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**FACTORS AFFECTING NON-PERFORMING LOAN IN THE
CASE OF DEVELOPMENT BANK OF ETHIOPIA CENTRAL
REGION**

BY:

SEBLE MESKELU

**A THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES OF ST.
MARY'S UNIVERSITY IN PARTIAL FULFILLMENT OF THE
REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS
ADMINISTRATION**

JULY, 2024

ADDIS ABABA, ETHIOPIA

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SCHOOL OF GRADUATE STUDIES
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Acronyms and Abbreviations

DBE –Development bank of Ethiopia

NBE- National bank of Ethiopia

NPL- Non performing loan

GDP –Growth domestic product

CAR – Capital Adequacy Ratio

INFR– Inflation Rate

LTDR–Loan to Deposit Ratio

LR– Lending Rate

LLP–Loan loss provision

ROA –Return on Asset

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ABSTRACT

Banks have a vital contribution towards the development of economy by financing different sector. The objective of this study is assessing the factors affecting non-performing loans in the case of Development bank of Ethiopia in Addis Ababa credit and risk departments. The research has been analyzed through both descriptive and explanatory form of research design to provide solutions to the research problems Purposive sampling is used to draw the sampled departments and then a convenience sampling method is used to distribute the questionnaire to 121 respondents. This study used quantitative research approach and both primary and secondary data sources. The secondary source of data used the recent five years (2018/19-2022/23G.C) Development bank of Ethiopia audited financial annual reports. Both descriptive and inferential statistics have been used to find frequency percentage regression and correlation. The data are analyzed by using SPSS version 25 package. Correlation analysis results shows that all the five major factors have a strong positive relationship with NPL in Development bank of Ethiopia and also the researcher found out that not all of the factors have positive and significant effect on NPL which is from the findings there is high inflation rate and NPL weak monitoring/follow in Development bank of Ethiopia this implies that the bank is not strictly follow and manage its loan status. In addition to this from the recorded data of NPL trend analysis of Development bank of Ethiopia shows that there is high NPL percentage which indicates that the bank has weak NPL collections and poor follow up so this also comes due to borrower may not meet obligations per the terms and conditions of the loan contract. Based on the findings, the study recommends that the Development bank of Ethiopia management should investigate the main reason of factor affecting of NPL and take corrective measure accordingly.

Key words: *NPL, Loan Growth Rate Capital Adequacy Return on Asset, Inflation Lending Interest Rate*

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Non-performing Loans (NPLs), as an indicator of poor performance of banks, have gained the attention of scholars in the field in the last three to four decades as increasing NPLs are causing crisis in the banking industry (Barr and Siems, 1994). According to the International Monetary Fund (IMF, 2009), a non-performing loan is any loan in which principal and interest payments are more than 90 days overdue; or when more than 90 days' worth of JBAS (2016) Vol.

The Basel Committee (2001) also defined non-performing loans as loans left unpaid for a period of 90 days. Under the Ethiopian Banking business directive of the National Bank of Ethiopia (NBE), non-performing loans are defined as loans whose credit quality has deteriorated such that full collection of the principal and/or interest is not accomplished in accordance with the contractual repayment terms of the loan (NBE, 2008). Theoretically, there are so many reasons as to why loans fail to perform.

Some of these include depressed economic conditions, high real interest rate, inflation, lenient terms of credit, credit orientation, high credit growth and risk appetite, poor monitoring and other related factors. Since from its establishment, non-performing loan increased from year to year in terms of amount and in the numbers of projects. This shows that this figure increased through time and this problem affect not only the Bank performance and profitability it also affects the country economic activity largely since it finances projects that have significant impact on the country development and the sources for financing are community resources.

Non-performing loan may result from macro-economic condition of the country, borrower`s-related factors, bank-related problems, and some other external factors. The macro-economic factors for occurrence of non-performing loans are inflation, interest rate, GDP growth, unemployment, exchange rate fluctuation, and soon. Poor credit risk management, lenient credit terms and conditions, poor customer due diligence assessment, poor appraisal, lack of proper follow-up and supervision, problem of portfolio management, incapability of performers and management of the Bank to manage the borrowers and elongated decision making process are Bank specific factors are generally the factors mentioned in the literature to have impact on loan

default. Arega et al (2016) used descriptive statistics (mean, median, mode, standard deviation) on the specific factors for non-performing loans in DBE.

Credit size (includes aggressive lending, compromised integrity in approval, rapid credit growth and Bank's great risk appetite); high interest rate, poorly negotiated credit terms and lenient/lax credit terms, and elongated process of loan approval were Bank specific causes for the occurrence of nonperforming loans. On the other hand, poor credit culture of customers, lack of knowledge of borrower for the business they engaged in, willful default, loan diversion, and project management Dagne Mulatu and Maru Shete problems were identified as the major customer specific causes of NPLs (Arege et al, 2016). Therefore, the researcher accommodates both specific and macro-economic variables and used inferential statistics to reach the result and recommendation. While bank specific, borrower's related, and external factors could lead to non-performing loans, up to the level of the researcher's findings and review there is no any study on macroeconomic determinates of nonperforming loan in DBE case. Knowing the critical factors and investigating deeply the impact that brought helps the bank to recover existing loans and tackling and minimalizing the problem which enhancing loan recovery of projects to stabilize the bank financial position and the economy in general.

Many scholars investigated the relationship between macroeconomic factors and non-performing loans, but little work has been done to explore the relationship between bank specific factors and non-performing loans .The main purpose of studying non-performing loans (NPLs) is to gain insights into the factors that contribute to their occurrence and to understand their impact on the development bank of Ethiopia. To Understand Determinants various factors that lead to NPLs. These determinants can include macroeconomic conditions, bank-specific characteristics, and industry-related factors. By identifying these drivers, policymakers and financial institutions can develop strategies to prevent or mitigate NPLs¹.Risk Assessment NPLs pose significant risks to banks and financial stability. By studying them, we can assess the potential impact on a bank's financial health, liquidity, and solvency. This knowledge helps banks make informed decisions about risk management and capital allocation.

1.2. Statement of the Problem

Non-performing loans are important because they reflect the credit quality of the loan portfolio of banks, and in aggregate terms, reflect the credit quality of the loan portfolio of the banking sector in a country. An understanding of the factors that influence the level of non-performing loans is crucial for the risk management function of banks and for national bank supervisors responsible for banking stability. The determinants of nonperforming loans within and across countries are a major theme in the non-performing loan academic literature (Louzis et al., 2012). Therefore, minimizing NPLs is primary to ensure sound banking system, overall financial stability and the real economy. While before any policy response to resolve problem of NPLs, regulator and bank's management need to identify the underlying determinants and their relative significance.

Several studies have been done on the Assessment of NPL in banking industry in different countries (developed and developing economies). In the context of Ethiopia, for example Zelalem (2013) and Mekides(2017) has investigated the issue of NPLs. Zelalem (2013) has studied bank specific and determinants of NPLs(loan growth, operational efficiency, financial performance, real gross domestic product (GDP) growth, inflation) using classical multiple linear regression model and ordinary least square estimation method using data collected from eight commercial banks across the period 2000 to 2011. Similarly, Mekides (2017) using classical multiple linear regression and ordinary least square estimation method studied bank specific and macroeconomic determinants of NPLs (loan to deposit ratio, capital adequacy, GDP, unemployment rate) .

These studies vary in both choosing of independent variables and inter temporal dimensions. Zelalem (2013) investigated bank specific factors such as loan growth, operational efficiency, financial performance, income diversification, ownership of banks and bank size. From the macro economic factors, the author has studied real GDP interest rate, inflation rate and exchange rate. While Mekides (2017) investigated bank specific factors such as loan to deposit ratio, interest margin, capital adequacy ratio, return on equity and loss provision. The macro economic factors are GDP and Unemployment. Both studies have employed similar model and estimation method; they employed classical linear multiple regression model and ordinary least square estimation method but the finding of both are not the same. This indicating that there is research finding, time and variables inconsistency. Therefore, this research contributes towards filling the context gap by

identifying and analyzing the factors that affect level of nonperforming loans in government banks like development bank of Ethiopia .Generally, the study answers the question what are the main factors affecting of nonperforming loans in development bank of Ethiopia because there is no studies have been done on the assess the major factors non-performing loans in the case of development bank of Ethiopia.

So the researcher wants to assess the factors affecting non-performing loans in the case of development bank of Ethiopia in Addis Ababa credit and risk departments because the NPL handling needs and the customer loan wants are changing from time to time. There is a need to measure and find the recent gaps with respect to factors affecting non-performing loans.

Currently, development bank of Ethiopia has shown rapid improvement as a government bank and has introduced innovative measures like opening a lot of networked branches closer to customer in comparison with the previous, highly engaged in providing short, medium and long term development credits which is its “project” based lending tradition and also it is working digital banking among others, all these enhance profitability of the bank. however, there is a still weakness on the collections NPL, poor follow up and also borrowers are not meet obligations per the terms and conditions of the loan contract due to the major factors such as Capital Adequacy Ratio, Return on Asset Loan Growth Rate, Inflation and Lending Interest Rate are still seen in development bank of Ethiopia (Source: Preliminary observation and informal interview with employees). According to the DBE annual report 2020/2021, the NPL of the bank shows 26.13%, which is opposed to the NBE 2008 standard development bank maximum limit of NPL of 15%.

Thus, the researcher strives to identify and investigate these gaps in development bank of Ethiopia by assessing the major factors of non-performing loans in the case of development bank of Ethiopia in Addis Ababa credit and risk departments and will give an insight for the management about NPL because the NPL handling needs and the customer loan wants are changing from time to time. There is a need to measure and find the recent gaps with respect to determinants of non-performing loans.

1.3. Research Questions

Based on the statement of the problem, the study is addressed the following questions

1. How loan growth rate affects non-performing loan in development bank of Ethiopia?
2. How capital adequacy affects non-performing loan in development bank of Ethiopia?
3. How is the relationship between return on asset and non-performing loans development bank of Ethiopia?
4. How inflation affects non-performing loans development bank of Ethiopia?
5. How is the relationship between lending interest rate and non-performing loan in development bank of Ethiopia?

1.4. Objectives of the Study

1.4.1. General Objective

The general objective of this study is to assess the factors affecting non-performing loan in the case of development bank of Ethiopia in Addis Ababa credit and risk departments.

1.4.2. Specific Objectives

- ✚ To assess the impact of loan growth rate in non-performing loan in the case of development bank of Ethiopia.
- ✚ To assess the impact capital adequacy in non-performing loans in the case of development bank of Ethiopia
- ✚ To examine the relationship between return on asset and non-performing loans development bank of Ethiopia
- ✚ To investigate the effects of inflation in of non-performing loans development bank of Ethiopia.
- ✚ To assess the impact of lending interest rate in nonperforming loan in development bank of Ethiopia.

1.5. Significance of the Study

The findings of this study are expected to provide the empirical information on the factors affecting of non-performing loans in the case of development bank of Ethiopia. The study has great contribution for the management of development bank of Ethiopia to understand and mitigate the root cause of credit risk by identifying non-performing loan and to take appropriate actions appropriately. It is also useful for supervisors and regulators in their attempt to identify the variables cause a rising non-performing loan in banking sector. The researcher expects to get a

practical knowledge about research project work and it can be used as a base point for other interested researchers for further investigation in the related issues.

1.6. Scope of the Study

This study is focused on the factors that affecting of non-performing loans in the case of development bank of Ethiopia in Addis Ababa credit and risk department. and the researchers are used the recent five years data .Thus, the researcher believe that taking head office credit department as a sample branch is used to get relevant and appropriate recent data .Generally, the study is limited to development bank of Ethiopia specific factors such as loan growth rate, capital adequacy ratio and return on asset and two macroeconomic factors such as inflation and lending interest rate. The variables are selected because of they have strong impact on non-performing loan.

1.6.1 Methodological Scope

.The study used both explanatory and descriptive research design, and the researchers used primary data in structured questionnaires and secondary data based on the recent five-year (2018–2022/23G.C.) Development Bank of Ethiopia audited financial annual reports.

1.6.2. Geographically Scope

This study is focused on the factors that affect non-performing loans in the case of the development bank of the Ethiopian central region in the Addis Ababa credit and risk department. And the researchers used the recent five-year data. Thus, the researcher believes that taking the head office credit department as a sample branch is used to get relevant and appropriate recent data.

1.6.3. Theoretical Scope

There are widely known explanations for how non-performing loans (NPLs) have changed over time. A single group concentrates on external factors like the general macroeconomic climate, which might impact borrowers' ability to return their loans. On the other hand, a second group examines the variation in nonperforming loans among banks and attributes the amount of nonperforming loans to bank-specific characteristics. The study was focused on bank-specific factors such as loan growth rate, capital adequacy ratio, and return on assets, as well as macroeconomic factors such as inflation and lending interest rates.

1.7. Limitation of the study.

The research would be more fruitful if it has been conducted on a wider scale of the country. But due to time and financial constraints, the study is not included many banks in Ethiopia the study is held only development bank of Ethiopia recent five years data and on primary data which was collected using questionnaires from the target respondents. Therefore, the generalization of the findings and the conclusions drawn is limited on recent five years data and one bank.

1.8 Operational Definitions of Key Terms

- ✚ **Nonperforming loans:** a loan whose credit quality has deteriorated and the full collection of principal and/or interest as per the contractual repayment terms of the loan/advances is in question and delayed for more than 90 days (NBE, 2008).
- ✚ **National Bank of Ethiopia (NBE):-** It is the reserve or central bank of Ethiopia. Besides licensing and supervising banks, insurers and other financial institutions, NBE fosters a healthy financial system and undertakes other related activities that are conducive to rapid economic development of Ethiopia. (Proclamation No.592/2008, FDRE, 2008)
- ✚ **Loans and Advances :** means any financial assets of a bank arising from a direct or indirect advance or commitment to advance funds by a bank to a person that are conditioned on the obligation of the person to repay the funds, either on a specified date or on demand, usually with interest (NBE Directive, SSB/43/008).
- ✚ **Borrower:** - is the one who borrows money from the lender (Bank).
- ✚ **Lending:** - is the provision of resources (granting loan) by one party to another party where the second party doesn't reimburse the first party immediately there by generating a debt, and instead arranges either to repay or return those resources a later date.
- ✚ **Credit risk** - it is the risk that a financial contract will not be concluded according to the agreement. It is the risk that the counterparty to an asset will default

1.9. Organization of the Study

This thesis is organized into five chapters. The first chapter contains background of the study, statement of the problem, basic research questions, objective of the study, significance of the study, scope of the study, limitation of the study and organization of the paper. And the second chapter deals with the review of related literature. The third chapter deals with the methodology and the fourth chapter presents data analysis, interpretation. The fifth chapter presents the summary of findings, conclusion and recommendations

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1. Theoretical Literature Review

2.1.1. Definition of Non-performing Loan

The concept of non-performing loans has been defined in different literatures. According to Ozili (2019) non-performing loans reflect the credit quality of the loan portfolio of banks, and in aggregate terms, reflect the credit quality of the loan portfolio of the banking sector in a country. An understanding of the factors that influence the level of non-performing loans is crucial for the risk management function of banks and for national bank supervisors responsible for banking stability.

