pearson Correlation	1	.575**	.368*	.275	.394*
	Sig. (2-tailed)		.001	.042	.134	.028
	N	31	31	31	31	31
Collateral Information	Pearson Correlation	.575**	1	.136	.213	.259
	Sig. (2-tailed)	.001		.465	.250	.159
	N	31	31	31	31	31

	Pearson Correlation	.368*	.136	1	.211	-.138
Business Ratings Information	Sig. (2-tailed)	.042	.465		.254	.460
	N	31	31	31	31	31
	Pearson Correlation	.275	.213	.211	1	-.130
Customer's Credit Status Information	Sig. (2-tailed)	.134	.250	.254		.484
	N	31	31	31	31	31
	Pearson Correlation	.394*	.259	-.138	-.130	1
Consumer Default Information	Sig. (2-tailed)	.028	.159	.460	.484	
	N	31	31	31	31	31

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

*. Correlation is significant at the 0.05 level (2-tailed).