According to National Bank of Ethiopia *directive (NBE, 2008)*, a loan is identified and segregated as non-performing loan (NPL) depending on the number of days a repayment is delayed or if discounted at least for ninety days. Consequently, a loan is categorized as NPLs, if its repayment is delayed or discounted for at least ninety days. Default/NPLs are classified into three categories, usually based on the “length of overdue” of the loan. These categories are substandard, doubtful and loss. Substandard; loans or advance if it has one or better defined weaknesses exist in the obligator’s financial conditions that make the full collection of the principal and interest questionable and with pre-established repayment program passes due 90 days or more, but less than 180 days; and overdrafts and loans or advance that do not have a pre-established repayment program. Doubtful; loans or advance in this category when weaknesses exists which make collection or repayment in full highly questionable and improbable based upon currently existing circumstances of the obligator’s and with pre-established repayment program pas due 180 days or more, but less than 360 days; and overdrafts and loans or advance that do not have a pre-established repayment program. Loss; loans or advance in this category when if it is uncollectible and with pre-established repayment program pas due 360 days or more; and overdrafts and loans or advance that do not have a pre-established repayment program.

Therefore, 20%, 50% and 100% provision maintain for sub-standard, Doubtful and loss respectively (*Directive No.SBB/43/2008*). Generally, NPLs are loans that are outstanding both in their principal and interest for a long period of time contrary to the terms and conditions under the loan contract. Any loan facility that is not up to date in terms of payment of principal and interest

contrary to the terms of the loan agreement is NPLs. Thus, the amount of nonperforming loans measures the quality of bank assets (Tseganesh, 2012).

The study will be guided by different theories that are developed by different researchers that are input for the subject matter for over the year. These theories include credit market theories, loan pricing theory and information asymmetry theory.

2.1.2. The Consequence of NPLs

Non-performing loan have become a worrisome issue for the last few decades. Historically, the occurrence of banking crises has often been associated with a massive accumulation of non-performing loans which can account for a sizable share of total assets of insolvent banks and financial institutions, especially during episodes of systemic crises (Jovovic, 2014). Due to the ever-increasing volume of non-performing loan, the banking sector and the economy in general have taken a negative turn. The rising trend of the NPLs is bound to have a long-lasting negative impact on the country's financial sector. If loanable funds are blocked as NPLs, banks will not have enough reserve for issuing future loans, which will affect the economy in multiple ways, For example, it will hinder employment opportunities and the rising trend of NPLs will also have a negative impact on banks' profitability by deteriorates Banks asset quality, reduces banks' efficiency and income (due to increasing provision expenses held on increasing nonperforming loans) these all adversely affect banks; image reputation, resource mobilization capacity, soundness, financial intermediation role; these, in turn, result in reduction in investment and related economic growth of countries(Rose, 2012).

2.1.3. Managing Credit Risk

According to Saunders & Cornett (2014) financial institutions are special because of their ability to transform financial claims of house hold savers efficiently into claims issued to corporations, individuals and governments. A financial institution's ability to evaluate information and control and monitors borrowers allows them to transform these claims at the lowest possible cost to all parties. The credit risk involves in lending. A credit quality problem is the worst case, can cause financial institutions to become insolvent, or it can result in such a significant drain on earnings and net worth that it can adversely affect the financial institutions profitability and its ability to compete with other domestic and international financial institutions.

According to Hubbard (2002) banks profit from the spread between the interest rate they charge to borrowers and the interest rate they pay to depositors. To ensure reasonable profits, banks attempt to make loans that will be fully repaid with interest. As with lending in financial markets, the bank is concerned about credit risk that is, the risk that borrowers might default on their loans. If banks do not manage credit risk effectively, they won't be profitable for their shareholders and won't be in business very long. Bankers must cope with adverse selection and moral hazard in managing credit risks of individual loans.

Moral hazard exists in bank loan markets because borrowers have an incentive, once they have obtained a loan, to use the proceeds for purposes that are detrimental to the bank. As stated by Hubbard (2002) banks use screening techniques, collateral requirements, credit rationing, monitoring, and restrictive covenants and develop long-term relationships with borrowers to help reduce costs of both adverse selection and moral hazard. The following are the mechanisms used to reduce credit risk.

Diversification: The theory of portfolio allocation predicts that investors' individuals of financial institutions can reduce exposure to the risk of price fluctuations, by diversifying their holdings. This theory applies to banks as well; if banks lend too much to one borrower, to borrowers in one region, or to borrowers in one industry, they are exposed to risks from those loans (Koch and MacDonald, 2003).

Credit Risk Analysis: In performing credit-risk analysis, the bank examines the borrower's likelihood of repayment and general business conditions that might influence the borrower's ability to repay the loan. Individuals and businesses apply for loans to a loan officer, who manages the bank's relationship with the borrower, gathers information about the borrower and the purpose of the loan, and assesses the credit risk. To reduce the likelihood of adverse selection, loan officer screen applicants to eliminate potentially bad risks and to obtain a pool of creditworthy borrowers (Sinkey, 2002).

Credit Rationing: In some circumstances, banks minimize the costs of adverse selection and moral hazard through credit rationing. In rationing credit, the bank either grants a borrower's loan application but limits the size of the loan or denies a borrower's loan application for any amount at the going interest rate (Rose, 2002).

Monitoring and Restrictive Covenants: To reduce the cost of moral hazard, banks monitor borrowers to make sure that a borrower doesn't use the funds borrowed from the bank to pursue unauthorized, risky activities (Strischek, 2000).

Long-Term Relationships: One of the best ways for a bank to gather information about a borrower's prospects or to monitor a borrower's activities is for the bank to have a long-term relationship with the borrower. By observing the borrower account and loan repayments activity. The bank can significantly reduce problems of asymmetric information by reducing its information gathering and monitoring costs (Hubbard, 2002).

2.1. 4. Theoretical Framework

These theories include credit market theories, loan pricing theory and information asymmetry theory.

2.1.4.1. Credit Market Theory

According to Ewert, Szczesmy& Schenk (2000), a model of the neoclassical suggests that credit market postulates that the terms of credits are clear the market. If collateral and other restrictions remain constant, the interest rate is the only price mechanism. With an increasing demand for credit and a given customer supply, the interest rate rises, and vice versa. It is thus believed that the higher the failure risks of the borrower, the higher the interest premium.

2.1.4.2 Loan Pricing Theory

Banks cannot always set high-interest rates. Banks should consider the problems of adverse selection and moral hazard since it is very difficult to forecast the borrower type at the start of the banking relationship. If banks set interest rates too high, they may induce adverse selection problems because high-risk borrowers are willing to accept these high Determinants of Non-Performing loans rates. Once these borrowers receive the loans, they may develop moral hazard behavior or so-called borrower moral hazard since they are likely to take on highly risky projects or investments (Mileris, 2012).

2.1.4.3 Information Asymmetry Theory

The theory of asymmetric information tells us that it may be difficult to distinguish well from bad borrowers (Richard, 2011), which may result into adverse selection and moral hazards problems. The theory explains that in the market, the party that possesses more information on a specific item to be transacted is in a position to negotiate optimal term for the transaction than the other party.

The party that knows less about the same specific item to be transacted is therefore in a position of making either right or wrong decision concerning the transaction. Consequently, adverse selection leads to whereby high-quality borrowers are displaced by low-quality borrowers, which in the long run cause deterioration in the overall quality of bank loan portfolios and lead to accumulation of non-performing loans, decrease in profitability and erosion of capital (Makri et al., 2014).

2.1.5 Credit procedures

Credit procedures encompasses every activity involved in lending including sales, customer selection and screening, the application and approval process, repayment monitoring, and delinquency and portfolio management. It is also linked with the institutional structure pertaining to the credit process. Quality of credit methodology is one of the most determinant factors for the efficiency, impact and profitability of the institutions. Thus getting the credit methodology and product mix right is therefore one of the most demanding as well as rewarding challenges of every financial institutions (banks). The sections that follow discuss major issues in credit methodology that include credit information, credit analysis process, credit approval and credit monitoring processes. Getting these well significantly affect loan performance.

2.1.5.1 Credit Information

Engagement in financing begins with customer recruitment. An issue of knowing the customer, customarily known as KYC (Know Your Customer) is so vital before proceeding to details. Banks use various means to obtain such information about the existing or potential customer. Use of financial statement, credit report from credit bureau, customers' history if not new is the potential sources of information (Ross et al., 1998).

2.1.5.2 Credit Assessment

Credit analysis is the first step in the process to tailor-make a 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 (Cade, 1999). The credit quality of an exposure 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 (Saunders & Cornett, 2003). Credit assessment

thus involves assessing the risks involved in financing and thereby anticipating the probability of default and recovery rate.

2.1.5.3 Credit Approval

Extending credit is the careful balance of limiting risk and maximizing profitability while maintaining a competitive edge in a complex, global marketplace. Banks go through a thorough process in approving credit to hit the balance. Credit approval is the process of deciding whether or not to extend credit to a particular customer. It involves two steps: gathering relevant information and determining credit worthiness (Ross, Westerfield and Jordan, 1999).

As has been discussed in the preceding section, the credit analysis process consists of a subjective analysis of the borrower's request and a quantitative analysis of the financial information provided. The individual steps in the credit approval process and their implementation have a considerable impact on the risks associated with credit approval.

The quality of credit approval processes depends on two factors, i.e. a transparent and comprehensive presentation of the risks when granting the loan on the one hand, and an adequate assessment of these risks on the other. Furthermore, the level of efficiency of the credit approval processes is an important rating element. Due to the considerable differences in the nature of various borrowers and the assets to be financed as well the large number of products and their complexity, there cannot be a uniform process to assess credit risks.

2.1.5.4 Loan Follow up

Lending decision is made on sound credit risk analysis /appraisal and assessment of creditworthiness of borrowers. But past records of satisfactory performance and integrity are no guarantee future, though they serve as useful guide to project trend in performance. A loan granted on the basis of sound analysis might go bad because of the borrower may not meet obligations per the terms and conditions of the loan contract. It is for this reason that proper follow up and monitoring is essential. Monitoring or follow-up deals with the following vital aspects:

- ✓ Ensuring compliance with terms and conditions
- ✓ Monitoring end use of approved funds
- ✓ Monitoring performance to check continued viability of operations
- ✓ Detecting deviations from terms of decision

- ✓ Making periodic assessment of the health of the loans and advances by noting some of the key indicators of performance that might include: profitability, activity level and management of the unit and ensure that the assets created are effectively utilized for productive purposes and are well maintained.
- ✓ Ensuring recovery of the installments of the principal and interest in case of term loan as per the scheduled repayment program
- ✓ Identify early warning signals, if any, and initiate remedial measures thereby averting from possible default.

2.1.6 Banking Risks

Shareholder value maximization requires a firm to engage in risk management practices only if doing so enhances the value of the firm and, by implication, its value to shareholders (Ali, 2006). A volatile economy and recent credit crisis show the importance of banks to increase attention on how risks can be measured and kept under control. Bessis (2002:11) defines banking risks as “adverse impacts on profitability of several distinct sources of uncertainty”. Many risks are common to all financial institutions that include: credit, liquidity, market, operational, currency, solvency, and interest rate, country risks among others.

2.1.6.1 Credit risk

According to Valsamakis et al (2005), credit risk is the risk that a financial contract is not be concluded according to the agreement. Credit risk encompasses both the loss of income resulting from the sector inability to collect anticipated interest earnings as well as the loss of principal resulting from loan defaults. Credit risk arises because the possibility that the expected cash flows from advances and securities held, might not be paid in full. Credit risk is considered the most lethal of the risks banks face (Cade, 1999). Credit risk includes both transaction risk and portfolio risk. (Risk Management, GTZ, 2000). Policies on diversification (avoiding concentration in a particular sector or area), maximum loan size, types of loans, and loan structures lessen portfolio risk.

2.1.6.2 Liquidity risk

Liquidity risk is the possibility of negative effects on the interests of owners, customers and other stakeholders of the financial institution resulting from the inability to meet current cash obligations in a timely and cost-efficient manner. Liquidity risk occurs when there is a sudden surge in liability withdrawals resulting in a bank to liquidate assets to meet the demand (Bessis, 2002). It usually

arises from management's inability to adequately anticipate and plan for changes in funding sources and cash needs. According to Rose and Hudgins (2005) bankers and other financial institutions are concerned about the danger of not having enough cash to meet payment or clearing obligations in a timely and cost effective manner.

2.1.6.3 Market risk

Market risk is the risk incurred in the trading of assets and liabilities when interest rates, exchange rates and other asset prices change (Saunders & Cornett, 2003). It is the current and potential risk to earnings and shareholders' equity resulting from adverse movements in market rates or prices. It arises from interest rate, equity and foreign exchange risks (Koch and Macdonald, 2003). According to Bessis (2002) due to increased competition the interest income of banks is declining and banks are concentrating more on non-interest income in order to mitigate this risk.

2.1.6.4 Operational risk

It is the risk of loss resulting from inadequate internal processes, people and systems or from external events (Koch and Macdonald, 2003). Operational risk is the possible risk that existing technology or support systems will fail or malfunction. It also includes human errors, fraud and non-compliance with an institution's procedures and policies (Bessis, 2002).

2.1.6.5 Currency risk

Concerns the possible impact which fluctuations in exchange rates may have on the foreign Exchange holdings or the commitments payable in foreign currencies by business organizations (Valsamakis, et al., 2005). It is the possibility that exchange rate fluctuations can adversely affect the value of a bank's assets and liabilities held in foreign currencies (Bessis, 2002). Currency risk is one of the market risks banks face.

2.1.6.6 .Capital or Solvency risk

It is the risk that a bank may become insolvent and fail (Koch and Macdonald, 2003). It isn't Considered a separate risk because all of the risks a bank faces, in one form or another, affect A bank's capital.

2.1.6.7 Interest rate risk

A bank is exposed to interest rate risk when the maturities of the bank's assets and liabilities Are mismatched (Saunders & Cornett, 2003). Interest rate risk arises from the possibility of a

Change in the value of assets and liabilities in response to changes in market interest rates. If interest rates rise and a mismatch occur in maturities by holding longer-term assets than liabilities, the market value of the assets will decline by a larger amount than the liabilities.

2.1.6.8 Country risk

It is associated with the risk that foreign borrowers cannot repay the debt due to foreign currency shortages, adverse political and economic conditions or interference by the foreign government (Saunders & Cornett, 2003). Besides the aforementioned risks Rose and Hudgins (2005) state that banks are also exposed to: Compliance risk, Reputation risk, Sovereign risk, Strategic risk, and Legal and regulatory risks.

2.1.7 Credit Risk Management

Loan is a major asset, income source for banks, and risky area of the industry. Moreover, its contribution to the growth of any country is very clear. Bank credit is the primary source of debt financing available for most customers in the personal, business or corporate market. The underlying need for credit varies across these markets. Banks generally also want to increase the base of their income and use credit extension as an opportunity to cross sell other fee generating services when a customer applies for credit facilities (Koch & MacDonald, 2003).

Credit risk can be defined as the potential for a borrower or counter party to fail to meet their obligations in accordance with the terms of an obligation's loan agreement, contract or indenture (Sobehart, Keenan & Steyn, 2003).

Credit risk is considered the oldest form of risk in the financial markets. Caouette, Altman & Narayanan (1998: 1) state that "credit risk is as old as lending itself", dating back as far as 1800 B.C. The first banks, which started in Florence seven hundred years ago, faced very similar challenges that banks face today. Although managing credit risk is their core competency, many banks failed due to over-extension of credit (Caouette et al, 1998).

The most prominent risk assumed by banks is credit risk. This is due to the various factors that influence a borrower's ability to repay the credit facility. The borrower's ability to repay is closely linked to the general economic conditions of a country. In favorable economic conditions the ability to repay increases, which could be due to a favorable interest rate environment, low inflation, increased income levels or a combination of these factors. The opposite is however true in poor economic conditions. The borrower's ability to repay is adversely affected under these conditions due to a reduction in disposable income (Koch & MacDonald, 2003).

2.1.8 Nonperforming Loans (NPL)

Loans and advances constitute the primary source of income by banks. As any business establishment a bank also seeks to maximize its profit. Since loans and advances are more profitable than any other assets, a bank is willing to lend as much of its funds as possible. But banks have to be careful about the safety of such advances (Radha .M, et al, 1980). Bankers naturally try to balance the issue of maximizing profit by lending and at the same time manage risk of loan default as it would impair profit and thereby the very capital .Thus a bank needs to be cautious in advancing loans as there is a greater risk which follows it in a situation where the loan is defaulted.

In other words loan loss or defaulted loans puts a bank in a difficult situation especially when they are in greatest amount. Despite the fact that banks hold security for the loans they grant they cannot be fully be certain as to whether they are paid or not. It is when such risks materialize that loans turn to be non- performing. The concept of non-performing loans has been defined in different literatures. According to Patersson and Wadman (2004), non- performing loans are defined as defaulted loans which banks are unable to profit from. They are loans which cannot be recovered within stipulated time that is governed by the laws of a country. According to the International Monetary Fund (IMF, 2009), a non- performing loan is any loan in which interest and principal payments are more than 90 days overdue; or more than 90 days' worth of interest has been refinanced.

2.1 .9 Bank Specific Factors causing Nonperforming Loans

Macroeconomic factors which are viewed as exogenous forces influencing the banking industry should not be sought exclusively in determining NPLs. In contrast, the typical nature of the banking sector along with the specific policy choices of a particular bank with regard to its efforts to maximize efficiency and improve in its risk management are expected to exert a vital influence on the evolution of NPLs. A few literatures have examined the connection between bank-specific factors and NPLs. Literature on bank specific determinants of nonperforming loans are reviewed in the section that follows.

2.1.9.1 Rapid Loan Growth

Studies indicate that loan delinquencies are associated with rapid credit growth. Keeton (1999) who used data from commercial banks in the United States (from 1982 to 1996) and a vector auto regression model indicate this association between loan and rapid credit growth. Sinkey and

Greenwalt (1991) who have also studied large commercial banks in the US and found out that excessive lending explain loan –loss rate. Salas and Saurina (2002) who studied Spanish banks found out that credit growth is associated with non-performing loans. Besides, study by Bercoff, Giovanni and Grimard (2002) shows that asset growth explains NPLs. Similarly Weinberg (1995) uses data on the growth rate of total loans and loan charge-offs in the United States from 1950 to 1992 to show a pattern of increases in lending preceding increases in loan losses .Weinberg (1995) hypothesizes that risk-neutral lenders increase lending during periods of economic expansion because the expected returns from investment projects improve, and therefore, the expected returns from all loan customers rise.

2.1.9.2 High Interest Rate

Banks that charge high interest rate would comparatively face a higher default rate or non Performing loans. Study by Sinkey and Greenwalt (1991) on large commercial Banks in US Depict that a high interest rate charged by banks is associated with loan defaults. Rajan and Dhal (2003) who used a panel regression analysis indicates that financial factors like cost of Credit has got significant impact on NPLs. Study by Waweru and Kalini (2009) on the Commercial banks in Kenya using statistical analysis indicates that high interest rate charged By the banks is one of the internal factors that leads to incidence non-performing loans. Besides, studies by Berger and DeYoung, 1997, for the US; Jimenez and Saurina, 2006, for Spain; Quagliariello, 2007, for Italy; Pain, 2003, for the UK; and Bikker and Hu, 2002, (for 29 OECD countries) banks profit margin exhibited by high interest rate affects occurrence of NPLs.

2.1.9.3 Lenient Credit Terms

Credit sanctioning that has not duly considered the credit terms would potentially lead to occurrence of poor loan performance. Jimenez and Saurina (2005) in their study conducted on the Spanish banking sector from 1984 to 2003 evidence that NPLs are determined by lenient credit terms. Cause for the lenience is attributed to disaster myopia, herd behavior, moral hazard and agency problems that may entice bank managers to take risk and lend excessively during boom periods as per this study. Rajan and Dhal (2003) who studied the Indian commercial banks also found out terms of credit determines occurrence of Nonperforming loans.

2.1.9.4 Credit Orientation

Financial sector development goes hand in hand with orientation of the public. Study conducted by Rajan and Dhal (2003) indicate that credit orientation significantly affects loan default rate as per their panel regression analysis conducted on commercial banks on India.

2.1.9.5 Bank Size

Study by Cole et al. (2004) used data obtained from the 1993 Federal Reserve National Survey of Small Business Finance and bank financial reports, suggest that smaller banks adopt small business loan underwriting practices that are riskier than those of larger banks, riskier in that small banks prefer to lend to small firms that lack hard financial data to support the lending decision and riskier to the extent that the failure rates of small businesses are higher than those of larger, established firms.

2.1.9.6 Cost Efficiency

Hughes et al. (1995) link risk taking to banks' operating efficiency. The argument is that risk-averse managers are willing to trade off reduced earnings for reduced risk, especially when their wealth depends on the performance of the bank. In order to improve loan quality, they will increase monitoring and incur higher costs, affecting the measure of operating efficiency. Therefore, a less efficient bank may in fact hold a low risk portfolio. Bercoff, Giovanni and Grimard (2002) also showed that operating efficiency helped explain NPLs.

2.1.9.7 Poor Loan Follow-up (Monitoring)

Regular monitoring of loan quality, possibly with an early warning system capable of alerting regulatory authorities of potential bank stress, is essential to ensure a sound financial system and prevent systemic crises. (Agresti et al.,2008). The need to give due attention to borrower thus need not be overemphasized in order to ensure loan performance. There is a tendency by borrowers to give better attention to their loans when they perceive they got better attention .Some of the loans defaults ascribe to lower level of attention given to borrowers. It is advised that banks keep up with their loans timely (Mayers, undated).

2.1.9.8 Poor Risk Assessment

Risk, and the ways, in which it can be identified, quantified and minimized, is key concerns for a bank's management and its auditors when they are considering the need to provide for bad and doubtful loans. No loan is entirely without risk. Every loan, no matter how well it is secured, and no matter who is the borrower, has the potential to generate loss for the lender. It is the degree of

risk to which a loan is susceptible and the probability of loss that vary; these should normally be reflected in the interest margin and other terms set at the inception of the loan (Brown, 1993).

2.1.10 External Factors of NPL

Macroeconomic Conditions: GDP Growth: Higher economic growth improves borrowers' repayment capacity, leading to lower NPLs (Beck, Jakubik, & PiloIU, 2013) Inflation: High inflation erodes borrowers' purchasing power, making it difficult for them to meet their debt obligations, thereby increasing NPLs (Nkusu, 2011). Exchange Rates: Volatility in exchange rates can impact borrowers who have taken loans in foreign currencies, leading to higher default rates when local currencies depreciate (Fofack, 2005). Regulatory Environment: Effective regulations and strong legal frameworks help in reducing NPLs by enforcing disciplined lending and recovery practices (Akinlo & Emmanuel, 2014). Impact of NPLs on Banks High levels of NPLs can severely impact banks' financial health and operational efficiency: Profitability: NPLs reduce banks' profitability as they have to set aside provisions for loan losses. This reduces the funds available for lending and other profitable activities (Klein, 2013). Capital Adequacy: Persistent high NPLs can erode a bank's capital base, making it difficult to meet regulatory capital requirements (Louzis, Vouldis, & Metaxas, 2012). Liquidity: NPLs can strain a bank's liquidity position as they do not generate income. This can lead to liquidity mismatches and affect the bank's ability to meet its short-term obligations (Makri, Tsagkanos, & Bellas, 2014). Credit Growth: High NPLs constrain banks' ability to extend new credit, thereby stifling economic growth and development (Salas and Saurina, 2002).

2.1.11 Development Bank of Ethiopia (DBE)

The Context of the Development Bank of Ethiopia (DBE) The DBE, a state-owned financial institution, plays a crucial role in supporting the economic development of Ethiopia by providing long-term financing to key sectors such as agriculture, manufacturing, and infrastructure. However, DBE has been grappling with high levels of NPLs, which hinder its effectiveness and sustainability.

The development bank of Ethiopia (DBE) is one of the financial institutions engaged in providing short, medium and long term development credits. DBE's distinguishing feature is its "project" based lending tradition. Project financed by the Bank are carefully selected and prepared through

appraised, closely supervised and systematically evaluated. Since its establishment in 1909, the bank has been playing a significant role in promoting overall economic development of the country.

The history of Development Bank of Ethiopia goes back to 1909 when the first attempts of its kind known as The Society National d' Ethiopia Pour le Development de l' agriculture et de Commerce (The Society for the promotion of Agriculture and Trade) was established in the Menelik II era. Since then the Bank has taken different names at different times although its mission and business purpose has not undergone significant changes except for occasional adjustment that were necessitated by change in economic development policies of the country.

The under listed names and periods are its predecessors since initial establishment:

- ✓ Agricultural Bank of Ethiopia from 1945-1949
- ✓ Agricultural and Commercial Bank of Ethiopia from 1949-1951
- ✓ Development Bank of Ethiopia Share Company from 1951-1970
- ✓ Investment Bank of Ethiopia from 1964-1970
- ✓ Agricultural and Industrial Development Bank Share Company from 1970-197
- ✓ Agricultural and Industrial Development Bank from 1979-1994
- ✓ Development Bank of Ethiopia from 1994- now

2.1.11.1 Challenges Faced by DBE

- ✚ Risk Management Practices:** DBE's risk management practices need to be strengthened to better assess and mitigate the risks associated with its lending activities. Poor credit assessments and inadequate monitoring have contributed to high NPL levels (World Bank, 2015).
- ✚ Economic Volatility:** Ethiopia's economic volatility, including fluctuating exchange rates and inflation, affects borrowers' ability to repay loans. This macroeconomic instability exacerbates the NPL problem for DBE (IMF, 2019).
- ✚ Regulatory Environment:** Although the regulatory framework in Ethiopia has been improving, there are still gaps in the enforcement of banking regulations and the legal processes for loan recovery, which affect DBE's ability to manage NPLs effectively (National Bank of Ethiopia, 2018).

2.1.11. 2 Strategies for Addressing NPLs at DBE

- ✚ **Strengthening Credit Assessment** is implementing rigorous credit assessment procedures and using advanced credit scoring models can help DBE improve the quality of its loan portfolio (World Bank, 2015).
- ✚ **Enhancing Risk Management:** Developing a robust risk management framework, including regular stress testing and scenario analysis, can help DBE anticipate potential defaults and take preemptive measures (IMF, 2019).
- ✚ **Improving Loan Monitoring:** Regular monitoring of loans and proactive engagement with borrowers can help identify early signs of distress and enable timely interventions (National Bank of Ethiopia, 2018).
- ✚ **Regulatory Compliance:** Ensuring full compliance with existing regulations and engaging with regulatory bodies to adopt best practices in risk management can enhance DBE's ability to manage NPLs (Akinlo & Emmanuel, 2014)

The issue of non-performing loans is a significant challenge for the Development Bank of Ethiopia, affecting its financial health and ability to support economic development. By understanding the internal and external factors contributing to NPLs and adopting effective strategies to manage these risks, DBE can enhance its operational efficiency and financial stability. Addressing the NPL problem is crucial for DBE to fulfill its developmental mandate and contribute to the sustainable growth of Ethiopia's economy.

2.2. Empirical Literature Review

The literature in non-performing loans (NPLs) focuses extensively on the macroeconomic and bank-level determinants of non-performing loans. For instance,

- ✚ Nkusu (2011) investigated the determinants of non-performing loans across 26 developed countries over the 1998 to 2009 period and find that deteriorating macroeconomic conditions such as: economic growth and higher unemployment led to higher non-performing loans. Klein (2013), using country-level data, investigate 16 CESEE countries over the 1998 to 2011 period and find that aggregate NPLs are negatively associated with credit growth, unemployment, gross domestic product growth rate and inflation.
- ✚ Louzis et al. (2012) investigate the determinants of non-performing loans (NPLs) in the Greek banking sector for each loan category: consumer loans, business loans and mortgages, and find that non-performing loans are significantly influenced by management quality, GDP,

unemployment, interest rates and public debt. Skarica (2014) using country-level non-performing loans data, investigate the determinants of non-performing loans among 7 countries in the Central and Eastern European (CEE) region during the third-quarters of 2007 and 2012 and find that higher non-performing loans are significantly associated with economic slowdown, unemployment and inflation.

- ✚ Beck et al. (2015) examine the macroeconomic determinants of non-performing loans (NPLs) across 91 countries and find that non-performing loans are significantly affected by real GDP growth, share prices, exchange rate and lending interest rate. Wood & Skinner (2018) in their study examine the bank-specific and macroeconomic determinants of non-performing loans of commercial banks in Barbados over the period 1991-2015. The author's empirical results indicate that the bank-specific factors: return on equity, return on assets, capital adequacy ratio and loan to deposit ratio are significant determinants of non-performing loans, and while the macroeconomic variables: GDP growth, unemployment and interest rate exerting significant influence on nonperforming loans. The researcher concludes that GDP growth, ROE, ROA and interest rate (Weighted average lending rate) negatively affect NPLs, in the other hand Unemployment, CAR and loan to deposit ratio positively affect NPLs.
- ✚ Regarding bank-level determinants, Klein (2013) finds that capital adequacy measured as equity to asset ratio is negatively correlated with NPLs, implying that banks with relatively low capital have incentives to engage in risky lending behavior which increases the incidence of non-performing loans. On the other hand, Boudriga, Boulila & Jellouli (2009) investigate the cross-country determinants of nonperforming loans (NPLs) while controlling for the impact of banking supervision and institutional factors on credit risk exposure. This shows that banking sectors with higher capital adequacy ratios and prudent loan loss provisioning report fewer non-performing loans. Ozili & Thankom (2018) show that European systemic banks, on average, have fewer NPLs than non-systemic banks because systemic banks have superior credit risk management systems to mitigate non-performing loans compared to non-systemic banks. They also find a negative relationship between loan loss provisions and non-performing loans for both systemic and non-systemic banks in Europe. Additionally, Klein (2013) shows that profitable banks have fewer NPLs because lower NPLs leads to higher interest income which subsequently improves overall profitability.

- ✚ Ozili (2018) investigates the determinants of banking stability, using NPLs as a stability indicator. Using data for 48 African countries, the study finds that bank efficiency, bank concentration, foreign bank presence, unemployment rate and the size of the banking sector are significant predictors of aggregate NPLs. However, higher government effectiveness, high competition and strong legal systems reduced the persistence of non-performing loans in the post-financial crisis period.
- ✚ Amuakwa-Mensah (2015) empirical study regarding to the determinants of non-performing loans in Ghana banking industry finding indicate that both bank-specific variables (previous year's NPL, bank size, net interest margin (NIM), and current year's loan growth) and macroeconomic variables (previous year's inflation, real gross domestic product (GDP) per capita growth and real effective exchange rate) significantly affect NPLs in the banking industry. Also the sub sample estimations showed that bank specific (previous year's NPLs and bank size) positively affect NPLs. However, net interest margin and loan growth have a negatively impact on NPLs. Macroeconomic factors (real effective exchange rate, real GDP per capita growth, and previous year's inflation rate) negatively affect NPLs of large banks. (Saba et al. (2012) in their study conducted between 1985 and 2010 on US banks identify that inflation and general loans have an important impact on NPL.
- ✚ Jameel (2014) uses time series multiple regression analyses on data collected from the Pakistani banking sector, between the period 2000 and 2010, to explain and determine the factors affecting NPLs. He found a negative association between capital adequacy ratio, GDP growth rate, credit deposit ratio and maturity time period of loans and NPLs. On the other hand, there is a positive relationship between weighted average lending rate and NPLs (Allegret, Raymond & Rharrabti, 2016). Bank profitability and sustainability can only be provided through a proper flow of interest income generated through the lending function of banks. However, since banks are no longer able to generate enough interest income through classical safe credit and are required to maintain reserves in the form of provisions to cover for eventual loan losses, bank capital decreases together with their health, which is becoming fragile, increasing the trend of NPLs. Therefore, banks are required to take proactive action to deal with the phenomenon of bad choice of borrowers by identifying and understanding the macroeconomic factors that contribute to the rise of classified credit in banking system (Anjom&Karim, 2015).

- ✚ Mekdes (2017) this study conducted on determinants of nonperforming loans: evidence from commercial banks in Ethiopia. The researcher identify that return on equity and capital adequacy have negative and significant impact on NPLs. Whereas, loan loss provision and loan to deposit have positive significant relationship with NPLs.
- ✚ Anisa (2015) investigated the determinants of Nonperforming loan in Ethiopian Commercial Banks. The study aimed to test and confirm the effectiveness of common commercial banks' non-performing loan determinants and how it affects the level of nonperforming loans in Ethiopia commercial banks from 2004 to 2013. The study found that lending interest rate is a very important determinant of the nonperforming loan in Ethiopia banking industry. Cost efficiency had a negative and significant impact on banks' nonperforming loans. Bank solvency ratio and gross national product (GDP) growth rate ad inflation rate had a negative and statistically insignificant impact on banks' nonperforming loans.
- ✚ Mesay (2017) assessed the determinants of non-performing loan growth rate. Specifically, the study sought to establish the effect of microeconomic variables (deposit Interest rate, exchange rate, and annual inflation rate), bank-specific (loan to deposit ratio, credit monitoring and follow up and loan growth rate) and business characteristic (business profit margin and nature of business). The study adopted a mixed-methods research approach by combining documentary analysis (structured review of documents) and in-depth interviews. The findings of the study show that business profit margin, deposit interest rate, loan growth rate, loan to deposit ratio, credit monitoring and follow-up and nature of the business statistically significant relationship with banks NPLs. The study recommended that Loan growth, business profit margin, loan to deposit ratio and deposit interest rate were significant drivers of NPLs, hence focusing and engendering the institution alongside these indicators could reduce the probability of NPL in Ethiopian private commercial banks.
- ✚ Yonas (2017) conduct a research on determinants of NPL in commercial banks in Ethiopia in the period of 2007-2016. The researcher explains the significance of interest rate, growth in GDP, inflation rate, exchange rate, real interest rate, ROA, ROE and loan growth rate on nonperforming loans and he found that NPLs can be attributed to both macroeconomic conditions and banks specific factors. From the macro determinants, Real interest rate has

positive and statistically significant relationship with NPL. ROA and ROE from bank specific factors have negative and significant relationship with the NPLs in commercial banks in Ethiopia. In conclusion, the empirical study regarding with the determinants of non-performing loan in Ethiopian commercial banks more emphasis on macroeconomic and bank specific variables show that loan growth rate, loan to deposit ratio, capital adequacy ratio, return on asset, inflation, gross domestic product and lending interest rate will have significant relationship with banks NPLs. The study shows that banks NPLs are determined by macroeconomic and bank specific factors. The study's findings were influenced by the difference in the data period and study variables. This creates contradiction and inconsistency in the findings.

2.3 Literature Gap

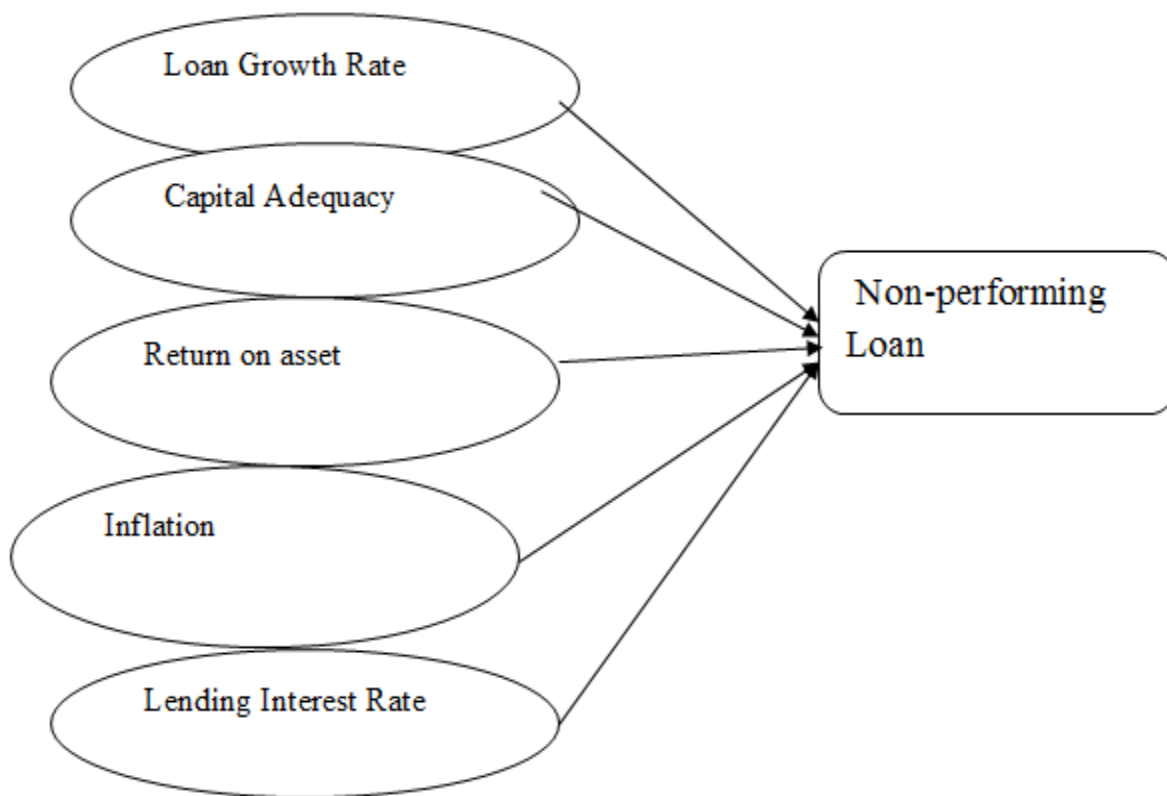
The literature in non-performing loans (NPLs) focuses extensively on the macroeconomic and bank-level determinants of non-performing loans. The studies have employed similar model and estimation method; they employed classical linear multiple regression model and ordinary least square estimation method but the finding of both is not the same. This indicating that there is research finding, time and variables inconsistency. Therefore, this research contributes towards filling the context gap by identifying and analyzing the factors that affect level of nonperforming loans in government banks like development bank of Ethiopia.

Generally, the study answers the question what are the main factors affecting of nonperforming loans in development bank of Ethiopia because there is no studies have been done on the assess the major factors non-performing loans in the case of development bank of Ethiopia and also the previous studies have not been done on the on the assessment of NPL factors including capital adequacy and leading interest rate so the researcher not get organized and adequate literatures to study the assessment the factors affecting non-performing loans in the case of development bank due to the literature gap. So the researcher wants to assess the factors affecting non-performing loans in the case of development bank of Ethiopia in Addis Ababa credit and risk departments because the NPL handling needs and the customer loan wants are changing from time to time. There is a need to measure and find the recent gaps with respect to factors affecting non-performing loans.

2.4 Conceptual Framework

The study is propose one dependent variable and five independent variables. The dependent variable is non-performing loan and the independent variables that affect the non-performing loan are categorize in to two; bank specific and microeconomic factors. The bank specific factors are capital adequacy ratio, return on asset and loan growth rate. The macroeconomic factors are inflation and lending interest rate. The following conceptual relationship is displayed

Figure 2.1 Conceptual Framework



Source: the researcher developed based on the above literature review. 2024

2.4.1 Research Hypotheses

H1: Loan growth rate has positive and significant effect on Nonperforming loans.

Loan Growth Rate; according to the previous studies rapid credit growth may lead to an adverse selection, and may be associated with reduced credit quality as risk taking intensifies during such periods, adversely affecting the level of non-performing loans

H2: Capital adequacy ratio has positive and significant effect on Nonperforming loans

Capital Adequacy Ratio (CAR); the difference between total assets and total liabilities is called capital. It is the number of own funds available to support the bank's business and act as a buffer in case of adverse situations. It shows the ability of the firm that liability could be privileged. Capital adequacy is the level of capital required by the banks to enable them to with stand the risks such as credit, market and operational risks they are exposed to in order to absorb the potential loses and protect the bank's debtors. Capital adequacy is a measure of the overall financial strength of a bank. Mekdes (2017)

H3. Return on Asset has positive and significant effect on Nonperforming loans.

Return on Asset (ROA); is used to measure the profitability of the organization. Dimitrios et al. (2016), Louzis, Vouldis & Metaxas (2012) found negative relationships between ROA and NPLs. The authors assert that more profitable banks are better managed and more prudent in their granting of credit so that higher profitability in the past leads to lower NPL. Therefore, the study formulates the following hypothesis and expects negative relationship between ROA and NPLs.

H4. Inflation has a positive and significant effect on Nonperforming loans.

Inflation; is an indicator of price stability and has a negative relation to the level of problem loans. This is due to the fact that, during inflationary periods the real value of payments that borrower has to settle their obligations to credit institutions falls (Kurumi & Bushpepa, 2017).

H5: Lending interest rate has positive and significant effect on Nonperforming loans

It is associated with reduced credit quality as risk taking intensifies during such periods, adversely affecting the level of non-performing loans.

CHAPTER THREE

RESEARCH METHODOLOGY

This part deals with methodology which includes the research design, research approach ,study population, sample size, sampling method ,data sources questionnaire development and Pre-testing and also data analysis procedures which are applied in this study and at the end it includes validity and reliability.

Research method is the process of dealing with identifying the problem, collecting facts or data, analyzing these data and reaching at a certain conclusion either in the form of solutions towards the problem concerned or certain generalization for some theoretical formulation. Moreover, research method describes the methods employed to gather the data and analyzed it by accompanying the research design, sampling technique, measurement and instrumentation, data collection, conceptual framework and information analysis. It also comprises of a number of alternative approaches and interrelated and frequently overlapping procedures and practices. Since there are many aspects of research method, the line of action has to be chosen from a variety of alternatives. The choice of suitable method can be arrived at through assessment of the objectives and comparison of various alternatives. Research Methodology refers to the systematic and scientific approach used to conduct research, investigate problems, and gather data and information for a specific purpose. It involves the techniques and procedures used to identify, collect, analyze, and interpret data to answer research questions or solve research problems. Moreover, they are philosophical and theoretical frameworks that guide the research process.

There are three type of research methodology

- ❖ **Quantitative research methodology:** - focuses on measuring and testing numerical data. This approach is good for reaching a large number of people in a short amount of time. ...
- ❖ **Qualitative research methodology:** - examines the opinions, behaviors, and experiences of people.
- ❖ **Mixed-method research methodology:** - uses the characteristics of both quantitative and qualitative research methodologies in the same study.

3.1. Research Design

According to Malhotra and Birks (2007), a research design is a frame work or blueprint for conducting a research and it details all the necessary information needed to structure and solve the research problems and also it is the foundation on which the research project is built and it is the program that guides the researcher in the process of collecting, analyzing and interpreting the data .A good research design seeks to ensure that the research project is conducted effectively and efficiently .From different types of research designs descriptive and explanatory type of research design is employed as a main research design for this study to the realization of intended objectives. The reason behind using descriptive research design is because the researcher is interested in describing the existing situation under study. Creswell (2009) stated that the descriptive method of research is a technique of gathering information about the present existing condition and it is a research which describes existing phenomena and it is used to identify and obtain information on the characteristics of a particular problem or issue. And also the objective of descriptive research is to portray an accurate profile of persons, events or situations (Saunders, 2009). This research design is a fact finding study with adequate and accurate interpretation of findings. According to Malhotra (2005), descriptive research is based on large, representative samples and the data obtained are subjected to quantitative analysis. This study is used explanatory research design to explaining, understanding, predicting and controlling the relationship between variables. By taking cross-section of the population relevant data is collected at one point in time. So the researcher has applied both descriptive and explanatory research types.

3.2. Research Approach

According to Creswell (2009), quantitative, qualitative, and mixed research are the three business and social sciences research approaches .The quantitative approach involves the generation of data in quantitative form which can be subjected to rigorous quantitative analysis in a formal and rigid fashion. This approach can be further sub-classified into inferential, experimental and simulation approach to research. Qualitative approach is concerned with subjective assessment of attitudes, opinions and behavior .So in order to examine the factors affecting of non-performing loans, the researcher used the quantitative research approach.

3.3. Target Population

Development bank of Ethiopia has 100 branches and 24 districts that are distributed across the country. Currently it has more than 2,400 Employees in Ethiopia and 428 in center region or head office from this 173 employees are there in credit and risk departments. (the data is from Management Information system department of the bank , 2024) to make the study manageable and because of resource and time constraints, this study has selected head office credit and risk departments. So the target populations of this study are 173 Employees which are found in head office credit and risk department .These departments are selected from other departments due to convenient to get appropriate data for the researcher.

3.4. Sampling Technique and Sample Size

Sampling Techniques are methods used to select a sample from the population by reducing it to a more manageable size (Saunders, Lewis and Thornhill, 2007). Sample is the segment of the population that is selected for investigation (Bryman and Bell, 2003). Sample size is actually the total number of units which are to be selected for the analysis in the research study. However, it is not possible for researchers to get in touch with a big number of samples, as the sample size is critical question in practice. The decision about the size and the sample needs to consider time and cost, the need of precision, and a variety of further considerations (Bryman and Bell, 2003). In conducting a study, it is not possible, practical and sometimes expensive to gather data by considering entire population. To select the departments the researcher used purposive sampling method.

In convenience sampling, the sample is drawn from a section of the population that is readily accessible or available to the researcher (Wiid&Diggines, 2009). The sample is accordingly drawn at the convenience of the researcher, often as the study is conducted. According to Malhotra (2007), this method allows for obtaining a sample in a quick and inexpensive manner. Many author further states that with convenience sampling, the sampling elements are easy to measure so a convenience non-probability sampling method issued to distribute the questionnaires.

In order to determine sample size; the researcher used formula for calculating the required sample size in two sampled departments from different departments

The formula was developed by Taro Yamane (1967)

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

Assumptions: 95% confidence level, and $e = \pm 5\%$

This study has: n- Desired sample size, the research use

N - Designates total number of employees in the selected departments

e – Designates maximum variability or margin of error 5% (0.05).

1 – Designates the probability of the event occurring

$$n = \frac{173}{1 + 173(0.05)^2} = 121 \text{ Hence; the total sample size is 121}$$

3.5. Data Collection

There are several methodological approaches available to gather data and for the proper Achievement of the objectives of the study .According to Saunders (2009), the use of two or more independent sources of data or data collection methods helps to confirm findings in the study .Primary data is a data source which has not been subjected to processing or any other manipulation which are collected by the investigator conducting the research. Therefore, a primary source of data is collected through questionnaire.

Secondary data is obtained from different documents of the bank like service strategy documents, Development bank of Ethiopia reports, published thesis works, unpublished thesis works, websites and research articles from journals. For this study the researcher is used primary and secondary data sources. It is more useful data as it captures individual variability cross sectional information and dynamic nature of the data time series information and also it ensures more variability or more degree of freedom, more efficiency among the variables. Hence, to conduct this study, the researcher uses a data, that is companies have the same number of observations The secondary source of data used the recent five years (2018/19-2022/23G.C) Development bank of Ethiopia audited financial annual reports .

3.6. Data Analysis

Kothari (1990), defined the term analysis as the computation of certain measures along with searching for pattern of relationship or differences that exist among data groups. After collecting the data, the data is analyzed using a descriptive data analysis technique which is presented by tables, frequency distributions and percentages to give a condensed picture of the data. This is achieved through summary of simple statistics, which includes the mean and standard deviation

values which is computed for each variable in this study. Inferential statistics is used to analyze the existing relationship between the two variables. The researcher is used Statistical Package for Social Sciences (SPSS) version 25 software which helps to process and analyze the correlation analysis and multiple regression analysis. Correlation analysis is used to explore the relationship between service quality dimensions and customer satisfaction. Where as, a multiple regression analysis is used to test the hypothesis and to find out the effects of independent variables on the dependant variable.

3.7. Questionnaire Development and Pre-testing

The questionnaire is used to collect data from respondents. The questionnaire items are adopted from previous studies (Graham, et al 2004) and Parasuraman, 1988). The questions are modified to suit the bank industry context in Ethiopia, and sought respondents' feelings about the factors affecting of non-performing loans.

3.7. Reliability

According to Saunder (2003), Validity is defined as the extent to which data collection method or methods accurately measure what they are intended to measure. According to Saunders, Lewis and Thornhill,(2007) reliability is an indication of how consistent the findings are based on the method of data collection and analysis. According to George and Mallery (2003) Cronbach's alpha is a tool for assessing reliability scale which normally ranges between 0 and 1. Cronbach's alpha coefficient greater than 0.9 implies excellent, greater than 0.8 is good, greater than 0.6 is acceptable, greater than 0.5 is poor, and less than 0.5 is unacceptable". Accordingly, the reliability test of each factors are described as here under.

Table 3.1. Reliability test of the factors affecting non-performing loans in DBE

Factors affecting non-performing loans	Number of items	Cronbach's Alpha
Loan Growth Rate	0.770	3
Capital Adequacy	0.845	4
Return on Asset	0.627	3
Inflation	0.811	3
Lending Interest Rate	0.638	3
Average	0.7382	16

Source: own survey result,2024

Table 3.1. above indicates that the cronbach alpha of each dimensions is between 0.627 and 0.934 which is the above 0.50. Thus the study is reliable.

3.8. Validity

Validity is concerned with the extent that the scale accurately represents the construct of interest. In order to assure the validity of the data the study is conducted based on the literally accepted conceptual framework that clearly indicate the theoretical construct and associated data valid to assess the relationship between dependent variable and independent variable .Where possible this should be supported by past research and consideration given to practical things that affect the research (Dereje, 2014 cited Greenfield, 2002). So, some number of questionnaires was distributed to check the validity of questions to further data collection process. As per the comments and the discussion with Development bank of Ethiopia employees the questions prepared to primary data collection for the research objective is found valid by the researcher.

3.9. Multiple Regression model

Regressions fit a predictive model to data and use that model to predict the values of dependent variable from one or more independent variables (Andy, 2005).

In multiple regressions the researcher use an equation of

$$Y=B_0+B_1X_1+B_2X_2+B_3X_3+B_4X_4+B_5X_5+e$$

Where Y= dependent variable (Non-performing loans)

B₀= the constant

B₁-B₅= the Beta coefficients for their respective dependent variables (predictors)

X₁-x₅= independent variables (Loan Growth Rate Capital Adequacy Return on Asset, Inflation Lending Interest Rate)

3.10. Ethical Considerations

The study has taken necessary ethical issues into consideration. Name of the respondents and details have not been asked to write in order to increase the confidentiality of the information they give and also the questionnaire was explained that the purpose of research is for academic purpose. Finally, the respondents are included based on their willingness. So this study has conducted in the appropriate and ethical manner taking all ethical issues into consideration.

CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

This chapter consists of several analyses including demographic information of respondents presented in the form of tables to give an overview of respondents' profile. Descriptive analysis is used to find out the frequency and percentage of respondents.

In order to get a representative data 121 questionnaires were prepared and distributed to employees of development bank of Ethiopia. Out of these 121 questionnaires distributed to respondents, 116 questionnaires were collected back. Thus, the analysis was based on the 116 questionnaires response from respondents.

Table 4.1 Response rate of Questionnaires Administered

	Correctly filled and Returned	Not correctly filled	Not returned	Total
Number	116	3	2	121
Percentage	95.87	2.48	1.65	100

Source: our survey results, 2024

This implies that the respondents were smart and the researcher has given serious follow up.

4.1 Demographic characteristics of Respondents

The demographic characteristics of the respondents include gender, age and level of education. This aspect of the data analysis deals with the analysis of personal data on the respondents of the questionnaires given to them. The tables below show the details of background information of the respondents and their percentage

Table 4.2 Demographic characteristics of Respondents

	Variables	Frequency	Percent
Gender	Male	64	55.17
	Female	52	44.83
	Total	116	100
Age group	18-24	10	8.62
	25-34	52	44.83
	35-44	38	32.76
	45-64	16	13.79
	Above 64	0	0
	Total	116	100
Level of education	Certificate and below	0	0
	Diploma	6	5.17
	Degree	68	58.62
	Masters	20	17.24
	Above masters	22	18.97
	Total	116	100

Source: our survey results, 2024

Findings indicates that the majority respondents are male 55.17 %(64) and the rest 44.83% (52) are female. This gender proportion indicates that majority respondents are mostly male.

This information can, therefore, be used for designing proportions of the employees of development bank of Ethiopia

Regarding to age of respondents 77.59 % (90) of the respondents are in the age range category of 25 to 44 years, 13.79% (13.79) of the respondents are in the age rang category of 45to 64years and 8.62% (10) of them in the age rang category of 18 to 24 years. Therefore, the result shows that majority of the employees are within the age range of 25-44 years. This reflects that the majority staffs are young so this staff needs more the factors affecting of non-performing loans.

With regard to educational level of respondents, the majority of the respondents are grouped under the educational level of First Degree covering 58.62% (68) of the total respondents. The rest of the respondents are categorized under the educational level of masters and above 36.21 %(42) and Diploma 5.17 %(6). This indicates that the majority respondents are literate .This means, they have concepts about the factors affecting non-performing loans. .

4.2. Topic Related Questions

Table4.3.Topic Related Questions

Questions	Answer choice	Frequency	Percent
1. For how long have you been working in this Bank?	Below a year	6	5.17
	1-2 years	17	14.66
	3-5 years	42	36.21
	6-10 year	31	26.72
	11 years & above	20	17.24
	Total	116	100
According to your opinion to what extent giving loan to the customers is important for the profitability development bank of Ethiopia ?.	Extremely important	46	39.66
	Important	59	50.86
	fairly important	7	6.03
	has no importance	4	3.45

	Total	116	100
According to your opinion which factors is leads and contributing to the occurrence of nonperforming loans development bank of Ethiopia ?	Rapid Loan growth by banks	15	12.93
	High interest rate	15	12.93
	Loan Follow up	20	17.24
	Inflation	66	56.89
	Total	116	100

Source: own survey results, 2024

As can be seen in the above table, the working experience in development bank of Ethiopia .36.21% (42) of the respondents have worked in development bank of Ethiopia for 3 to 5 years, 26.72%(31) of the respondents have stayed in worked in development bank of Ethiopia for 6 to 10 years, 5.17 %(6) of the respondents are for below a year and the remaining 17.27% (20) of the respondents were for above 11 years . Thus, the large number respondents were employees who have lots of experiences on the profession which leads to measure the determinant aspects on their for NPL.

In relation to the importance of what extent giving loan to the customers is important profitability in development bank of Ethiopia Almost all of the respondents 90.52 % (105) were expressed their ideas the giving loan is important profitability in the case of development bank of Ethiopia

As can be seen on above table, the factors that leads and contributing to the occurrence of nonperforming loans development bank of Ethiopia the majority, 56.89 (66) % respondents are agreed that there is NPL Poor inflation development bank of Ethiopia .

4.3 Overview discussion on the five NPL factors using secondary data

Table 4.4 Overview discussion on the five NPL determinant factors using secondary data

table Bank	Year	NPL	ROA	LGR	CA	INF	LIR
WB	2018/19	4.85	2.51	23.63	0.173	13.83	12.75
WB	2019/20	8.41	2.87	36.35	0.153	15.89	12.75
WB	2020/21	9.8	3.28	44.45	0.139	20.36	13.5
WB	2021/22	8.2	2.17	8.86	0.14	26.84	13.5
WB	2022/23	6.2	2.45	44.44	0.13	33.89	14.25

Sources (DBE, 2024 and world open data, 2024 internet)

Development bank of Ethiopia -specific variables refer to those factors which characterized individual banks. Those factors can be influenced by managerial decisions and usually associated with the specific policy choices of a particular bank with regard to its efforts to maximize efficiency and improve its risk management. Hence, bank specific variables that are usually theorized as determinates of NPLs are include ROE, Loan Growth Rate, Capital adequacy ratio, , Inflation and Lending Interest Rate, Hence, the following part of this particular section clearly presents the bank-specific variables that are used in this study.

Return on asset: is the amount of net income returned as a percentage of total asset. Return on assets measures a corporation's profitability by revealing how much profit a company generates with the money shareholders have invested. Return on assets measure Profitability and offers clues about the ability of the bank to undertake risks and expand its activity. Banks return on asset increases reflect the risk taking behavior of bank managements and less stressed for revenue creation and less forced to engage risk credit offering business (Makri et al. 2014).

As shown in above ability of bank's management to generate profits from the bank's assets is one of the most widely used financial models for performance measurement that determines a banks 's ability to make use of its resources as discussed the details below the ROA are 2.51 %,2.87 %,3.28 %,2.17 and 2.45% in the years 2018/19-2022/23 respectively .

Loan Growth Rate is considered as one of the most important causes of problem loans. However, according to Sinkey and Greenwalt (1991) a rapid expansion of loan may not be a problem by

itself, but such expansion leads to poor screening and lending to borrowers of inferior quality as shown in the above the Loan Growth Rate are 23.63%,36.35 %,44.45 %,8.86 and 44.44% in the years 2018/19-2022/23 respectively

Capital adequacy: is an indicator of the ability of banks to provide funds for expansion and accepting risk loss caused by the operations of the bank. The difference between total assets and total liabilities is called capital. It is the amount of own fund available to support the bank's business and act as a buffer in case of adverse situation. It shows ability of the firm that liability could be privileged. Capital adequacy is the level of capital required by the banks to enable them Withstand the risks such as credit, market and operational risks they are exposed to in order to absorb the potential lose and protect the bank's debtors. Capital adequacy is a measure of the overall financial strength of a bank. The higher the capital adequacy ratio, the higher the level of Protection available to depositors and it is vital for maintaining soundness of the banking system Since, it acts as a cushion against panic or bank run or uncertainties (Keovongvichith 2012). shown in the above the Capital adequacy of for this study are 17.3 %,15.3 %,13.9 %,14 %, and 13% in the years 2018/19-2022/23 respectively

Inflation: Inflation affects borrowers' debt servicing capacity through different channels and its impact on NPL can be positive or negative (Fofack 2005, Pasha and Khemraj (2009) and Nkusu 2011). The explanation provided by the literature for this relationship is that, higher inflation can make debt servicing easier by reducing the real value of outstanding loans particularly when the loan rates are fixed (banks do not adjust rates in accordance to the inflation change to maintain their real returns). However, it can also weaken some borrowers' ability to service debt by reducing real income. Moreover, when loan rates are variable(adjusted in accordance to the inflation change), inflation is likely to reduce borrowers' loan servicing capacity as lenders adjust rates to maintain their real returns or simply to pass on increases in policy rates resulting from monetary policy actions to combat inflation. As shown in the above the Inflation trend for this study are 13.83 %,15.89%,20.36 %,26.84 %, and 33.89% in the years 2018/19-2022/23 respectively this implies that the inflation rate is increase from time to time so this leads to make the load to NPL

Lending Interest Rate is depending on the banks size that have more resources and are more give the loan to its customers for efficient information gathering, processing and analyzing to tackle

moral hazard and adverse selection and ultimately better deal with bad borrowers. Small banks, on the contrary, may be exposed to the adverse selection problem because of the lack of sufficient competencies and experience to effectively assess the credit quality of borrowers. In addition, Cole et al. (2004) suggested that, smaller banks adopt small business loan underwriting practices. Hence, the extents that the leading interest rate of development bank of Ethiopia is shown below shown in the above the Capital adequacy of for this study are 12.75 %,12.75 %,13.5 %,13.5 %, and 14.25% in the years 2018/19-2022/23 respectively this implies that the leading interest rate is increased from year to years.

Non-performing loan have become a worrisome issue for the last few decades. Historically, the occurrence of banking crises has often been associated with a massive accumulation of non-performing loans which can account for a sizable share of total assets of insolvent banks and financial institutions, especially during episodes of systemic crises (Jovovic, 2014). Due to the ever-increasing volume of non-performing loan, the banking sector and the economy in general have taken a negative turn. The rising trend of the NPLs is bound to have a long-lasting negative impact on the country's financial sector. If loanable funds are blocked as NPLs, banks have enough reserve for issuing future loans, which affect the economy in multiple ways, Thus , As can be seen on above the NPL of development bank of Ethiopia are 4.85 %, 8.41 %, 9.80 %,8.20 %, and 6.2 % in the year from 2018/19-2022/23 respectively. Thus the NPL trend analysis of development bank of Ethiopia shows that there is high NPL percentage which indicates that the bank has weak NPL collections and poor follow up so this also comes due to borrower may not meet obligations per the terms and conditions of the loan contract.

4.4. Graphical Overview of trend analysis of Inflation

4.4.1 Inflation Rate

High inflation rates, vulnerable fiscal and monetary policies, and weak economic activities can increase a bank's exposure to credit risk when inflation rates rise significantly, it can reduce the real income of borrowers. As a result, borrowers may find it more challenging to repay their loans due to decreased purchasing power.

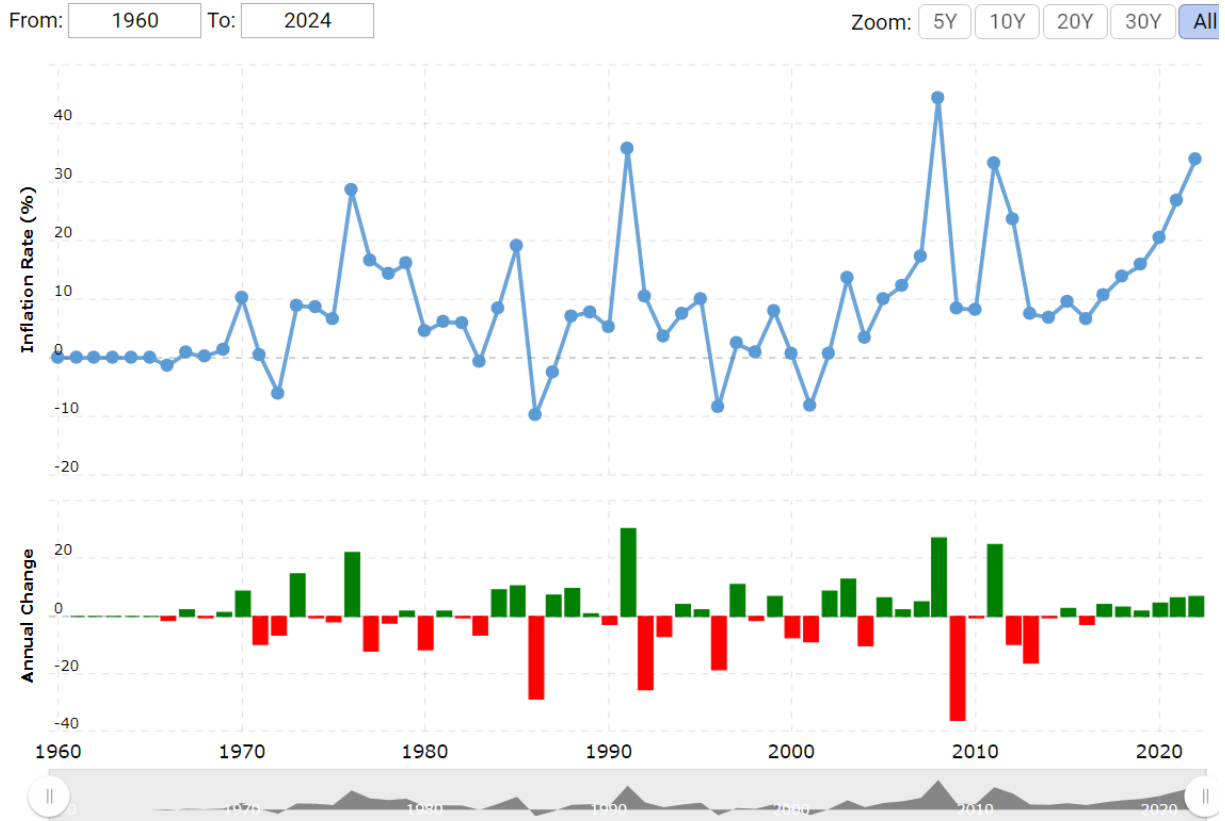


Figure 4.1 Ethiopian Inflation rate analysis (1960-2024)

Source World Bank

Figure 1 indicate that Ethiopia inflation rate for 2022 was 33.89%, a 7.05% increase from 2021, in 2021 the inflation rate was 26.84%, a 6.48% increase from 2020, in 2020 the inflation rate was 20.36%, a 4.55% increase from 2019, the inflation rate for 2019 was 15.81%, a 1.98% increase from 2018. This indicates that when the inflations increase the NPL also increase due the lack of profitability the customers' business in the market.

4.5 Inferential Analysis

Inferential analyses describe the crucial tests of getting final result which included Pearson correlation analysis and multiple regression analysis.

4.5. 1. Correlation Analysis

According to Saunders et al. (2009), a correlation analysis used to identify the direction and relationship between the variables. Correlation coefficient enables to quantify the strength of the linear relationship between two variables. Correlation refers to synonym for association or the relationship between variables and it measures the degree to which two sets of data are related. Higher correlation value indicates stronger relationship between both sets of data. When the correlation is 1 or -1, a perfectly linear positive or negative relationship exists; when the correlation is 0, there is no statistical relationship between the two sets of data (Vignaswaran, 2005). A low correlation coefficient; 0.1 - 0.29 suggests that the relationship between two items is weak or non-existent. If r is between 0.3 and 0.49 the relationship is moderate. A high correlation coefficient i.e. >0.5 indicates a strong relationship between variables.

The direction of the dependent variable change depends on the sign of the coefficient. If the coefficient is a positive number, then the dependent variable moves the same direction; if the coefficient is negative then the dependent variable move the opposite direction of the independent variable. Hence in this direction both the direction and the level relationship between the determinants of NPL and non-performing loans are conducted using Pearson correlation coefficient. As shown in the objective and conceptual framework of this study, to test the relationship between assess the factors affecting of non-performing loans in the case of development bank of Ethiopia in Addis Ababa credit and risk departments the following correlation analysis is performed.

Table 4.5: The Correlation Analysis between assess the factors affecting non-performing loans in the case of development bank of Ethiopia in Addis Ababa credit and risk departments

factors affecting non-performing loans		Non-performing loans
Loan Growth Rate	spearman Correlation	.530*
	Sig. (2-tailed)	.000
	N	116
Capital Adequacy	spearman Correlation	.570**
	Sig. (2-tailed)	.000
	N	115
Return on Asset	spearman Correlation	.584**
	Sig. (2-tailed)	.000
	N	116
Inflation	spearman Correlation	.690**
	Sig. (2-tailed)	.000
	N	116
Lending Interest Rate	spearman Correlation	.610**
	Sig. (2-tailed)	.000
	N	112

Own survey result, 2024

As shown in the above table , the NPL factors aspects have a significant positive relationship with Non-performing loans in development bank of Ethiopia The results indicate that, there is positive and strong relationship between Capital Adequacy and non-performing loans ($r = 0.530^*$ $p < 0.01$), Return on Asset Inflation and non-performing loans ($r = 0.570^{**}$, $P < 0.01$), Return on Asset and non-performing loans ($r = 0.584^{**}$, $p < 0.01$), Inflation and non-performing loans ($r = 0.690^{**}$, $p < 0.01$), Lending Interest Rate and non-performing loans ($r = 0.610^{**}$, $p < 0.01$) .

Therefore, the overall analysis shows that there is positive and significant relationship between all NPL determinant aspects with non-performing loans .The findings further indicate that the highest relationship is found between Inflation and non-performing loans and the lowest relationship exists between Loan Growth Rate and non-performing loans.

4.5. 2. Multiple Regression Analysis

Multiple regressions are the most common and widely used to analyze the relationship between a single continues dependent variable and multiple continues on categorical independent variable (George et al, 2003).Regression model was applied to test how far factors had impact on NPL Coefficient of determination-R² is the measure of proportion of the variance of dependent variable about its mean that is explained by the independent or predictor variables (Hair et.al, 1998). Higher value of R² represents greater explanatory power of the regression equation. But before regression analysis is formulated we have test the assumptions like multicollinearity, check the VIF (variance inflation factor) and degree of tolerance, linearity test, Normality.

4.5.2.1. Assumption Testing for Regression Analysis

Meeting the assumptions of regression analysis is necessary to confirm that the obtained data truly represented the sample and that researcher has obtained the best results (Hair et al., 1998). Three assumptions for regression analysis used in this study were discussed for the individual variables: multicollinearity, linearity and Normality. In the following paragraphs, each assumption is explained.

- **MultiCollinearity**

Hill et al., (2003) explain that economic variables may move together in systematic ways when the data are the result of an uncontrolled experiment. Such variables are believed to have problems with collinearity or multi-collinearity rises, it will complicate the interpretation of the variables because it is more difficult to confirm the effect of any single variable, owing to their interrelationship (Hair et al., 1996).To meet multiple regression assumptions it need tolerance score above 0.1 and VIF scores below 10.

So with regards to multi-collinearity statistics this study has shown below table, the Tolerance and Variance Inflation Factors (VIF) showed that there was no multi-collinearity because VIF of all variables were less than 10, and tolerance scores above 0.1.

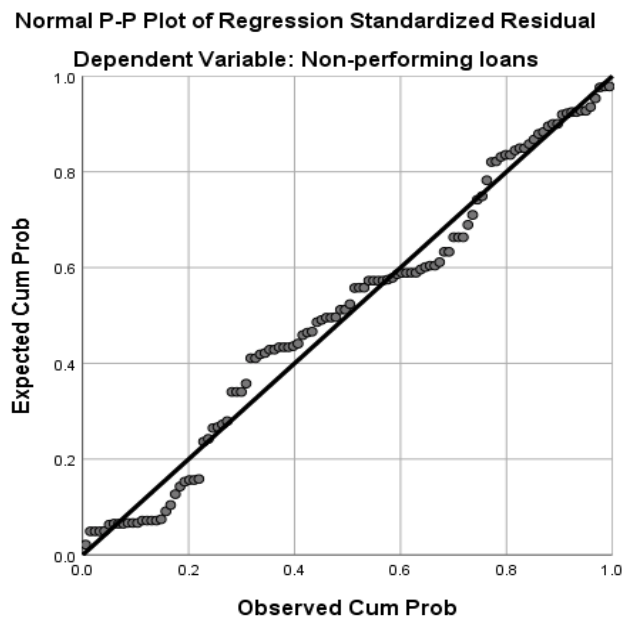
Table 4.6 :Multi-Collinearity Test of VIF and Tolerance.

Dimensions		Collinearity Statistics	
		Tolerance	VIF
	Loan Growth Rate	.122	8.201
	Capital Adequacy	.113	8.756
	Return on Asset	.810	9.024
	Inflation	0.81	7.350
	Lending Interest Rate	0.21	6.301

Source : own survey results, 2024

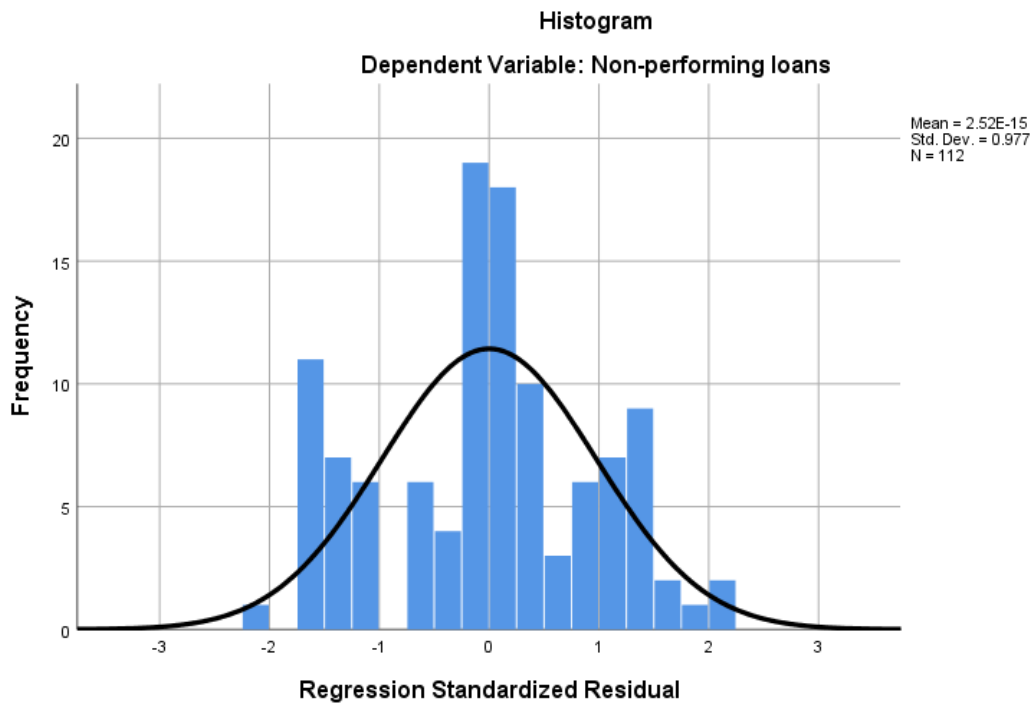
- **Linearity**

The linearity of the relationship between the dependent and independent variable represented the degree to which the change in the dependent variable is associated with the independent variable (Hair et al., 1998).Linearity refers to the degree to which the change in the dependent variable is related to the change in the independent variables. To determine whether the relationship between the dependent variable and the independent variables; the plots of the regression residuals through SPSS software had been used.



- **Normality of the Distribution**

In terms of this assumption, a check for normality of the error term is conducted by a visual examination of the normal probability plots of the residuals. Malhotra et al. (2007) propose that normal probability plots are often conducted as an informal means of assessing the non-normality of a set of data. According to Hair et al. (1998), the plots are different from residuals plots in that the standardized residuals are compared with the normal distribution. The distribution of the findings can be regarded as normal if it displays a skewness of less than an absolute value of 2.00, and a kurtosis of the distribution of less than 7.00 (West, Finch & Curran 1995). There are some residuals (e.g., those occurring around 0) that are relatively far away from the curve, many of the residuals are fairly close. Moreover the histogram is bell shaped which lead to infer that the residual (disturbance or errors) are normally distributed. Thus, no violation of the assumption normally distributed error term. So with regards to normality distribution this study has been checked through SPSS software.



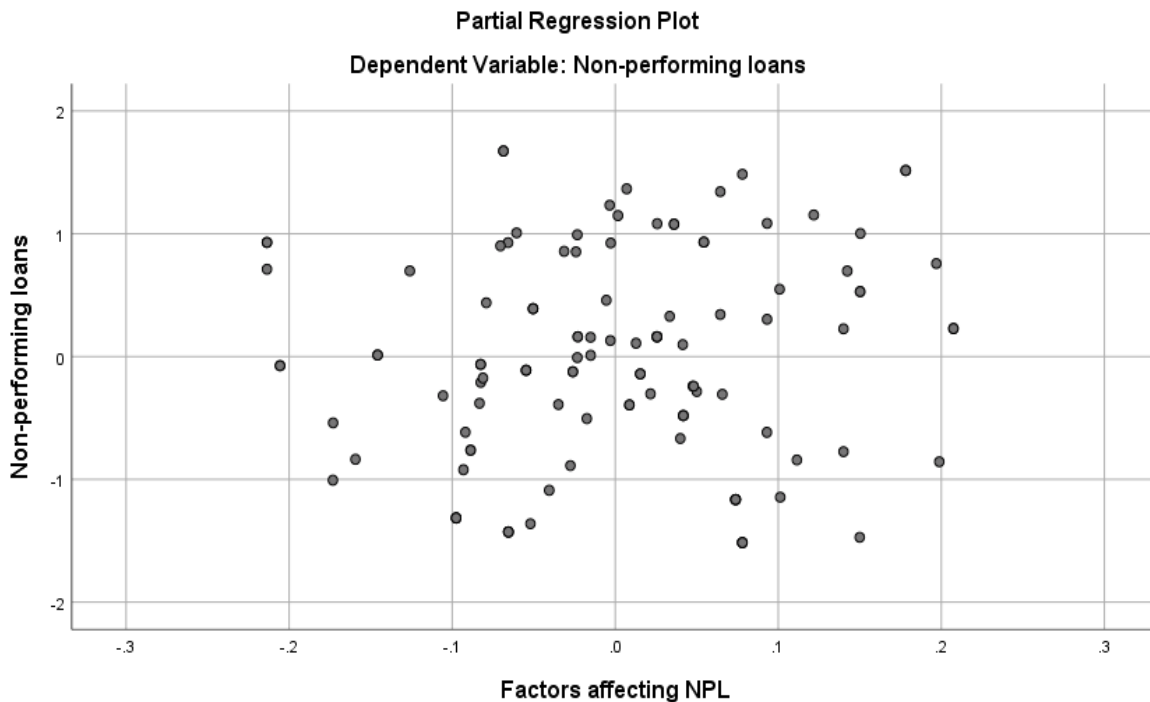
Homoscedasticity

Homoscedasticity is the presumption that the residuals' (or the model's amount of error) variation is comparable at every point throughout the model. According to Jason W. Osborne and Elaine Waters (2002), homoscedasticity can be determined visually by examining a plot of the

regression's standardized predicted value against the standardized residuals. The plot figures below illustrate,

The homoscedasticity assumption states that the variance of the residuals, or the amount of error in the model, is constant across the development bank of Ethiopia. To check for homoscedasticity, one might visually inspect a plot of the regression's standardized predicted value against the standardized residuals (Jason W. Osborne, Elaine Waters, 2002).

Although there are a few apparent out layers, the standardized residuals in this study are distributed uniformly in the same direction but across a larger range, indicating that hetero-scedasticity wouldn't be a significant issue for this data. The graphs also appear to be a random collection of dots; if the dots did have a pattern, such as a funnel or a curve form, there may be a heteroscedasticity issue, but in this case the graph appears to be a random collection of dots, leading to the conclusion that the models did not deviate from the assumption



4.5.3. Model Summary factors and non-performing loans.

In this study multiple regression analysis was employed to examine the determinant aspects on NPL. The following table presents the results of multiple regressions analysis. Here the squared multiple correlation coefficients (R²) which tells the level of variance in the dependent variable (non-performing loans) that is explained by the model.

Table 4.7 Model Summary determinant aspects and non-performing loans.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.757 ^a	.573	.553	.825

In overall, the results revealed that on one hand, the independent variable (determinants of NPL) accounted for 90.9 percent of the variance in NPL (R² = 0.909). Thus, 90.7 percent of the variation in non-performing loans can be explained by the five aspects and other unexplored variables may explain the variation in non-performing loans which accounts, shown in the above table

4.5.4. Multiple Regression Coefficients for the Factors for non-performing loans

To investigate the effect of factors dimensions on non-performing loans, a multiple linear regression model is applied by taking each dimension as an independent variables and overall NPL as a dependent variable. The beta coefficients indicated that, how and to what extent NPL determinants in development bank of Ethiopia.

Table 4.8 Multiple Regression Coefficient for assess the factors of non-performing loans

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.060	.321		.188	.851
	Loan Growth Rate	.344	.131	.315	.615	.000
	Capital Adequacy	.398	.287	.051	.879	.000
	Return on Asset	.047	.147	.034	.319	.751
	Inflation	.239	.212	.097	.832	.000
	Lending Interest Rate	.389	.208	.270	1.871	.064

a. Dependent Variable: Non-performing loans

The above table shows the standardize beta coefficient, which describe the unique contribution of each factor to the model. A high beta value and a small p value (<.05) indicate the predictor

variable has made a significance statistical contribution to the model. On the other hand, a small beta value and a high p value ($p > .05$) indicate the predictor variable has little or no significant contribution to the model. (Ggorge et al., (2003)

Hypothesis testing is based on standardized coefficients beta with 95% confidence level to test whether the hypotheses are rejected or not.

H1: Loan growth rate has positive and significant effect on Nonperforming loans.

Loan Growth Rate according to the previous studies rapid credit growth may lead to an adverse selection, and may be associated with reduced credit quality as risk taking intensifies during such periods, adversely affecting the level of non-performing loans. However, the empirical studies show inconsistent result AmuakwaMensah (2015) and Yonas (2017) study indicate that loan growth rate has a negative and significant effect on NPL. The other empirical studies of Mesay (2017) indicate that loan growth rate has positive and significant effect on NPL. Thus, it can be hypothesized that:

The result of table showed that, the standardized coefficient beta and p-value of Loan Growth Rate is positive and has significant effect on NPL with (Beta =.315 , $p < 0.01$) .This shows that one percent increase in Loan Growth Rate results in 31.50 percent increase in NPL So that the researcher supported that Loan Growth Rate has positive and significant effect on non-performing loan.

H2: Capital adequacy ratio has positive and significant effect on Nonperforming loans

Capital Adequacy Ratio (CAR); the difference between total assets and total liabilities is called capital. It is the number of own funds available to support the bank's business and act as a buffer in case of adverse situations. It shows the ability of the firm that liability could be privileged. Capital adequacy is the level of capital required by the banks to enable them to with stand the risks such as credit, market and operational risks they are exposed to in order to absorb the potential loses and protect the bank's debtors. Capital adequacy is a measure of the overall financial strength of a bank. Mekdes (2017) show that banks with adequate capital ratio experience lower rates of NPLs. Other found positive relationship between NPLs and capital adequacy ratio. Banks with high levels of CARs might be encouraged to embark in riskier activities leading to riskier credit portfolios (Saba,Kouser&Azeem, 2012). Makri et al. (2014) suggest that negative relationship with NPLs since CAR increase absorb a risky loan portfolio is marked by a high NPL. The study

expected negative relation with NPLs. therefore, The result of table showed that, the standardized coefficient beta and p-value of Capital Adequacy is positive and has significant effect on NPL with (Beta =.051, $p < 0.01$) .This shows that one percent increase in Capital Adequacy results in 5.10 percent increase in NPL .So that the researcher supported that Capital Adequacy has positive and significant effect on non-performing loan.

H3.Return on Asset has positive and significant effect on Nonperforming loans.

Return on Asset (ROA); is used to measure the profitability of the organization. Dimitrios et al. (2016), Louzis, Vouldis & Metaxas (2012) found negative relationships between ROA and NPLs. The authors assert that more profitable banks are better managed and more prudent in their granting of credit so that higher profitability in the past leads to lower NPL. Therefore, the study formulates the following hypothesis and expects negative relationship between ROA and NPLs.

The result of table showed that, the standardized coefficient beta and p-value of Return on Asset is positive and has insignificant effect on NPL with (Beta =.034 , $p > 0.01$) .This shows that one percent increase in Return on Asset results in 31.50 percent decrease in NPL So that the researcher rejected that Return on Asset has positive and insignificant effect on non-performing loan .

H4. Inflation has a positive and significant effect on Nonperforming loans.

Inflation; is an indicator of price stability and has a negative relation to the level of problem loans. This is due to the fact that, during inflationary periods the real value of payments that borrower has to settle their obligations to credit institutions falls (Kurumi & Bushpepa, 2017). The explanation is that higher inflation can make debt servicing easier by reducing the real value of the outstanding loan, which causes NPLs to remain low but higher inflation can also make the repayment of debt more difficult by reducing the borrower's real income. Also, in countries where loan rates are variable, greater inflation leads to increased lending rates, which impedes the payment of the debt. Therefore, negative and positive relationship is expected but this study result inflation is the opposite .The result of table showed that, the standardized coefficient beta and p-value of inflation is positive and has significant effect on NPL with (Beta =.097 , $p < 0.01$) .This shows that one percent increase in Return on Asset results in 9.7 percent increase in NPL So that

the researcher accepted that inflation have has positive and significant effect on non-performing loan .

H5: Lending interest rate has positive and significant effect on Nonperforming loans

The result of table showed that, the standardized coefficient beta and p-value of Lending Interest Rate is positive and has insignificant effect on NPL with (Beta =.270, $p>0.01$) .This shows that one percent increase in Lending Interest Rate results in 27 percent decrease in NPL So that the researcher rejected that Lending Interest Rate has positive and insignificant effect on non-performing loan.

From the findings of this study, the researcher found out that not all of the determinants dimensions have positive and significant effect on NPL Out of the five determinants three of them dimensions have positive and significant impact on NPL . On the other hand, Return on Asset and leading interest rate has positive and insignificant effect on non-performing loans Table

4.14 Summary of Hypothesis Testing Results

Hyp othe sis	Statement of the hypothesis	Method of Analysis Used	Result of this study Supported / Rejected
H1	Loan growth rate has positive and significant effect on Nonperforming loan B=.315 T= .615 P=000	Multiple Regression	Supported /positive
H2	Capital adequacy ratio has positive and significant effect on Nonperforming loans B=.051 T= .879 P=000	Multiple Regression	Supported /positive

H3	Return on Asset has positive and significant effect on Nonperforming loans. B=.034 T= .319 P=000	Multiple Regression	Reject/insignificance
H4	Inflation has a positive and significant effect on Nonperforming loans. B=.097 T= .832 P=000	Multiple Regression	Supported /positive
H5	Lending interest rate has positive and significant effect on Nonperforming loans B=.270 T= 1.871 P=064	Multiple Regression	Reject/insignificance

Source: own survey results, 2024

Regressions fit a predictive model to data and use that model to predict the values of dependent variable from one or more independent variables (Andy, 2005).

In multiple regressions the researcher use an equation of

$$Y=B_0+B_1X_1+B_2X_2+B_3X_3+B_4X_4+B_5X_5+B_6X_6+B_7X_7$$

Where Y= dependent variable (Non-performing loans)

B₀= the constant

B₁-B₅= the Beta coefficients for their respective dependent variables (predictors)

X₁-x₇= independent variables (Loan Growth Rate Capital Adequacy Return on Asset Inflation Lending Interest Rate

$\text{Non-performing loans} = -0.060 + 0.0315 (\text{Loan Growth Rate}) + 0.051 (\text{Capital Adequacy}) + 0.034 (\text{Return on Asset}) + 0.97 (\text{Inflation}) + 0.270 (\text{Lending Interest Rate})$

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter deals with the summary of major findings, conclusions drawn from the findings and the recommendations forwarded for improvement and on time follow up of NPL in development bank of Ethiopia .The recommendations cover the importance of improving on those Factors in which the banks got inferior score and also to keep working on the superior scored factors NPL determinants. And at end the implication for further research would forward.

5.1. Summary of Findings

The main objective of the study to assess the factors affecting non-performing loan in the case of development bank of Ethiopia in Addis Ababa credit and risk departments. To achieve this objective of the study the researcher collected data using questionnaire from Employees of development bank of Ethiopia. Accordingly, the following findings from the analysis are stated here under.

- ❖ Findings indicates that the majority respondents are male. This information can, therefore, be used for designing proportions of the employees of development bank of Ethiopia.
- ❖ Regarding to age of respondents the majority of the employees are within the age range of 25-44 years. This reflects that the majority staffs are young so this staff can investigate and manage the major factors affecting in non-performing loans.
- ❖ With regard to educational level of respondents, the majority of the respondents are grouped under the educational level of First Degree covering .This indicates that the majority respondents are literate .This means, they have concepts about the factors that affect the non-performing loans. .
- ❖ As can be seen in the above table, the working experience in development bank of Ethiopia. the large number respondents were employees who have lots of experiences on the profession which leads to measure the factor aspects on their for NPL .
- ❖ In relation to the importance of what extent giving loan to the customers is important profitability in development bank of Ethiopia. Almost all of the respondents 90.52 % (105) were expressed their ideas the giving loan is important profitability in the case of

development bank of Ethiopia. Regarding to the major factors that leads and contributing to the occurrence of nonperforming loans development bank of Ethiopia. The majority, 56.89 (66) % respondents are agreed that there is NPL Poor monitoring/follow in development bank of Ethiopia. Bank this implies that the bank is not strictly follow and manage its loan status.

- ❖ From the secondary data NPL of development bank of Ethiopia. Are 4.85 %, 8.41 %, 9.80 %, 8.20 %, and 6.2 % in the year from 2018/19-2022/23 respectively. Thus the NPL trend analysis of development bank of Ethiopia. Shows that there is high NPL percentage which indicates that the bank has weak NPL collections and poor follow up so this also comes due to borrower may not meet obligations per the terms and conditions of the loan contract.
- ❖ The overall analysis shows that there is positive and significant relationship between all NPL determinant aspects with non-performing loans .The findings further indicate that the highest relationship is found between Inflation and non-performing loans and the lowest relationship exists between Loan Growth Rate and non-performing loans.
- ❖ From the findings of this study, the researcher found out that not all of the determinants dimensions have positive and significant effect on NPL .Out of the five determinants three of them dimensions have positive and significant impact on NPL . On the other hand, Return on Asset and leading interest rate have positive and insignificant effect on non-performing loans

5.2. Conclusions

Based on the analysis of the study in chapter four the following conclusions are stated. This study has undertaken to assess the factors affecting non-performing loans in the case of development bank of Ethiopia in Addis Ababa credit and risk departments. In relation to the importance of what extent giving loan to the customers is important profitability in development bank of Ethiopia. Almost all of the respondents were expressed their ideas the giving loan is important profitability in the case of development bank of Ethiopia and also as the respondents response there is NPL Poor monitoring/follow in development bank of Ethiopia. This implies that the bank is not strictly follow and manage its loan status. In addition to this from the recorded data of NPL trend analysis of development bank of Ethiopia which shows that there is high NPL percentage which indicates that the bank has weak NPL collections and poor follow up so this also comes due to borrower may not meet obligations per the terms and conditions of the loan contract. And the researcher found out that not all of the determinants dimensions have positive and significant effect on NPL

5.3. Recommendations

Based on the findings and conclusions of the study the following recommendations are forwarded which help to development bank of Ethiopia management to improve assess the factors of non-performing loans in the case of development bank of Ethiopia. In Addis Ababa credit and risk departments

- ❖ Almost all of the respondents were expressed their ideas the giving loan is important profitability in the case of development bank of Ethiopia. . So bank should exert it maximum effort in facilitating loans by searching potential customers with close follow of their business.
- ❖ From the findings there is inflations and weak monitoring/follow NPL in development bank of Ethiopia. This implies that the bank is not strictly follow and manage it loan status. So the bank better work more on this by following their loan status and communicating the customers and also visiting their business with giving professional advises.
- ❖ NPL trend analysis of development bank of Ethiopia. shows that there is high NPL this comes due to borrower may not meet obligations per the terms and conditions of the loan contract so the bank is better to follow and apply the terms and conditions of the contracts by liquidating the collaterals if there is no Options to change the status of the NPL
- ❖ The researcher found out that not all of the determinants have positive and significant effect on NPL Thus, the bank should see the behaviour of each dimension to one another while making a strategic decision as each of them is strongly correlated.
- ❖ The bank is better to run researches on the determinants of non-performing loans

5.4 Implication for farther research

This research only focuses the assessments the factors affecting of non-performing loans in the case of development bank of Ethiopia in Addis Ababa credit and risk departments. Because of this, the possibility of drawing generalization from the findings of this study is limited. So that anyone who is interested to take a study in this area, it would be better to collect data from various places though out the country. This study used the five determinates of NPL there could be some other relevant factors that may be vital for NPL . Future researches, therefore, may consider more factors which can influence the employee's job performance . The survey method employed in this study was through Likert scale, respondents rating their perception for each question. While if other methods like interview applied, respondents would be able to give more detailed response. This in return would help researchers to identify real problem areas as well as areas that are doing exceedingly well.

References

- ✓ *Achu & Tenguh, CN 2008, „Bank performance and credit risk management“, MA Degree Project in Finance, Skovode University*
- ✓ Agresti, A.M., Baudino, P., & Poloni, P. (2008). The ECB and IMF indicators for the Macro prudential analysis of the banking sector: A comparison of the two approaches.
- ✓ *Ahmed Fawad and Bashir Taqadus (2013): Explanatory Power of Macroeconomic Variables as Determinants of Non-Performing Loans: Evidence Form Pakistan, World Applied Sciences Journal 22 (2): 243-255, ISSN 1818-4952*
- ✓ Ahmmed, M., Serajul,I., and Rahman, M.T. (2012). Analysis of Repayment Behavior In Banks Customer Perspective. Case of Bangladeshi Mercantile Limited Bank, World Review of Business Research, Volume 2.
- ✓ *Albertazzi Ugo and Gambacorta Leonardo (2006): Bank Profitability and Taxation Banca d'Italia, Economic Research Department Ali S. and Iva S. (2013): Impact of Bank Specific Variables on the Nonperforming loans ratio in Albanian Banking System, Journal of Finance and Accounting: Vol.4, No.7.*
- ✓ *Arestis, P & Sawyer, MC 2006 „A Handbook of Alternative Monetary Economics“, Cheltenham, Edward Elgar Publishing Ltd*
- ✓ *Ayalew, T 2009, „Legal Problems in Realizing Non-Performing Loans of Banks in Ethiopia“, MA thesis, Addis Ababa University*
- ✓ *Badar Munib and Yasmin Atiya (2013): Impact of Macroeconomic Forces on Nonperforming Loans: an Empirical Study of Commercial Banks in Pakistan; Journal of Transactions on Business and Economics: Issue 1, Volume 10.*

- ✓ Basu, S. (2003), *Why do Banks Fail?*, *International Review of Applied Economics*, Vol. 17, pp. 231-248
- ✓ Berger, NA and DeYoung, R1997, „Problem Loans and Cost Efficiency in Commercial Banks”, *Journal of Banking and Finance*, Vol. XV, No.21, pp.849-870
- ✓ Biabani Shaer, Glaninia Shahram and Mohabatkah Hossein (2012): *Assessment of Effective Factorson Nonperforming Loans Creation: Empirical Evidence from Iran*, *Journal of Basic and Applied Scientific Research*, 2(10)10589-10597, ISSN 2090-4304
- ✓ Bloem, AM & Freeman, R2005, „The Treatment of Nonperforming Loans in Macroeconomic Statistics”, *IMF Working Paper WP/01/209*, *International Monetary Fund*. 48
- ✓ Boudriga Abdelkader, Boulila T. Neila and JellouliSana (2009): *Bank Specific, Business and Institutional, Environment Determinants of Nonperforming Loans: Evidence from MEN Countries*, *Journal of Financial Economic Policy*, Vol. 1 No. 4, Pp. 286-318
- ✓ Brooks, C 2008, *Introductory Econometrics for Finance*, 2nd edn, Cambridge University Press, New York Breuer, JB2006, ,,
- ✓ C.R. Kothari (2004): *Research Methodology, Methods and Techniques*, Second Revised Edition,
- ✓ Casu, B, Girardone, C & olyneux, P2006, „Introduction to Banking”, Harlow Financial Times
- ✓ Cooper DR & Schindler PS. 2003: *Business Research Methods*, 8th edition. New York: McGraw-Hill/Irwin.
- ✓ Das ,Rs and Ghosh ,Hm 2007 “The effect of credit risk management on financial performance of the Jordanian commercial banks” *Investment Management Volume 12, Issue 1, 2007*
- ✓ Djiozap Fouopi and Ngomsi Augustin (2012): *Determinants of Bank Long-Term Lending Behavior in the Central African Economic and Monetary Community (CEMAC)*, *Review of Economics & Finance*; 1923-7529-2012-02-107-08 D.N Gujarati, (2004): *Basic Econometrics*, 4th Ed., Mcgraw-Hill Companies,

- ✓ *Fainstein, G and Novikov, I 2011 „The Comparative Analysis of Credit Risk Determinants in the Banking Sector of the Baltic States”, Review of Economics and Finance, No. 3*
- ✓ *Farhan Muhammad, Sattar Ammara, C. Hussain Abrar, Khalil Fareeha (2012): Economic*
- ✓ *Fawad Ahmad and Taqadus Bashir. (2013). Explanatory Power of Bank Specific Variables as Determinants of Non-Performing Loans: Evidence from Pakistan Banking Sector World Applied Sciences Journal 22.*
- ✓ *Fofack, H2005, „Nonperforming loans in Sub-Saharan Africa: Causal Analysis and Macroeconomic implication” World Bank Policy Research Working Paper 3769, //econ.worldbank.org. 49*
- ✓ *Habtamu Negussie (2012): Determinants of Bank Profitability: An Empirical Study on Ethiopian Private Commercial Banks: Published thesis (MSC), Addis Ababa University*
- ✓ *Hafer, RW2005, „The Federal Reserve System”, Greenwood Publishing Group.*
- ✓ *Hair JF, Black, WC, Babin, BJ, Anderson, RE & Tatham, RL 2006, Multivariate data analysis, 6th edn, Pearson Education, New Jersey.*
- ✓ *Hou, Y2006, „the non-performing loan problem: some bank level evidence”, University of Birmingham Edgbaston, Birmingham*
- ✓ *Hu, Jin-Li, Yang Li & Yung-Ho, Chiu. 2006. Ownership and Non-performing Loans: Evidence from Taiwan”s Banks. Developing Economies.*
- ✓ *India, University of Rajasthan. Determinants of Non-Performing Loans: Perception of Pakistani Bankers European; Journal of Business and Management, Vol4, No.19,*
- ✓ *International Monetary Fund. (2009). Lessons of the global crisis for macroeconomic policy.IMF Staff Paper 09/37. International Monetary Fund, Washington, DC.*
- ✓ *Issa, AG 2009 „Analysis of non-performing loans in the Libyan state-owned commercial banks: perception analysis of the reasons and potential methods for treatment”, PHD thesis, Durham University*

- ✓ *Jiminez, G & Saurina, J 2006, 'Credit cycles, credit risk and prudential regulation', International Journal of Central Banking, Vol.2, No.2, PP. 65-98.*
- ✓ *Kaplow Louis (2008): Theory of Taxation and Public Economics, second edition, United Kingdom*
- ✓ *Keovongvichith, P.2012, 'An Analysis of the Recent Financial Performance of the Laotian Banking Sector' during 2005-2010, International Journal of Economics and Finance, 4 (4), pp.1*
- ✓ *KhanFaisal, Ahmed Anuar Melati., C.Guan Lim and Khan Hashim (2011): Determinants of Bank Profitability in Pakistan; Case Study of Pakistani Banking Sector; World Applied Sciences Journal 15 (10): 1484-1493, ISSN 1818-4952.*
- ✓ *Lafunte Esteban (2012): Monitoring Bank Performance in the Presence of Risk Mirceaepure: Working Papers Barcelona, Spain 50*
- ✓ *Louzis D. P., A. T. Vouldis and V. L. Metaxas (2010). "Macroeconomic and bank specific determinants of nonperforming loans in Greece: a comparative study of mortgage, business and consumer loan portfolios." Bank of Greece, Working paper no. 118.*
- ✓ *Makri Vasiliki, Tsagkanos Athanasios and Bellas Athanasios (2014): Determinants of Nonperforming Loans: The Case of Eurozone" Panoeconomicus, Volume 2, Pp. 193-206*
- ✓ *Micco, A, Panizza, U and Yanez, M2004, 'Bank Ownership and Performance', Inter-American Development Bank, working paper.*
- ✓ *Mileris Ricardas(2012): Macroeconomic Determinants of Loan Portfolio Credit Risk in Banks, Inzinerineekonomika- Journal of Engineering Economics, 23(5), 496-504*
- ✓ *NBE (2008): Asset Classification and Provisioning Directive No. SBB/43/2008. National Bank of Ethiopia, Addis Ababa*
- ✓ *NBE (2009/10): Conference Proceedings on National Payment System*

- ✓ *Negera, W. 2012, Determinants of Non-Performing Loans The case of Ethiopian Banks, research report, University of South Africa*
- ✓ *Nkusu,W. 2011, „Nonperforming Loans and Macro financial Vulnerabilities in Advanced Economies“ International Monetary Fund, Vol.11, No.161*
- ✓ *Pasha,S and Khemraj, T 2009,“ The determinants of non-performing loans: an econometric case study of Guyana”, The Guyana Bank (Unpublished)*
- ✓ *Petra T., 2007. Panel data: fixed effects random effects dynamic panel data models, New York, Cambridge University Press.*
- ✓ *Rajan, R1994, „Why Bank Credit policy Fluctuate: A theory and Some Evidence“, Quarterly Journal of Economics, Vol.109, No. 2, PP.399-441. 51*
- ✓ *Rajveer R., Shwetha M., Sharan and Pradeep B. L. (2012): Modeling the NPA of Midsized Indian Nationalized Bank as Function of Advances; European Journal of Business and Management, Vol4, No.5,*
- ✓ *Ranjan Rajiv and D. Chandra Sarat (2003): Non-Performing Loans and Terms of Credit of Public sector Banks in India: An Empirical Assessment; India, Reserve Bank of India Occasional Papers Vol. 24, No. 3,*
- ✓ *Rose, P2002, „Commercial Bank Management“, McGraw-Hill Companies, Inc*
- ✓ *Saba Irum, Kouser Rehana and Azeem Muhammad (2012): Determinants of nonperforming Loans: Case of US Banking Sector. International Journal of Banking and Finance; No. 44 Pp 479-88*
- ✓ *Salas, V and Saurina, J2002, „Credit risk in two institutional regimes: Spanish Commercial and Savings banks“, Journal of Financial Services Research, Vol. 22, No 3, PP. 203-224.*
- ✓ *Selma.M. Ahlem and Jouini Fathi (2013): Micro and Micro determinants of Nonperforming; Tunisia, International Journal of Economics and Financial Issues. Vol.3, No.4, pp 852-860,*

- ✓ *Shingjerji Ali (2013): Impact of Bank Specific Variables on the Nonperforming loans ratio in Albanian Banking System, Journal of Finance and Accounting: Vol.4, No.7.*
- ✓ *Shu C. 2002. The Impact of Macroeconomic Environment on the Asset Quality of Hong Kong's Banking Sector. Hong Kong Monetary Authority Research Memorandums.*
- ✓ *Sinkey, JF and Greenawlat, MB1991, „Loan-Loss Experience and Risk-taking Behaviour at Large Commercial Banks“, Journal of Financial Services Research, Vol.5, No 1, PP. 43*
- ✓ *Skarica Bruna (2013): Determinants of Non-Performing Loans In Central And Eastern European Countries: Financial Theory and Practice. 38 (1) 37-59*
- ✓ *Skarica Bruna (2013): Determinants of Non-Performing Loans in Central and Eastern European Countries: Working Paper. No 13-07.*
- ✓ *Swamy Vighneswara (2012): Impact of Macroeconomic and Endogenous Factors on Nonperforming Bank Assets: International Journal of Banking and Finance, Vol. 9.*
- ✓ *Tomak Serpil (2013) Determinants of Commercial Banks „lending Behavior: Evidence from Turkey: Journal of Empirical Research, 3(8):933-943. 52*
- ✓ *Tseganesh Tesyaye (2012) Determinants of Banks Liquidity and Their Impact on Financial Performance: Published thesis (MSc), University Addis Ababa, Ethiopia*
- ✓ *W. Creswell John (2003) Qualitative, Quantitative, and Mixed Methods Approaches, Second Edition*
- ✓ *Zewdu Seyoum (2010): Impact of reducing loan by Ethiopian banks on their own performance; published thesis (MSc), University of South Africa*

APPENDIX



St. Mary's University ቅድስት ማርያም ዩኒቨርሲቲ
Committed to Excellence

SCHOOL OF GRADUATE STUDIES

Structured questionnaire

Dear Respondents

The purpose of this questionnaire is to enable us to carry out research for Master's Degree in MBA. The research focuses on organization with the topic of factor affecting non-performing loan in development bank of Ethiopia "The questionnaires are tools used to collect data from people regarding. Non-performing loan Hence, to gather information, we kindly seek your assistance in responding to questions listed below. Any information you present will be kept quite confidential and will be used only for academic purpose. Your cooperation and prompt response will be highly appreciated

Thank you in advance

- Direction ;**
1. No need of writing your name
 2. Please put a check mark (✓) on the appropriate box:
 3. Please return the completed questionnaire

PART I. PERSONAL INFORMATION

1.1 **Gender** Male Female

1.2 **Age** 18-24 years 25-34 years 35-44 years
45-64 years Older than 64 years

1.3 **Educational level** High school and below Certificate
Diploma Degree Masters above Masters

PART II: QUESTIONS RELATED TO TOPIC

1. For how long have you been working in development bank of Ethiopia Below year
1-2 years 3-5 years 6-10 year 11 years & above
 2. According to your opinion to what extent giving loan to the customers is important
employee’s job performance in development bank of Ethiopia? Extremely important
fairly important
Less important has no importance
 3. According to your opinion which factors is leads and contributing to the occurrence of
nonperforming loans development bank of Ethiopia
 4. ? Rapid Loan growth by banks High interest rate
 High interest rate loan follow up / Orientation /ROA inflation
- ALL

PART III Factors affecting non-performing loans

Direction; this part of the questionnaire intends to find your perception towards the factors affecting non-performing loans Dimensions development bank of Ethiopia please put (√) mark on the number which reflects your perception.1= strongly disagree, 2=Disagree, 3= Neutral, 4= Agree and 5= strongly agree

	Factors affecting non-performing loans	Possible answer					
		Strongly disagree	Disagree	Neutral	Agree	Strongly Agree	
		1	2	3	4	5	
I.	Loan Growth Rate						
1	Do you think Loan growth non-performing loan have direct relationship in development bank of Ethiopia central region						
2	The rate leads to loan default or NPL						
3	Do you believe that Rapid credit growth leads to large NPL						
II.	Capital Adequacy and Credit size						
4	large NPL volume due to bank size						
5	The bank Capital is based on loan						
6	Loan management is needs experience						
7	Bank's great risk appetite and exposure for NPL						
III.	Return on Asset and credit monitoring						
8	Do you believe non per forming loan affect Return on Asset of development bank of Ethiopia central region						
9	Increase of return on asset leads to decrease in NPL						
10	Poorly assessed and give advanced loans						
IV.	Inflation						
11	There is high inflations						
12	Do you think inflation rate have direct impact in non-performing loan in development bank of Ethiopia central region?						
13	Increase of inflation rate leads to loan default ?						
V	Lending Interest Rate						
14	NPL due to high Lending Interest Rate						
15	development bank of Ethiopia has fixed Lending Interest Rate						
16	Interest rate is one factor for NPL						

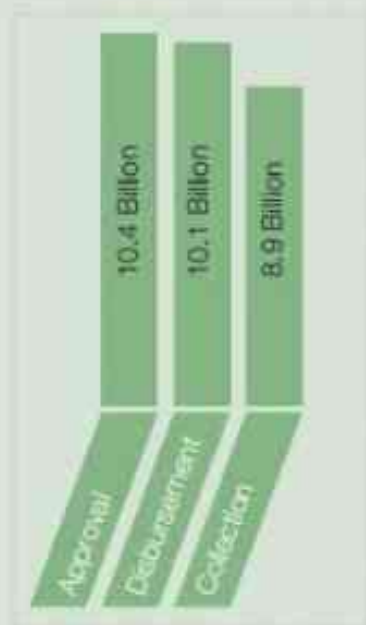
VI	Non-performing loans					
17	development bank of Ethiopia has many Non-performing loans					

1. What improvements would you suggest to reduce non-performing loan in development

Bank of Ethiopia central region

I thank you for the time and effort taken in fulfilling this questionnaire.

DBE in Numbers 2020/21



Total loan portfolio

59.9 Billion Birr

NPLs ▼

26.13%

Net Profit

3.28 Billion Birr

Similar Country Ranking	
Country Name	Inflation Rate (%)
Zimbabwe	104.71%
Haiti	33.98%
Ethiopia	33.89%
Sierra Leone	27.21%
Malawi	20.95%
Burundi	18.80%
Rwanda	17.69%
Burkina Faso	14.29%
Gambia	11.51%
Guinea	10.49%
Mozambique	10.28%
Senegal	9.70%
Mali	9.62%
Guinea-Bissau	9.39%
Madagascar	8.16%
Togo	7.97%
Nepal	7.65%
Uganda	7.20%
Chad	5.79%
Central African Republic	5.58%
Tanzania	4.35%
Niger	4.23%
Benin	1.35%
Afghanistan	0.00%
Somalia	0.00%
Yemen	0.00%
Eritrea	0.00%
Comoros	0.00%
Democratic Republic of Congo	0.00%
Liberia	0.00%
Tajikistan	0.00%
North Korea	0.00%
Syrian Arab Republic	0.00%
South Sudan	-6.69%

Ethiopia Inflation Rate - Historical Data		
Year	Inflation Rate (%)	Annual Change
2022	33.89%	7.05%
2021	26.84%	6.48%
2020	20.36%	4.55%
2019	15.81%	1.98%
2018	13.83%	3.15%
2017	10.69%	4.06%
2016	6.63%	-2.94%
2015	9.57%	2.68%
2014	6.89%	-0.57%
2013	7.46%	-16.14%
2012	23.60%	-9.65%
2011	33.25%	25.10%
2010	8.15%	-0.33%
2009	8.48%	-35.87%
2008	44.36%	27.12%
2007	17.24%	4.94%
2006	12.30%	2.33%
2005	9.97%	6.64%
2004	3.33%	-10.35%
2003	13.67%	13.00%
2002	0.68%	8.91%
2001	-8.24%	-8.90%
2000	0.66%	-7.28%
1999	7.94%	7.05%
1998	0.89%	-1.50%
1997	2.40%	10.88%
1996	-8.48%	-18.51%
1995	10.02%	2.43%
1994	7.59%	4.05%
1993	3.54%	-6.98%
1992	10.53%	-25.20%
1991	35.72%	30.57%
1990	5.15%	-2.66%
1989	7.82%	0.74%
1988	7.08%	9.51%
1987	-2.43%	7.38%

The latest trends on responsible investing (MarketViews)

From: To:

Zoom:

