



ST.MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

**FACTORS AFFECTING OF NON-PERFORMING LOANS: IN
THE CASE OF DEVELOPMENT BANK OF ETHIOPIA**

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DECLARATION

I hereby declare that this work entitled “**Determinants of Non-Performing Loans: In the Case study on Development Bank of Ethiopia**”. is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which has been accepted for the award of any other degree or diploma of the university or other institute of higher learning, except where due acknowledgment has been made in the text.

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This is to certify that the research project prepared by Rebka Beyene entitled: “**Determinants of Non-Performing Loans: In the Case study on Development Bank of Ethiopia**” and submitted in partial fulfillment of the requirements for the Master Degree in Accounting and Finance complies with the regulations of the College and meets the accepted standards with respect to originality and quality.

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Abstract

The rise of non-performing loan portfolios in banks significantly contributed to financial distress in the banking sector. Non-performing loans are the main contributor to liquidity risk, which exposes banks to insufficient funds for operations. The objective of the study is to examine the basic factors that affecting NPLs in case of Development Bank of Ethiopia. Sample for the study consists of 120 staff members who work in loan office census sampling was applied to obtain the data. Data were collected with the help of questionnaire and interview and analysed using the Statistic Package for Social Science (SPSS). The result from Pearson coefficients implies that the seven factors were all positively related with NPL within the range of 0.648 to -0.013. Findings from the multiple regression analysis depict, 67.1 % variation in NPL is explained by employed explanatory variables (where by R square is 0.671 and adjusted R square is 0.650). Pearson correlation table shows that Non-performing loan had most significant correlation with poor credit assessment, poor collateral strength, high interest, credit size, loan diversion, poor credit monitoring, and borrower's credit culture respectively. The result of the study indicated that poor credit assessment, poor collateral strength, high interest, credit size and poor credit monitoring has positive and statistically significant effect on NPL. DBE higher management team should pay appropriate attention on bank specific, and borrower specific factors impact of NPL's of priority sector of businesses loans and should be able to prepare prudential credit policies and procedure to protect adverse impacts of such type of non-performing loans. DBE should put in place a vibrant credit process that would encompass issues of proper customer selection, robust credit analysis, authentic sanctioning process, proactive monitoring and follow up and clear recovery strategies for sick loan.

Key word and phrases: non-performing loan, bank specific factors, borrower specific factors

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LIST OF ACRONYMS

DBE	Development bank of Ethiopia
NPL	Nonperforming loan
NBE	National Bank of Ethiopia

CHAPTER ONE

1. INTRODUCTION

1.1 Background of the study

Financial system is the most important parameter for the growth of any economy. Since then, it has become imperative to ensure a stable financial system in the economy. Stable financial system has always supported the growth of economy (Rajaraman and Visistha 2002). One of the main players in the financial sector is the banking sector, thus ensuring sound banking system and practices is very crucial for country's economic development. Financial institutions are very important in the economic growth of a nation as it helps in the easy flow of credit which leads to the investment opportunities in productive sectors. Therefore, the soundness of banking institutions is an essential consideration for financial system stability. The efficient and effective performance of the banking industry over time guarantees the financial stability of any nation (Gnawali, 2018).

Financial system contributes to the economic growth through affecting the decisions of saving and investment by providing alternative investment instruments suited to the individuals, mobilization of the savings, risk diversification, efficiently allocation of the funds to the best uses (Petkovski and Kjosevski, 2014). Financial system has still been dominated by banking sector especially in emerging and developing markets, although the structure of the financial system varies from country to country Financial institutions play a crucial role in a country's economic development because they facilitate the easy flow of credit that generates investment possibilities in profitable industries. As a result, a crucial factor in maintaining the stability of the financial system is the soundness of banking institutions. The efficient and effective performance of the banking industry over time guarantees the financial stability of any nation (Gnawali, 2018).

World over, the banking industry, being amongst the highly recognized sectors for spurring economic growth of country, is a very important platform for enhancing collection of money from those people regarded as having excess (lenders) and availing that money for access to those in need of it; that is the borrowers (Ghasemi & Rostami, 2016; Musau, 2014). One of the major roles bank plays is the intermediation roles that enable them to transfer funds from depositors to borrowers. Banks extend credit facilities to all sectors of the economy as well as

government with the motive of supporting businesses and ensuring growth in the country which ultimately brings about development. Due to the important roles played by bank in economic development, there is the need to ensure its sustainability and stability in the economy.

Banks are the heart of a developing country. As a driver of the national economy, it would be better for the economy if it was healthy. Banks accept deposits from the public in the form of savings, current accounts, and time deposits. The funds are then disbursed in the form of credit. Banks in Indonesia generally rely on loan interest income as the primary income in financing their operations. In reality, not all loans disbursed are risk-free. Some of which have a large enough risk and can threaten the bank's health (Harimurti et al., 2021).

Given the importance of loan growth and its management to the performance of the banking sector, the decrease in loans and advances, and increased credit impairments resulting from defaults ultimately had a negative impact on the profitability of the banks. Given the adverse effect of non-performing loans on the financial performance and survivability of commercial banks, there has been a proliferation of studies on the determinants of non-performing loans over the years. Some studies were country specific, while others considered groups of countries in a specific region or internationally. Knowledge of the major influences on non-performing loans places banks in a position to control their upward movement, thereby restricting their constraining impact on bank performance. Also, understanding the influences of non-performing loans helps to ensure a sound and healthy banking system which is able to support economic growth (Wood and skinner, 2019).

The increase in NPLs has proven to have a negative impact on the banking sector, so it is imperative to consider the determinants of NPLs to ensure the effectiveness and overall health of the economy. The variable of bank efficiency has a positive correlation with NPL, while the profitability variable has a negative correlation. The two variables are statistically significant, while the income and bank capital diversification variables are not statistically significant (Prawira & Wiryono, 2020). In nations that have been around for a long time, the idea of financing development has changed to become industrial expansion. As a long-term financing institution, it served as a major source of capital formation, with investment in the productive sector serving as a prerequisite for achieving economic growth on a national scale (Chandra and Abdul, 2005). They support the overarching aim for national development through long-term loans (between 10 and 25 years). Development banks would only adhere to

government policy and give loans to initiatives in regions where the government has set priority (Asrat, 2013).

In the case of Ethiopia, one of the financial institutions involved in providing short, medium, and long-term development credits is the Development Bank of Ethiopia (DBE), which stands out for its enduring "project" based lending legacy. The Bank is not only involved in project finance, but also in the preparation and careful selection of institutions (entrepreneurs) through appraisal, strict supervision, and methodical evaluation. Undeveloped capital markets and commercial banks' reluctance to provide long-term funding leave a gap that development banks fill. Development banks' ability to give funding depends on the cost of raising capital as well as their obligation to generate a profit and distribute dividends (Fasil and Merhatbeb, 2009).

The Development Bank of Ethiopia was founded as a strategic entity for financing national development goals. Therefore, the bank has a national duty to encourage development by offering credit services and contributing significantly to efforts to strengthen the nation's economy. In order to achieve this goal, the bank must also carefully review and evaluate any development projects that have been filed for funding.

According to DBE Bank's BSC 2018/19 fiscal year performance report in the areas of NPL planned to come with 15.76%; but the actual NPL ratio was 33.91%, this indicates that the bank resulted lower performance, this is beyond a bank's NPL ratio limits, and also generally the average yearly growth rate of the total NPLs and the loan recovery performance from period of 2008/09 to 2017/18 is 31% and 18% respectively. In 2019 the NPL ratio is reached to maximum i.e. 44.76 % and in 2021 the level of NPL ratio is 22.49 still the value above the required ratio level.

1.2 Statement of Problem

The business of banking has to do with lending which involves the risk that the borrower will not pay back the loan as promised and paying a fixed rate of interest on term deposits. This involves the risk that lending rates will drop, leaving the bank earning less on its investments than it is paying out on deposits (Abimbola, 2020). Credit risk management is complex and unpredictable in an environment which is peculiar to the banking industry. Yet banks grant loans and advances to individuals, business organizations as well as government in order to enable them undertake investments and other development activities as a mean of contributing toward the economic growth in general and aiding economic development in

particular. In the process, loan defaults are generated resulting from low quality of assets, high non-performing loans (NPLs) that resulted to loan losses and reduction in bank profitability (Abimbola, 2020).

The worsening situation in portfolio loan quality of banks have been seen as a major cause of many financial challenges within the banking sector, which results in financial crises witnessed previously across the world. The increasing level of nonperforming loans may lead to very serious implications. For instance, it discourages the financial institution to refinance the defaulting client, which put the defaulters once again in to vicious circle of low productivity. Therefore, a rough investigation of the various aspect of loans defaults, source of credit, purpose of the loan, form of loan and condition of loan provision are most importance for both policy makers and the lending institutions (Kasinger et al., 2021).

According the five years strategy plans of the Development bank of Ethiopia revealed in the last three decades, the bank's balance sheet has expanded dramatically as its annual loan disbursement to development projects has grown both in volume and number. On the other hand, the quality of its assets, measured by non-performing loans ratio, has continued to deteriorate fast, posing significant challenges to its very survival. Non-Performing Loan (NPLs) has surged to Birr 15.4 billion, i.e., 39.43% of the total outstanding loans, in June 2018 despite a continuous growth in the volume of total loan portfolio. This is because of increase in the number of troubled projects financed by the Bank. It is true that as development financial institution, the Bank has a higher risk appetite than commercial banks, and thus is expected to have relatively higher non-performing loans (NPLs) ratio. However, the current level of NPLs of the Bank in terms of magnitude and ratio is significantly higher than what is deemed to be normal for development banks (maximum 15% (Five years Bank strategy plan). DBE's asset quality has to be regularly monitored and assessed whether it is within the acceptable standard or not that is 15% of the total outstanding loan, which is set by association of DBE, the average NPLs ratio for the district last five years covering from 2017 up to 2021 was above 29%. This clearly indicates that there is a problem in loan repayment as it is highly deviated from the accepted standards 15% of the total outstanding loan

Nowadays, factors that affecting non-performing loans in banking industry is a hot topic worldwide. Numerous empirical works have been carried out on the determinants of non-performing loan and on the factors that affecting non-performing loans in developed and developing countries. However, these studies were conducted in different dimensions in

terms of sample coverage, data type and objectives. For instance, a study on the macroeconomic and bank-specific factors drivers of NPLs was undertaken by Curak et al. (2013), Beaton et al. (2016), Rajha (2017), and Wood et al. (2018). A study on the macroeconomic factors of NPL was examined by Messai and Jouini (2013), Ghosh (2015), Beaton et al. (2016), Umer (2015), Million et al. (2019), Wairimu and Gitundu (2017), Kumar (2019), Abimbola (2020), and Singh et al. (2021). Other research on bank-specific factors influencing non-performing loans have been done by Mamuye (2015), Anisa (2015), Malimi (2017), Ekanayake and Azeez (2015), Hassana, Ilyas and Rehman's (2015), and Onyango and Olando (2020), Singh et al. (2021), Mahyoub and Mohd (2021), Harimurti et al.(2021), Mohamed et al., (2021), Kumar (2022), Bangagnan (2021), Dereje (2020). The study conducted by Negalign (2019) examined the customer-specific NPL factors.

This study was focused on seeking to analyze the factors leading to vulnerability of NPLs in DBE through the assessment of bank related factors and borrower related factors. It is worth noting that both customer related determinants, bank related factors, and macroeconomic factors such as inflation, unemployment, prices indices, bank lending rates, growth in credit and ownership, and profitability, are an integral part in determination of loan portfolio quality. Despite numerous empirical studies having assessed and addressed the core factors leading to rising NPLs cases, most of these studies have embarked on revealing the factors affecting NPLs using secondary data. Empirical studies using bank specific and borrower specific factors using primary data were generally limited.

Generally, to the best of my knowledge, none of the researchers has been conducted a study on a bank specific and borrower specific determinants of non-performing loan using primary data in development bank of Ethiopia particularly in head office given with timing of the study is significant given the level of non-performing loan of DBE increasing from time to time. Therefore, this study tries to narrow the research gap.

1.3 Research Questions

This study is guided by the following basic research questions:

1. What are the bank specific and borrower specific factors of NPL in in development bank of Ethiopia?
2. How bank-specific factors affecting Non-performing loans in development bank of Ethiopia?

3. Which factors have more effect on Non-performing loans in development bank of Ethiopia?

1.4 Objectives of the Study

1.4.1 General Objective

The main objective of the study is to examine the basic factors that affecting NPLs in case of Development Bank of Ethiopia.

1.4.2 Specific Objective

- To assess the bank specific and borrower specific factors of NPL in in development bank of Ethiopia.
- To determine the effect of bank-specific factors that affecting Non-performing loans in development bank of Ethiopia.
- Analyze factors have more effect on Non-performing loans in development bank of Ethiopia.

1.5 Significance of the Study

The outcome of the research outlines what determines NPLs of bank in DBE. The finding of this study is beneficial different stakeholders such as commercial banks, National bank of Ethiopia, researchers and academicians.

Development bank of Ethiopia and Commercial banks: The study benefits commercial banks on monitoring and controlling their non-performing loans. It also helps to overview their financial performance through loan provisions. The findings will also help management of banks to identify those specific variables that causes deterioration in nonperforming loans so that they can be managed properly to enhance loan performance. Managers and staffs will have a chance to control operational losses as it affects profitability and their future benefits in the bank.

National bank of Ethiopia: It is also important to the NBE because it will help them to formulate the policies that will help the banks in Ethiopia to better assess whether a customer is capable of honoring his/her loan obligations and the creditworthiness of the customer. In addition, the findings from the present study would importantly seek to contribute to the understanding and analysis of factors affecting non-performing loans and to set effective and efficient credit management tools in Banks.

Academicians: the study will provide background information to other researchers and scholars who would like to investigate more on factors contributing to loans defaulting.

1.6 Scope of the Study

This study is focused on the factors that affecting non-performing loan in development bank of Ethiopia at head office. In fact, the bank has 12 District and 104 branches and sub branches over all countries.

Methodologically, the study was focused only bank specific and customer specific determinants of NPLs. The study was used explanatory and descriptive research design. The basis behind using these designs due to the nature of the equations and the method employed to answer the research questions.

Geographically and time scope, the study is delimited to head office level. The logic behind this is that though it is possible, but it is difficult to cover all areas and branches throughout the country. As a result, the researcher was conducted purposively selected research area and was used simple random sampling method while select respondents.

1.7 Limitation of the Study

This study is not totally free of limitation as any other social science research study. There may be certain limitation that was faced a researcher during primary and secondary data collection. A few respondents were not able to return a questionnaire timely and it was a difficult task to wait until all have returned. In addition to this, the study had conducted at head office level which is located in Addis Ababa.

1.8 Organization of the study

This study was organized in to five chapters. The first contains the background, statement of the problem, hypothesis, objective, scope and significance of the study. Chapter two reviews the related theoretical and empirical literature. Chapter three includes the description of the study area, data source, methodology of the study and model specification. Chapter four provides empirical analysis and discusses the findings. Lastly, chapter five concludes the study with the main findings and forward some policy implications based on the findings.

CHAPTER TWO

2. LITERATURE REVIEW

2.1 Theoretical and conceptual literature review

2.1.1 Basic concept of loan

Lending Bank loans finance different corporate groups in the economy. Manufacturers, distributors, service firms, farmers, builders, homebuyers, commercial real estate developers, retailers, and others all depend on bank credit (Wondimu, 2012). The ways in which banks allocate their funds strongly influences the economic development of the community and nation. Every bank bears a degree of risk in its granting of credit, and, without exception, every bank experiences some loan losses when certain borrowers fail to repay their loans. Whatever the degree of risk taken loan, losses can be minimized through highly professional organization and management of the lending functions. The composition and quality of a bank's loans should be reflected in its loan policy. The policy sets out the bank's lending philosophy and specifies procedures and means of monitoring lending activity (Holger, 2008). These are theories that seek to explain the underlining principles regarding the subject area. The following are some of these theories employed in the conduct of this research.

2.1.2 Performing Loans

Credit facility is defined to mean a contractual promise between two parties where one party, the creditor (lender) agrees to provide a sum of money to a debtor (borrower), who in turn promises to return the said amount to the creditor either in one lump or in instalments over a specified period of time. The agreement may include provision of additional payment of rental charges on the funds advanced to the borrower (debtor) for the time the funds are in the hands of the debtor. The additional payments that are in the form of interest charges, processing fees, commissions, monitoring fees, among others, are usually paid in addition to the principal sum lent. A loan /credit facility may therefore be considered as performing if payment of both the principal and interest charges is up to date as agreed between the lender and the borrower. As Per the National Bank of Ethiopia (NBE) classification, loans are considered current if the payment of principal and interest are up to date. It can therefore be deduced that loans that are up to date in terms of principal and interest payment are described as performing loans and they constitute the healthy asset portfolio (NBE, 2008).

2.1.3 Definition of Non-Performing Loans

As per Basel committee (2001) NPLs are defined as loans which are not paid, and their overdue time period is 90 days after maturity date. NPLs are also explained as, “Loans or advances whom credit quality has deteriorated such that full collection of principal and interest in accordance with the loan or advances in repayment terms of the loan or advances in question” (National Bank of Ethiopia).

Non- performing loans” means outstanding credit facilities that are past due for more than 90 days beyond the agreed-upon the repayment period, non-performing loans are loans that are ninety or more days’ delinquent in payments of interest and/or principal or loans categorized under substandard, doubtful and loss as groupings of unpaid loans (NPL). Non-performing loans are closely associated with banking crises. The reason given by different banks vary according to their less quality asset performed, but in common, there are internal and external factors that cause it (Negalign, 2019).

The ratio of NPLs to total loans is one of the most important ratios that measure the assets quality in the banking sector, as the financial insolvency risks of banks start mostly from the quality of the assets. The NPLs are widely used in the related literature to assess the creditworthiness of institutions or financial systems in general (Basel Committee on Banking Supervision, 2016).

2.1.4 The principal -Agent Problem

Viswanadham & Nahid (2015) stated that the idea underlying this model is that organization decision taking authority lies in the hands of managers. Shareholders as owners of a company are the principals and managers are their agents. The agency theory is obtaining a lot of acceptance in explanation of the financial performance of organizations. In actual fact, the approaches can be seen as complementary in their uses of similar concepts under different assumptions. It explains the association that exists between the management of an organization and the owners of the organization who are usually the people holding stocks for the organization. It suggests that here is an agency conflict. The management of an organization is usually reflected as an agent who has been contracted by the stockholders to work towards enhancing the stockholder value through good financial performance. The management is therefore anticipated to act in the best benefits of the owners and enhance the financial performance of the organization (Swamy, 2012).

2.1.5 Adverse Selection Theory

The sharing of information decreases adverse selection in the sense credit information in relation to applicants of credit is improved when information is shared (Pagano & Jappelli, 1993). According to Richard (2011) and Auronen (2003) trying to differentiate borrowers who are good from bad ones could be challenging owing to the theory of asymmetric information which leads to selections made adversely, resulting in problems of moral hazard. There is a suggestion by the theory that, when there is more information by a party on the transaction to be made (in the case of the borrower) within the sector has an upper hand in the negotiations being made as compared to the other party (the lender). Among the two parties, the one that has lesser knowledge concerning the transactions to be made is likely not to make the best of decisions.

2.1.6 Moral Hazard Theory

According to this theory, a debtor can choose to default if he will not have challenges with making credit applications in the near future. This is due to the troubles a lender comes across in finding out how much wealth their debtors might have amassed before the debt is serviced, and not at the time the application is being made. If creditors are unable to do a proper assessment on borrowers' ability to repay the loan then the probability of them defaulting is high. Lenders knowing this will also lend at a higher rate which may result in markets collapsing (Alary & Goller, 2001).

2.1.7 Classifications of Loans and Advances

Loan can be classified as performing and nonperforming. Performing loan is loan that Payments of both principal and interest charges are up to date as agreed between the creditor and debtor whereas nonperforming loans are loans or advances whose credit quality has decline such that full collection of principal and interest in accordance with the contractual reimbursement terms of the loan. Loans are classified into five classes.

Pass: Loans in pass category are totally covered by the current financial and paying capacity of the borrower. It is performing loan. Accordingly, given the nature of the Bank and based on the directives of NBE, the following loans can classify as pass loans: for Short term loans due for less than thirty days and medium and long term loans over due for less than one hundred eighty days (NBE, SBB/52/2012).

Special Mention: It is Performing loan. The following loans at a minimum shall be classified as special mention: for short term loans over due for thirty days or more, but less than ninety days; and medium and long term loans overdue six months or more, but less than twelve months.

Substandard: The following nonperforming loans at a minimum shall be classified substandard: short term loans overdue ninety days or more, but less than one-hundred-eighty days; and medium and long term loans overdue twelve months or more, excluding less than eighteen months

Doubtful Loans: The following nonperforming loans at a minimum shall be classified doubtful: short term loans overdue one-hundred-eighty days or more, but less than three-hundred-sixty days; and medium and long term loans overdue eighteen months or more, but less than three years

Loss: The following nonperforming loans at a minimum shall be classified loss: short term loans overdue three-hundred-sixty days or more; and medium and long term loans past due three years or more

Pass and Special Mention Classification are performing loans while Substandard, Doubtful and Loss are nonperforming Loans in accordance with the degree of collection difficulties and the age of due loans (NBE directive No.SBB/52/2012).

2.1.8 Five Cs of Non-performing/Bad Loans

According noted by to MacDonald (2006), there are five Cs of bad credits that represent the issues used to guard against/prevent bad loans. These are:

Complacency: refers the tendency to assume that because of the things were good in the past, they will be good in the future. For instance, assuming the past loan repayment success since things have always worked out in the past.

Carelessness: indicates the poor underwriting typically evidenced by inadequate loan Documentation, lack of current financial information or other pertinent information in the credit

files, and lack of protective covenants in the loan agreement, these makes difficult to monitor a borrower`s progress and identify problems before they are unmanageable.

Communication ineffectiveness: inability to clearly communicate the bank`s objectives and policies. This is when loan problem can arise. Therefore, the bank management must clearly

and effectively communicate and enforce the loan policies and loan officers should make the management aware of specific problems with existing loans as soon as they appear.

Contingencies: refers the lenders' tendency to play down/ignore circumstances in which a loan might in default. It focuses on trying to make a deal work rather than identifying downside risk.

Competition: involves following the competitors' action rather than monitoring the bank's own credit standards. Banks, however, still have required expertise, experiences, and customer focus to make them the preferred lender for many types of loan. Lending is not just a matter of making loan and waiting for repayment. Loan must be monitored and closely supervised to prevent loan losses (MacDonald, 2006).

The term "bad loans" as described by Basu (1998) is used interchangeably with non-performing and impaired loans. Despite ongoing efforts to control bank lending activities, non-performing loans are still a major concern for both international and local regulators (Boudriga et al, 2009). Greenidge and Grosvenor (2010), again argue that the magnitude of non-performing loans is a key element in the initiation and progression of financial and banking crises. In consistence with the above authors, Reinhart and Rogoff (2010) as cited in Louzis et al. (2011) pointed out that, non- performing loans can be used to mark the onset of a banking crisis. According to Berger and Young (1997) sited in Joseph, et al., (2012), non-performing loans could be harmful to the financial performance of banking institutions

2.2 Bank specific determinants of NPLs

The determinants of NPLs should not be sought exclusively in macroeconomic factors which are viewed as exogenous forces influencing the banking industry. On the contrary, the distinctive features of the banking sector and the policy choices of each particular bank with respect to their efforts for maximum efficiency and improvements in their risk management are expected to exert a decisive influence on the evolution of NPLs. A strand in the literature has examined the connection between bank-specific factors and NPLs. The credit policy of the bank plays an essential role in determining the subsequent levels of NPLs. To maximize short run benefits, managers seek to rapidly expand credit activities and may hence take inadequate credit exposures. Keeton (1999) suggests that rapid growth of loans can be triggered by return maximization strategies. In fact, interest revenues are the main source of return creation in banks. Particularly, during periods of economic growth, financial institutions engage in market share conquest campaigns discarding the necessary assessment of credit quality of borrowers (Fernandez De Lis et al., 2000).

2.2.1 Interest rate

It is one of the primary economic determinants of NPLs/bad loans (Farhan et al., 2012). It is the measure of borrowed funds (Louzis et al., 2012). An increase in interest rate affects the performing assets in banks as it increases the cost of loans charged on the borrowers and reduces the borrower's capacity to pay (Ombaba, 2013). Banks that charge high interest rate would comparatively face a higher default rate or non-performing loans. 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. Thus, the relationship between interest rate and NPLs is expected to be positive.

2.2.2 Credit Assessment

Weak credit risk management is perceived to lead to loan default a credit assessment, also known as a credit check, is used to assess the solvency of companies and individuals. Usually, consumers are subject to checks when applying for a loan or to pay for purchases in instalments. The assessment is basically an evaluation performed on the ability of a debtor or contracting party to repay before a transaction is concluded. Since both the creditors and companies want to protect themselves against possible payment defaults before entering a business contract, checks are carried out. For this purpose, credit agencies calculate the probability values (credit scores) which can be used to express the likelihood of default. The more data a credit agency has on the consumer, the more accurate and reliable it can make statements about the risk of default by that consumer. A study conducted by Arega, et al. (2016) found that credit assessment negative relationship with NPL in development bank of Ethiopia.

2.2.3 Credit Monitoring

Strict monitoring and controlling of project performance is believed to lead to high loan quality a credit monitoring service tracks changes in borrower behavior to notify consumers of potential fraud, as well as changes to their creditworthiness. For example, credit monitoring services can guard against identity theft, when an individual's personal information is stolen and used without the person's permission for nefarious purposes. If a credit card is stolen and used, a credit monitoring service should detect the different buying patterns and alert the credit card account holder. The proposed justification links behind this hypothesis is bad management with poor skills in credit scoring, appraisal of pledged

collaterals and monitoring borrowers. Managers in such banks do not follow the standard practices of loan monitoring, controlling and underwriting. Thus as “bad managers” they have poor credit scoring, collateral evaluating and loan monitoring and controlling skills. When managers are inefficiently managing the current banking operations then it will lead to future growth in NPLs (Berger and DeYoung, 1997). A weak Risk assessment can also play a role in increasing NPLs. The reputation of borrowers to repay loan and the market value of securities are not adequately assessed while giving loans which become key reasons behind NPLs (Pettersson, 2004). The study of Ning (2007) shows that the banks use their personal experiences in giving loans rather than using historical data, mature credit portfolio management skills and centralized information system. A study investigated by Arega, et al. (2016) and found that credit monitoring negative relationship with NPL in development bank of Ethiopia.

2.2.4 Credit Size

Aggressive lending leads to occurrence of large NPL ratio. Aggressive lending, bank’s great risk appetite and compromised integrity in approving credit cause large volume of nonperforming loans Salas and Saurina (2002) who studied Spanish banks found out that credit growth is associated with NPLs. The size of the loan portfolio is measured in terms of the financial value of the loans and advances made to customers (constituting the receivables in the bank’s balance sheet). Commercial banks measure loans and receivables at amortised cost using the effective interest method where the effective interest rate is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument to the net carrying amount of the financial asset or liability (International Accounting Standard 39). Empirical studies show that lenient credit terms is one of the factors which increases NPLs. To expand credit, banks have to ease the standards of credit terms, monitoring of borrowers and decrease the interest rates (Keeton, 1999). The study of Sarlija and Hare (2012) indicates that in case of developed countries, lending is at a much speedy pace. A study conducted by Arega, et al. (2016) and found that credit size positive relationship with NPL in development bank of Ethiopia.

Kwan and Eisenbeis (1997) find a U-shaped relationship between bad loans and loans growth. At a low growth rate, loans growth has a negative effect on the number of bad loans. As loans growth rate exceeds a certain point, further loans growth adds increase impaired loans.

2.2.5 Collateral

Collateral requirements in credit agreements is that specify acceptable collateral and risk-appropriate measures and controls, including acceptable collateral types, loan-to-value guidelines, and appropriate collateral valuation methodologies. A drop in the value of collateral for loans could negatively affect the loan quality of consumer loans (ECB, 2013).

2.3 Customers Specific Factors Affecting Non-Performing Loans

Customers related factors-: These are factors affecting loan repayment behavior of borrowers. Customer's failure to disclose vital information during the application process leads to occurrence of non-performing loans (Brown, 1998). Kanimbla (2010) studied determinants of non-performing loans in Standard Chartered Bank. He argued that long duration granted for repayment of loans, unwillingness of borrowers to pay back the loan, lack of business skills are the reasons for non-performing loans. Gaitho Edna (2010) in his study the causes of non-performing loans in Kenyan banks, he revealed that in the side of customer specific factors like Bank clients started new businesses in which they had no experience, The simultaneous operation of too many kinds of business, The inappropriate use of the loan, Debtors conceal some vital data in their applications, Provision of poorly valued collateral or difficulties in recovery, All these factors were found to contribute to bad loans. Kwayu (2011) analyzed factors for non-repayment of bank loans at NBC Dodoma region in Tanzania. The attitudes of borrowers contributed to non-repayment of loans are high. Carlo Msigwa (2013) studied Factors affecting non-performing loans in Banking industry: A case of KCB Bank (Tanzania) Limited; Morogoro and Msimbazi Branches. The findings showed that, diversion of funds for unnecessary expansion of business and speculations leading to investing in high risk assets to earn high income and legal environment which reflects the availability or non-availability of foreclosure laws and ownership rights for both domestic and foreign investors have been factors influencing NPLs. Stephen Laurent Isaac Mwakajumilo (2014) conducted to assess the impact of non-performing assets on the growth of banking industry in Tanzania specifically NMB Bank. The findings revealed that the impact of nonperforming assets facilitated by non-recovery of loans hence caused great harm to the economic framework and structure, loss of trust of dishonest, reduced customer ability in buying, legal issues.

2.2.2 Diversion of funds

Diversion of funds occurs when the funds borrowed have to be used only for a particular or the purpose it was intended for Ashiq (2003) cited in Martha, 2017. Not using the funds for the primary purpose they were intended for and as such, many projects become halfway

completed, in such case the funds were meant for an income generating project but the borrower decides to divert into a different business thus leading to loan default.

2.3.2 Credit culture

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.

2.4 Empirical Literature Review

This section presents evidence which identify the major factors of nonperforming loans. Many researchers have conducted a lot of study on determinants of nonperforming loans (NPLs), due to its significance for the bank's failure. Accordingly, the first subsection, presents factors affecting nonperforming loans in cross countries. The second subsection discusses review of prior studies on factors of non-performing loans in Africa and the last empirical evidence in Ethiopia.

2.2.2 Cross countries

Curak et al. (2013) analyzed the determinants of NPLs, namely macroeconomic and bank-specific factors in Southeastern European banking systems for a set of ten economies from 2003 to 2010. The results show that the NPLs are negatively affected by economic growth and positively influenced by inflation and interest rate. It is also found that credit risk responds significantly to bank-specific variables, such as bank size, ROA, and solvency.

Messai and Jouini (2013) examined the determinants of NPLs for a set of 85 banks in Italy, Greece and Spain from 2004 to 2008. The study reveals that economic growth and ROA negatively influence the NPLs, while unemployment and real interest rate positively affect the NPLs. Ghosh (2015) emphasized that inefficiency cost, liquidity risk, size of the banking industry, inflation, unemployment, and public debt impact the NPLs.

Beaton et al. (2016) examined the relationship between the NPLs and some variables in the Eastern Caribbean Currency Union from 1996 to 2015. The results indicate that macroeconomic and bank-specific factors play a crucial role in deteriorating asset quality, and that bank with stronger profitability and lower exposure to the construction sector and household loans tend to have lower NPLs.

Rajha (2017) investigated the effects of bank-specific and macroeconomic variables on the NPLs in Jordan over the 2008-2012 periods. The results outline that the ratio of loans to total

assets positively affects the Jordanian banking sector, while the size does not significantly affect the NPLs. It is also found that the 2008-2009 global financial crises has negative effects on the loans default.

Malimi conducted a study on NPLs in the Tanzanian banking sector, in the year 2017, and found that bank specific factors; capital adequacy, profitability posed insignificant influence on non-performing loans. Meanwhile, Ekanayake and Azeez (2015) conducted a study which suggests that NPLs among Sri Lankan banks are dependent on bank-specific factors. Hassana, Ilyas and Rehman's (2015) study concluded that the NPLs in Pakistan are as a result of bank-specific factors. A study conducted by Vasiliki et al. (2014) revealed that strong correlations exist between NPL and the independent variables; ROE, ROA, and capital adequacy ratio (CAR), Klein's (2013) study revealed a significant effect of bank specific factors; bank management, equity, and Loan to Total Asset Ratio (LAR) on NPLs in Central, Eastern and South- Eastern Europe (CESEE).

Rachman et al. (2018) studied on bank-specific factors that affect loan default problems in developing countries whose banking sectors play a major role in the overall economy. This study analyzes panel data sets of 36 commercial banks listed in the Indonesian Stock Exchange during the period 2008–2015. Applying fixed effects panel regression model reveals that Indonesian banks' profitability and credit growth negatively influence the number of NPLs. Moreover, banks with higher profitability are proven to have lower NPLs because they can afford adequate credit management practices. Likewise, banks with higher credit growth evidently have lower NPLs in the sense that they demonstrate more specialized lending activity and thus have better credit management systems. These findings imply that, in order to lower loan defaults that can deteriorate banks' asset quality, banks should maintain their level of profitability and increase, rather than decrease, their credit supply to debtors.

Wood et al. (2018) conducted study determinants of non-performing loans: evidence from commercial banks in Barbados. This paper examines the bank-specific and macroeconomic determinants of non-performing loans of commercial banks in Barbados over the period 1991-2015. The 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, while the macroeconomic variables exerting significant influence are GDP growth, unemployment and interest rate.

Kumar (2019) analyzed the comparative position of all the four banking categories on non-performing loans in Bangladesh and also investigate what are the different causes of nonperforming loans in banking sectors of Bangladesh. The study was based on secondary data which has been collected from the annual reports of the Bangladesh Bank during the 2006-2017 for 12 years and total NPL, NPL to Total Loans ratio and Trends of net NPL to total loans ratio are taken as variables of the study. The data was analyzed by using descriptive Statistics, ANOVA Test and the Test of Homogeneity of Variances. He found that there is significant difference at the performances of four categories of banks on the non-performing loans and there is no Homogeneity of Variances of total NPL, NPL to Total Loans ratio and Trends of net NPL to total loans ratio among all the banking categories.

Singh et al. (2021) conducted a study to find out the effect of Non-Performing Loan (NPL) of Nepalese conventional banks. The population of this study is major commercial banks in Nepal and the data obtained for this study was from the period 2015–2019. The author used NPL as a dependent variable and Return on Asset (ROA), Capital Adequacy Ratio (CAR), Bank Size, GDP growth, and Inflation as independent/explanatory variables. The result of the research showed that ROA, Bank Size, GDP, and Inflation have a significant effect on NPL, but CAR does not have a significant effect on the NPL of banks. In other words, the GDP effect on NPL in this study shows a positive and significant effect while most studies show a negative effect.

Harimurti et al.(2021) conducted a study on factors affecting non-performing loans in state owned banking. The study aims to analyze the influence of macroeconomic factors projected by inflation and bank-specific factors used, namely Return on Asset, Equity to Asset Ratio, and Bank Size on Non-Performing Loan of State- Owned Banking for the period 2017-2021. The research data analysis method uses data panel analysis as a data processing tool using EViews version 10. Return on Assets has a significant negative effect on Non-Performing Loans. Equity to Asset Ratio and bank size have a significant positive effect on Non-Performing Loans. Whereas inflation has a positive effect on Non-Performing Loans.

Mohamed et al., (2021) investigated a study on non-performing loans issues in Malaysian banking industry. the researchers can examine the relationships between the dependent variable, NPLs and independent variables, bank interest rate, inflation rate, and unemployment rate. The research uses monthly secondary data from 2015 to 2019, collected from the financial statements and DataStream and applies Descriptive Analysis, Normality

Test, Correlation and Multiple Regression Analyses. The results indicate that unemployment and inflation significantly impact and relationship with the NPLs in the Malaysian banking industry. Meanwhile, the interest rate, despite its insignificance, positively affects the NPLs in Malaysia. The findings have important implications on policymaking, besides adding new knowledge to the existing literature.

Kumar (2022) conducted a study on the factors affecting the non-performing loans (NPLs) in the selected commercial banks of Nepal over the period of 2015/16 to 2019/20. A sample of 25 Nepalese commercial banks has been selected and data are analysed using the factor analysis, correlation analysis and regression analysis. The study finds that the annual growth rate of GDP and inflation rate have statistically insignificant negative effect on NPLs whereas, the weighted average interest spread and ownership dummy have statistically significant positive effect on NPLs.

2.4.2 Empirical Studies in Africa

Wairimu and Gitundu (2017) examined the macroeconomic determinants of non-performing loans in Kenya. They analysed time series data for the period 1998-2015 using a linear regression model. The dependent variable was the ratio of non-performing loans to total loans while the independent variables were GDP growth rate, inflation rate, interest rate, exchange rate, remittances, unemployment rate and public debt. The empirical results revealed that inflation rate, interest rate, GDP growth rate, public debt, and exchange rate were not statistically significant while unemployment rate and remittances were statistically significant at the 5 percent level of confidence. The study concludes that the significant macroeconomic determinants of non-performing loans in Kenya for the period under review were remittances and the rate of unemployment.

Onyango and Olando (2020) conducted a study on analysis on influence of bank specific factors on non-performing loans among commercial banks in Kenya. The study employed descriptive research design using the forty-three licensed commercial banks as its target population. Using census, the study collected secondary data from the previous year's financials statement and other financial reports for period covering 2012 to 2016. Quantitative analysis was used to produce descriptive statistics and inferential analysis carried out to predict a study model for estimating Non-Performing Loans in terms of banks related factors. The study revealed that the average level of NPLs among Kenyan commercial banks is higher than the threshold of 5% signaling a serious NPLs problem amongst

commercial banks in the country. The study concludes that at 5% level of significance; interest rate spread has positive significant influence on NPLs; operating efficiency is directly proportional to non-performing loans and it has a moderate positive significant influence on the non-performing loans among commercial banks in Kenya; liquidity ratio has a negatively low significant relationship with non-performing loans.; and return on assets has a negative significant influence on NPLs among commercial banks in Kenya. ROA has a negative impact.

Abimbola (2020) conducted a study on impact of Non-Performing Loan on Bank Performance in Nigeria a Case Study of Selected Deposit Money Banks. The study used the confirmed ECM model (via residual and least square method of analyses. The results revealed that non-performing loans have impact Deposit Money Banks performance within the period of study; whereas the impact of the individually independent variables (net interest margin and deposit to loan.) varied. The study recommends, amongst others that, effective credit policy that is reflected in flexible tenure, restructuring of credit terms and conversion should be adopted in the Deposit Money banks.

Bangagnan (2021) conducted a study on specific factors affecting nonperforming loans from banks in member countries of the economic and monetary community of central Africa (CEMAC). This research covers the six (6) CEMAC countries over a period from 2004 to 2017. To achieve this objective, we used the dynamic ordinary least squares (DOLS) method. The obtained results showed that factors such as the ratio of loans to total bank assets (RPA, return on assets (ROA) and the ratio of loans to deposits (RCD) increase nonperforming loans from CEMAC banks.

2.4.3 Empirical studies in Ethiopia

Negera (2012) studied the determinant of nonperforming loan in Ethiopian commercial banks. The study used both primary and secondary data source which are obtained from private and public owned Ethiopian commercial banks. In this case, the study found that, poor credit assessment, failed loan monitoring, underdeveloped credit culture, lenient credit terms and conditions, aggressive lending, compromised integrity, weak institutional capacity, unfair competition among banks, willful default by borrowers and their knowledge limitation, fund diversion for unintended purpose, over/under financing by banks ascribe to the causes of loan default in Ethiopia.

Tehulu & Olana (2014) examined the bank specific determinants of credit risk in Ethiopian commercial banks. Their research, then, showed that credit growth, bank size, operating inefficiency and ownership have statically significant influence on credit risk. Lelissa (2014) also identified that level of Ethiopian commercial banks' bad loan is well explained by quantity of risk and quality of risk management related (bank specific) variables. This study classified credit risk determinant variables in to two different categories which are quantity risk and quality risk variables. Out of quantity risk variables, loans to total asset and credit concentration have a significant relationship with credit risk and among quality risk variables categories; bank size has a significant influence on Ethiopian commercial banks credit risk.

Umer (2015) conducted on the Determinants of Nonperforming Loan in Ethiopian Commercial Banks; their study period covered from 2004 to 2013. Seven factors (four bank specific and three macroeconomic factors) affecting banks nonperforming loan were selected and analyzed. Their results of balanced fixed effect panel data regression analysis showed that deposit rate, loan to deposit ratio and lending interest rate had positive and significant impact on banks nonperforming loan. According to the regression result lending interest rate is a very important determinant of nonperforming loan in Ethiopia banking industry. Cost efficiency had negative and significant impact on banks nonperforming loan. Bank solvency ratio and gross national product (GDP) growth rate and inflation rate had negative and statistically insignificant impact on banks nonperforming loan.

The study of Anisa (2015) investigated the Determinants of Nonperforming Loan in Ethiopian Commercial Banks. The study aimed to test and confirmed the effectiveness of common commercial banks non-performing loan determinants and how it affects the level of nonperforming loan in Ethiopia commercial banks (two public owned and six private owned banks). The study by Mamuye (2015) on a title "determinants of non-performing loans on development bank of Ethiopia" with profit model and regression analysis founded that less collateralized loan, poor project monitoring and poor risk assessment leads to loan default.

Million et al. (2019) conducted a study on. The study is concerned with identifying the determinants of credit risk in Ethiopian Commercial Banks. The study collected secondary data from the audited financial statement of eight senior commercial banks for the period of 14 years. To analyze the data, a fixed effect ordinary list square model was applied. Finally, the study found out macro-economic and micro variables affect the level of credit risk in Ethiopian commercial banking industry.

Arege et, al (2016) conducted on factors affecting Non-performing loans of Development Bank of Ethiopia, Central Region. The result of the study shows that poor credit assessment and credit monitoring are the major causes for the occurrence of NPL 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 problems were identified as the major customer specific causes of NPLs.

Negalign (2019) investigated a study on to identify factors affecting non-performing loans in commercial banking sector, in public and private banks of the study area. This study also used descriptive research design and quantitative research approach were used and the primary source of data were collected from 52 credit staff members from CBE and Dashen banks District in Southern Region. The results of the study indicated Bank specific factors include Bank size and performance, credit size, poor credit assessment, poor credit terms, lack of aggressive credit collection system, inadequate nature of collateral were identified as bank specific factors affecting NPLs. On the other hand, unwillingness of borrower to pay back loan, customers funds diversion for unexpected purpose were identified as customer specific factors affecting NPLs.

Dereje (2020) conducted a study on Determinants of Non-Performing Loans in Ethiopian Development Bank. The study used both primary by interviewee to staff of DBE those who were senior credit officers and team managers. Secondary data from the bank's annual financial performance report, balance sheet and National Bank annual report of thirty consecutive fiscal periods from 1990 up to 2019. In this study correlation and multiple regressions analysis done with random effect model and Eview 9 software used to regress the data. Non performing ratio was dependent variable while Return on asset (earning capacity), liquidity ,capital adequacy, bank size, exchange rate ,lending rate (interest rate), inflation and GDP have taken as an independent variables. The study found out that there was significantly negative relationship between liquidity, inflation rate, exchange rate credit growth, bank size and earning ability with non- performing loan of development banks of Ethiopia. The relationship between Interest rate gross domestic products, capital adequacy ratio and exchange rate with non-performing loans were found to be positive.

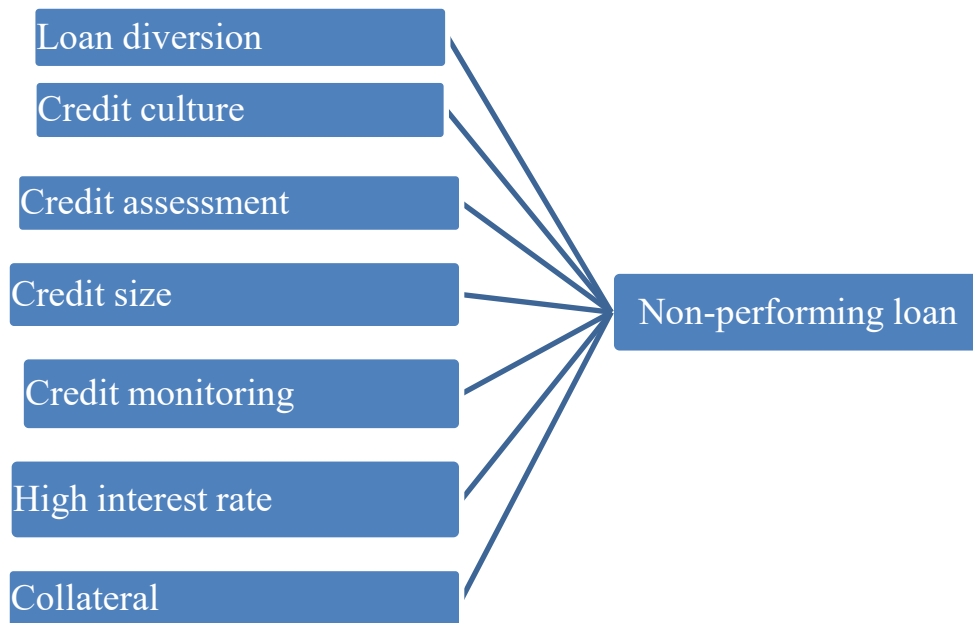
2.5 Summary of Literature and Research gap

As per theoretical and empirical literature review above there are a number of empirical works have been carried out on the determinants of non-performing loan and on the factors that affecting non-performing loans in developed and developing countries. However, these studies were conducted in different dimensions in terms of sample coverage, data type and objectives. For instance, a study on the macroeconomic and bank-specific factors drivers of NPLs was undertaken by Curak et al. (2013), Beaton et al. (2016), Rajha (2017), and Wood et al. (2018). A study on the macroeconomic factors of NPL was examined by Messai and Jouini (2013), Ghosh (2015), Beaton et al. (2016), Umer (2015), Million et al. (2019), Wairimu and Gitundu (2017), Kumar (2019), Abimbola (2020), and Singh et al. (2021). Other research on bank-specific factors influencing non-performing loans have been done by Mamuye (2015), Anisa (2015), Malimi (2017), Ekanayake and Azeez (2015), Hassana, Ilyas and Rehman's (2015), and Onyango and Olando (2020), Singh et al. (2021), Mahyoub and Mohd (2021), Harimurti et al.(2021), Mohamed et al., (2021), Kumar (2022), Bangagnan (2021), Dereje (2020). The study conducted by Negalign (2019) examined the customer-specific NPL factors. Even though studies have been done on borrower-specific and bank-specific determinants of non-performing loans in banking institutions, the development bank of Ethiopia in the Addis Abba district was not specifically studied after reviewing various researches on the subject. Thus, the goal of this study is to narrow the research gap.

After review of various researches on determinants of non-Performing loans development banks, even if studies has been conducted on borrower specific and bank specific determinants of non-performing loan in banking institution, particularly in development bank of Ethiopia in head office not studied. Therefore, this study tries to narrow the research gap.

2.6 Conceptual framework

As presented in the above discussion non-performing loan is determined by different factors. The framework is based on the concept that the borrower specific and bank specific determinants of non-performing loan.



Source: Adopted from Arega et al. (2016), Negalign (2019) and own modification

2.7 Body of knowledge for preposition of Hypothesis

Poor credit Assessment

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. 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). A credit analysis is used by the credit official to evaluate a borrower's character, capital, capacity, collateral and the cyclical aspect of the economy, or generally referred to as the five C's (Strischek, 2000). A weak Risk assessment can also play a role in increasing NPLs. The reputation of borrowers to repay loan and the market value of securities are not adequately assessed while giving loans which become key reasons behind NPLs (Pettersson, 2004). The study of Ning (2007) shows that the banks use their personal experiences in giving loans rather than using historical data, mature credit portfolio management skills and centralized information system. Arega (2016) and Wondimagegnehu (2012) support poor credit assessment leads to increase NPLs.

Poor credit Monitoring

Follow-up or credit monitoring means bank officers check the borrower's behaviour of turnover, the information regarding the profitability, liquidity, cash flow situation, level of security offered, insurance coverage of security and trend in sales in maintaining various

ratios of the borrower to meet its timely obligation. Salas and Saurina (2002) are of the view that inefficient bank management causes NPLs. The loans are more secure if the banks keep a continuous check on the borrowers. The banks need to give their borrowers full attention, so they are not relaxed at any stage about repayment of their loans. It has been seen that less monitoring of borrowers leads to NPLs (Agresti et al, 2008). There is evidence in literature about poor monitoring, on the part of the banks, to be the main bank-specific factors behind creating NPLs. The banks carry on these practices in order to increase profit (Agresti et al, 2008. Wondimagegnehu (2012) and Arega (2016) and supports poor credit monitoring leads to increase NPLs.

Credit size

Aggressive lending leads to occurrence of large NPL ratio. Aggressive lending, bank's great risk appetite and compromised integrity in approving credit cause large volume of nonperforming loans Salas and Saurina (2002) who studied Spanish banks found out that credit growth is associated with NPLs. The study of Keeton (1999) shows relationship between loans and speedy credit growth. The author has used a vector auto regression model on commercial banks in United States for the periods 1982-1996. Empirical studies show that lenient credit terms is one of the factors which increases NPLs. Boudriga, Boulila, & Jellouli (2009) indicate some factors which can reduce NPLs.

Poor Collateral

Collateral refers to assets that the Bank holds to mitigate default risk. It is a security that a borrower gives to a Bank to guarantee repayment of a loan. It depends on the Bank's policy that all loans can be backed by acceptable collateral. Collateral requirements in credit agreements that specify acceptable collateral and risk-appropriate measures and controls, including acceptable collateral types, loan-to-value guidelines, and appropriate collateral valuation methodologies. A drop in the value of collateral for loans could negatively affect the loan quality of consumer loans (ECB, 2013). Wondimagegnehu (2012) and Arega (2016) and supports Collateral strength negatively leads to increase NPLs. Mamuye (2015) stated that the probability of NPL is high when the bank lends by owning collateral as compared to non-collateral lending. Similarly, Wondemagegn (2012), stated that collateralizing loan protect loan default as the same time a bank granted a loan without sufficient collateral coverage the chance to be deflated of a loan is high compared to non-collateralized loans.

Interest rate

Interest is a fee paid on borrowed assets. It is the price paid for the use of borrowed money or money earned by deposited funds. As for banks, their main profits come from interest rate (i.e. interest rate differed according to years of payment). The longer it takes to make settlement, the higher it will be for the interest rate. At a time when interest rate is at its lowest, demand for financing is high by customers. This shows negative relationship between interest rate and demand for loan, whereas when interest rate is high, demand for financing is low. People choose to save their money when interest rate is high, and only apply for financing when the rate is decreasing. By doing so, the amount that needed to pay for bank as a result for making a loan is slightly lower compared to when the time when interest rate is high. When the interest rate is low, net NPLs is also low. And when interest rate is high, the amount of NPLs will also be increased. Various researchers have given a variety of findings about this relationship. According to some researchers high interest rate has a significant and positive relationship with Non- Performing Loans. They are of the view that when banks increase interest rate, there is an additional payment burden on borrowers resulting in increased defaults (Stiglitz and Weiss, 1981).

Loan Diversion

Diversion of funds occurs when the funds borrowed have to be used only for a particular or the purpose it was intended for Ashiq (2003) cited in Martha, 2017. Not using the funds for the primary purpose, they were intended for and as such, many projects become halfway completed, in such case the funds were meant for an income generating project but the borrower decides to divert into a different business thus leading to loan default.

Credit culture/orientation

A Study conducted by (Rajan & Dhal (2003) in India indicated that credit orientation significantly affects loan default. (Wondmagegnehu, 2012) in his study found out that due to underdevelopment of credit orientation /culture borrowers engaged in business that they had no depth knowledge, diverted loans advanced for unintended purpose and at times made a willful default. Wondimagegnehu (2012) and Arega (2016) and supports credit culture negatively leads to increase NPLs

CHAPTER THREE

3. METHODOLOGY OF THE STUDY

3.1 Research Design and Approach

The general objective of the study is to analyze the factors that affecting non-performing loan in Development bank of Ethiopia at Head office. Therefore, to achieve this objective properly explanatory and descriptive research design with qualitative data approaches was used through this study. The reason for using explanatory research is that according to the Kothari (2004) explanatory research method is very important to explain the cause and effect relationships phenomena.

A research design is a master plan that specifies the methods and procedures for collecting and analysing needed information (Zikmund et al, 2009). The conceptual structure which research is conducted; it is the blueprint for the collection, measurement and analysis of data. The study was employed both descriptive and explanatory research design with quantitative and qualitative data approaches to ascertain the data the primary and secondary of non-Performing loans in DBE.

3.2 Target Population and sample size selection

3.2.1 Sampling Techniques and sample size

Since the study conducted in head office the sampling technique for respective loan office staff members at Development bank of Ethiopia is census sampling was used. This is with the intension of achieving the research objective and the researcher believed that this technique is the most appropriate considering the target population the sample frame is small and taking a sample from it would give insufficient response to generalize. The Sample size for this study is 120 staff members who work in loan office at Head office. The target population of the study is head office. Therefore, the study used all 120 employees of DBE, Head office as sample by using census study.

3.3 Types of Data and Instruments of Data Collection

Both primary and secondary data was collected and present and analyses in this study. Primary data was collected through questionnaire to get information for the specific purposes of study and find out the determinants of NPL. Thus, primary data collected from sampled

employees of the bank working at head office. Here, the relevance of the primary source in the study is to find determinants of NPL in the bank. The main tools for data collection were the questionnaire and interview. To supplement the primary data, secondary data collected from published & unpublished documents such as the bank annual, quarterly and monthly report, credit policy, loan procedural manuals NBE directives, article, journals, research output and other relevant documents.

3.3.1 Questionnaire

According to Walonick, (1993), the Questionnaire is one of the most popular methods of collecting data conduction in scholarly research. It provides convenient way of gathering information from a total target population. As a result, questionnaire was used to gather information through quantitative and qualitative data. A questionnaire is a formalized set of questions for obtaining information from respondents that translate the researcher's information needs into a set of specific questions that respondents are willing and able to answer. A five point Likert Scale questionnaire was used to measure the variables of the study. The researcher was prepared closed-ended questionnaires, was prepared by considering the selected independent variable of employee engagement.

3.3.2 Interview

Interview is carried out as instrument of data collection to gather data on the topic of the study. Creswell (2009) Suggested that interview would be used to elicit views and opinions from the participants in detail. Interview is carried out as instrument of data collection to gather data on the topic of the study. Creswell (2009) Suggested that interview would be used to elicit views and opinions from the participants in detail. Therefore, 5 officials were selected purposively for an interview.

3.3.3 Document analysis

On top of data obtain through questionnaires and interview, as well secondary information was gathered from the office printed documents. The researcher was used this method for collecting the required data and information from Development Bank of Ethiopia at head office. Thus, important documents of the district such as annual, quarter and monthly report, annual plan, company profile brochure, credit policy, and loan procedural manual, National bank of Ethiopia directives, borrowers, loan file and 5-year strategic plan of DBE was employed.

3.4 Procedures of Data Collection

The data use in this study was collected through questionnaires & interview from the selected employee of the bank. The researcher has distributed the questionnaire by mailing to the districts of bank by delegating one responsible person for one unit and selected respondents by the arrangement of for those related their task related credit and collection of questionnaires from the sampled population was used by the researcher as per the schedule.

3.5 Methods of Data Analysis

After collecting data from primary sources it was appropriately checked. In addition to that in-house editing was used by the researcher to detect errors committed by respondents during completing the questionnaires. Then the edited data was code and manually enter into the computer. In the study quantitative method of data analysis techniques was employed. Analysis of data in this research was conducted by using statistical tools like frequency, mean, standard deviation, correlation and multiple regressions. A descriptive analysis was also used for demographic factors such as gender, age, marital status, educational level, and for how long has been the employees served in the case bank.

In the study hypotheses was analysed using methods of statistical inference. Pearson Correlation analysis was conducted to test the existence of significant relationship between the selected NPL variables. Then, the multiple regression analyses were also conducted to determine by how much percent the independent variable i.e. Selected NPL determinant factor variable explain the dependent variable which is NPL. Tables were employed to present the data and statistical package for social science (SPSS) used to support the analysis.

3.5.1 Descriptive statistics

The final report of the relevant demographic variables was produced through central tendency measurements (frequency and frequency distribution, valid & cumulative percentage, and comparison of mean). Also, tabular explanations are used to present the result with the help of SPSS.

3.5.2 Inferential statistical Analysis

In inferential statistical analysis, correlation and multiple linear regression methods was utilized using statistical package for social sciences (SPSS) software. The use of these statistical tools and methods of presentation are described below.

3.5.3 Correlation

Correlation (r) is used to describe the strength and direction of the relationship between two variables. Since all variables are measured as an interval level, Pearson product-moment correlation was used. Correlation “r” output always lies between -1.0 and +1.0 and if “r” is positive, there exists a positive relationship between the variables. If it's negative, the relationship between the variables is negative. While computing a correlation, the significance level shall be set at 95% with an alpha value of 0.05 or a chance of occurrence of odd correlation is 5 out of 100 observations.

3.4 Multiple Regression Analysis

Multiple regression analysis is a major statistical tool for predicting the unknown value of a variable from the known value of variables. And it is about finding a relationship between variables and forming a model. The Model for this study was developed using seven factors or predictors which have influences on NPLs in DBE at head office.

$$Y_i = \beta_0 + \beta_1X_{1i} + \beta_2X_{2i} + \beta_3X_{3i} + \beta_4X_{4i} + \beta_5X_{5i} + \beta_6X_{6i} + \beta_7X_{7i} + \epsilon_i$$

Where Y is the dependent variable and the independent variables are those which explain the response ranges from X1 to X7.

Table 3.1: Model Specification of Variables.

No	Independent variable	Coefficients (β)	Independent variable assigned by X	Expected sign
1	Poor credit assessment	β_1	X ₁	Positive
2	Credit monitoring	β_2	X ₂	positive
3	Credit size	β_3	X ₃	positive
4	Collateral	β_4	X ₄	positive
5	High interest rate	β_5	X ₅	positive
6	Loan diversion	β_6	X ₆	positive
7	Credit culture	β_7	X ₇	positive
8	Constant	β_0	1	
	Dependent variable		Variable assigned by Y	
1	NPL		Y	

3.5 Measurement Instruments

The employed questionnaire contains the general information of the respondents and Likert scale measurements of the variables. The general information includes gender, educational

level, job position in the company, and years of company experience. Five points Likert scale was used to rate the independent and dependent variables, which ranges from Strongly-disagree (1) to strongly agree (5) level of agreement. These five points Likert scales are adapted from different literatures of scholars.

3.6 Validity and Reliability

In order to ensure the quality of the research design, content and construct validity of the study was checked. The content validity was verified by the advisor of this research, who looked into the appropriateness of questions and the scales of measurement. The questionnaire involved the dimensions to measure factor of NPL based on the selected independent variable. The questionnaire which five points rating scale was used. Cronbach's alpha is one of the most commonly accepted measures of reliability. It indicates that the extent to which the items in a questionnaire are related to each other Fubara and Mguni, (2005). The normal range of Cronbach's coefficient alpha value ranges between 0-1 and the higher values reflects a higher degree of internal consistency. Different authors accept different values of this test in order to achieve internal reliability, George and Mallery (2003) provide the following rules of thumb while interpreting reliability coefficients: $\geq .9$ -Excellent, $\geq .8$ - Good, $\geq .7$ acceptable, $\geq .6$ Questionable, $\geq .5$ -Poor and $.5 \leq$ - Unacceptable. Based on the study has the sum of the variables average Cronbach's alpha value of ($\alpha = 0.879$) and the reliability test of the study is located on "very good" range.

Table 3.1 Reliability Test of Variable's Using Cronbach's Alpha

Reliability Statistics					
No	Variable Name	Cronbach's Alpha Value	Cronbach's Alpha based on standardized items	No of items	(α) reliability ranges
Independent variables					
1	Loan diversion	0.653	0.654	5	Good
2	Credit culture	0.786	0.778	4	Very Good
3	Credit assessment	0.743	0.738	5	Very Good
4	Credit monitoring	0.559	0.585	5	Good
5	Credit size	0.736	0.737	5	Very Good
6	Interest rate	0.806	0.806	4	Very Good
7	Collateral	0.788	0.787	5	Very Good

Dependent variable					
1	NPL	0.876	0.865	5	Very Good

Source: Own computation using SPSS of the survey, 2022

3.7 Ethical Issues

The researcher used proper citation, follow systematic collection and analysis of data techniques, maintain data confidentiality, obtained the consent of the case organizations and staffs and based on their consent to meet the ethical obligation of research.

CHAPTER FOUR

4. DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This section presents and explains data which was obtained from analysis. The findings have been analyzed on the basis of the specific objectives of the study. The section contains three sub-sections detailing general information and findings of the objectives. The survey was conducted to the factors affecting non-performing loans: case study on development bank of Ethiopia at head office. The analysis and findings of survey data were discussed in the following section.

A total of 120 questionnaires were distributed to the respondents and from that 117 (97.5 %) questionnaires 'were collected through a self-administered survey and 115 (95.83%) questionnaires' were properly filled and ready for analysis, then the data was entered into SPSS. The dataset was rechecked to ensure the accuracy of the data entry. The minimum and maximum data values on each variable related to each case were checked to detect any irregular or unusual data values.

4.2 Demographic information

The general background information of respondents like gender, age, and Education background, marital status, current position and work experience of respondents were discussed as follows. Table 4.1 shows that majority of respondents 87 (75.7%) are male and the remaining 28 (24.3%) are female which mean most of employees of DBE were male. This implies that both genders were involved in the study and thus the finding of the study did not suffered from gender bias. As per the table below shows age of respondents, from 115 valid responses, 54 (47%) of the respondents range in the age of 31-40 years which is followed by 32 (27.8%) that ranges within the age of 20-30 years, 18 (15.7%) between 41-50 years and 11 (9.6%) above 50. From this the researcher conclude that majority of the respondents are under the age of 31-40. This also indicated that more than half of employees are at the age of productive.

Table 4.1 below shows most of employees have second degree and above which is 61 (53%), and 52 (45.2%) have first Degree so almost majority of the employees are highly qualified.

Table 4.1: General Background Information of Respondents

No.		Item	Frequency	Percent	Cumulative Percent
1	Gender	Male	87	75.7	75.7
		Female	28	24.3	100.0
		Total	115	100.0	
2	Age	20-30	32	27.8	27.8
		31-40	54	47.0	74.8
		41-50	18	15.7	90.4
		Above 50	11	9.6	100.0
		Total	115	100.0	
3	Marital Status	Single	31	27.0	27.0
		Married	80	69.6	96.5
		Divorced	4	3.5	100.0
		Total	115	100.0	
4	Current position	Team leader	21	18.3	18.3
		Senior loan officer	29	25.2	43.5
		Loan officer	55	47.8	91.3
		Junior loan officer	10	8.7	100.0
		Total	115	100.0	
5	Experience	1-4 years	20	17.4	17.4
		5-10 years	51	44.3	61.7
		11-15 years	21	18.3	80.0
		Above 15 years	23	20.0	100.0
		Total	115	100.0	
6	Education Level	College Diploma and Below	2	1.7	1.7
		First Degree	52	45.2	47.0
		Master's degree and above	61	53.0	100.0
		Total	115	100.0	

Source: Own computation and survey, 2022

Experience is one of the competences to understand controlling activities in organization. Experience also referred to as professional competence which comes through practice. In the literature it is indicated that commitment to this competence by employees is one part of effective control system. The results in table 4.1 indicated that 51(44.3%) of the respondents had 5-10 years of banking experience and has got the highest number of respondents. The second larger number of respondents belonged to the category of above 50 years of

experience as their percentage was 23(20%). Similarly, 21(18.3%) of the respondents belonged to the category of 11-15 years of experience which was the third larger percent of respondents. The last category with lowest percentage 20(17.4) % belonged to 1-4 years' experience.

From table 4.1 above, the survey indicated that 55 (47.8%) of the respondents are loan officers, 29 (25.2 %) of the respondents are senior loan officers, 21 (18.3% of the respondents are team leader and 10(8.7%) of respondents are junior loan officer. From this the researcher understands that majority of the respondents are loan officers and senior loan officers.

The table above illustrates that marital status of the respondents in head office. The result indicated that 80 (69.6%) were married, 31 (27%) were single and 4(3.5%) were divorced. Therefore, majority of the respondents were married.

4.3 Descriptive statistics for Factors of NPL

In this section, the factors affecting non-performing loans discussed. The study sought to determine the factors affecting non-performing loans: case study on development bank of Ethiopia. NPL factors were viewed in term of credit size, poor credit assessment, poor credit monitoring, high interest, loan diversion, poor collateral strength and borrower's credit culture as the independent variables and NPL as the dependent variable.

4.3.1 Bank specific factors

A Likert scale was used to rate this variable's effects on a scale of 5 point within a range of; 1 = strongly disagree representing the lowest scale and 5 = strongly agree representing the highest scale and were analyzed using the mean score. The closer the mean score on each score was to 5, the stronger the agreement was to the statement posed. A score around 2.5 would indicate uncertainty while scores significantly below 2.5 would suggest strong disagreement with the posited statements.

Table 4.3: Bank Specific factors

<i>Credit Size</i>	Mean	Std. Dev.
Having large number of borrowers causes loan default	3.06	1.003
Aggressive lending leads to large NPL volume/ratio	3.15	.976
Loans default rate is directly related to banks' size	2.84	1.081
Rapid credit growth leads to large NPL	2.45	1.134
The Banks great risk appetite leads to large NPL	2.97	.868
<i>Poor Credit Assessment</i>		
Poor credit analysis leads to loan Default	3.20	.957
Know Your Customer (KYC) policy of banks lead to high loans quality	3.34	.985
Poor loan underwriting leads loan default	2.74	1.093
Poor risk assessment leads to loan default	2.53	1.071
Easily admitted borrowers usually default	2.53	1.029
<i>Poor Credit Monitoring</i>		
Lack of strict monitoring leads to loan default	3.29	1.349
Poorly assessed advanced loans may perform well if properly monitored	3.60	.723
Poorly Loan follow up is directly related to occurrence of nonperforming loans	3.86	.605
Lack of banks loan supervision capacity have higher non-performing loans	3.82	.670
Lower budget for loan monitoring result in higher NPLs	3.92	.516
<i>Interest rate</i>		
High interest rate affects loan performance	2.70	1.043
Loan price affects loan performance	3.24	1.005
Loans with higher interest rate would turn to NPL	2.74	1.052
Charging higher interest rate leads to loan default	2.85	1.028
<i>Poor Collateral</i>		
Less collateralized loans have high chance to be defaulted	3.25	.999
Collateralized loans help protect loan defaulted	3.22	.962
Most of the time non-collateralized loans are defaulted	3.23	.909
Poor collateral estimation directly related to loan default	3.26	.839

Source: Own computation using SPSS of the survey, 2022

The study finding shows that in achieving credit size, aggressive lending leads to large NPL volume/ratio (Mean = 3.15, SD = 0.976), Having large number of borrowers causes loan default (Mean = 3.06, SD = 1.003), the Banks great risk appetite leads to large NPL (Mean = 2.97, SD = 0.86) and loans default rate is directly related to banks' size (Mean = 2.84, SD = 1.08) are the most important factors of NPL under credit size in the organization. The findings of the study indicates that rapid credit growth leads to large NPL (Mean = 2.45, SD = 1.135) is also important factor components of NPL under credit size in the organization.

As per the table above to achieving credit assessment in the organization, know your customer (KYC) policy of banks lead to high loans quality (Mean = 3.34, SD = 0.985), Poor credit analysis leads to loan Default (Mean = 3.2, SD = 0.957), poor loan underwriting leads loan default (Mean = 2.74, SD = 1.09), poor risk assessment leads to loan default (Mean = 2.53, SD = 1.07) and easily admitted borrowers usually default (Mean = 2.53, SD = 1.02) were most important factors of NPL under poor credit assessment in the organization.

To achieving credit monitoring in the organization, Lower budget for loan monitoring result in higher NPLs (Mean = 3.92, SD = 0.516), Poorly Loan follow up is directly related to occurrence of nonperforming loans (Mean = 3.86, SD = 0.605), Lack of banks loan supervision capacity have higher non-performing loans (Mean = 3.82, SD = 0.670), Poorly assessed advanced loans may perform well if properly monitored (Mean = 3.6, SD = 0.723) and Lack of strict monitoring leads to loan default (Mean = 3.29, SD = 1.34) were the most important factors of NPL under poor credit monitoring in the organization.

As per the table 4.3 the study finding shows that related to interest, loan price affects loan performance (Mean = 3.24, SD = 1.005), charging higher interest rate leads to loan default (Mean = 2.85, SD = 1.02), loans with higher interest rate would turn to NPL (Mean = 2.74, SD = 1.05) and high interest rate affects loan performance (Mean = 2.7, SD = 1.04) are important factors of NPL under interest rate in the organization.

Regarding to poor collateral factors, Poor collateral estimation directly related to loan default (Mean = 3.26, SD = 0.839), Less collateralized loans has high chance to be defaulted (Mean = 3.25, SD = 0.999), Most of the time non-collateralized loans are defaulted (Mean = 3.23, SD = 0.909) and Collateralized loans help protect loan defaulted (Mean = 3.22, SD = 0.962) are important factors of NPL under poor collateral in the organization.

Accordingly, the researcher forwarded a couple of open ended questions and the respondent asked what are the major factors that affect loan collection performance and the respondents revealed that diversion of the projects income, Natural disaster like COVID-19, Seasonal lack of market, will full defaulters & shortage of raw materials, Lack of good foreign exchange currency, Market problem one restless of the country, Inflation rate, Poor follow-up, poor know your customer assessment, uncollateralized loan and stake holders negligence. The respondents also asked what Bank specific factors you think are causing the occurrence of non-performing loan in DBE and according to the respondent responses lack of empowering appropriate professional, Lack of capacity, Poor KYC Assessments & Appraisal study, Short implementation period of the project, poor follow-up, Customer are unwilling to provide accurate information about their specific product and selling procured raw materials with addition and lack of adequate working capital. Negalign (2019) investigated a study on to identify factors affecting non-performing loans in commercial banking sector, in public and private banks of the study area. The results of the study indicated Bank specific factors include Bank size and performance, credit size, poor credit assessment, poor credit terms, lack of aggressive credit collection system, inadequate nature of collateral were identified as bank specific factors affecting NPLs. Arega et, al (2016) conducted on factors affecting non-performing loans of Development Bank of Ethiopia, Central Region. The result of the study shows that poor credit assessment and credit monitoring are the major causes for the occurrence of NPL 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. The respondents also asked what Bank specific factors you think are causing the occurrence of non-performing loan in DBE and according to the respondent responses lack of empowering appropriate professional, Lack of capacity, Poor KYC Assessments & Appraisal study, Short implementation period of the project, poor follow-up, Customer are unwilling to provide accurate information about their specific product and selling procured raw materials with addition and lack of adequate working capital.

4.3.2 Borrower specific factors

A Likert scale was used to rate this variable's effects on a scale of 5 point within a range of; 1 = strongly disagree representing the lowest scale and 5 = strongly agree representing the highest scale and were analyzed using the mean score. The closer the mean score on each score was to 5, the stronger the agreement was to the statement posed. A score around 2.5 would indicate uncertainty while scores significantly below 2.5 would suggest strong disagreement with the posited statements.

Table 4.4: Borrower specific factors

Loan diversion	Mean	Std. Deviation
Lack of proper monitoring	3.43	.880
Ignorance of lending terms and conditions	3.42	.858
There is over financing in your organization	3.37	.994
There under financing in your organization	2.98	.955
Borrower's credit culture		
Borrower's orientation/culture is related to loan performance	2.95	1.138
Default in some area is ascribed to the culture of the borrowers	4.56	.860
Society's cultural development leads to good loan performance	3.79	.719
Borrowers default because they don't understand credit terms well	2.73	1.385

Source: Own computation using SPSS of the survey, 2022

Loan diversion is a borrower specific factors under this factors, lack of proper monitoring (Mean = 3.43, SD = 0.888), ignorance of lending terms and conditions (Mean = 3.42, SD = 0.858), over financing (Mean = 3.37, SD = 0.994) and under financing (Mean = 2.98, SD = 0.955) are factors of NPL under loan diversion.

Regarding to Borrower's credit culture under borrower specific factors, Default in some area is ascribed to the culture of the borrowers (Mean = 4.56, SD = 0.86), Borrower's orientation/culture is related to loan performance (Mean = 3.79, SD = 0.719) Society's cultural development leads to good loan performance (Mean = 2.95, SD = 1.138) and Borrowers default because they don't understand credit terms well (Mean = 2.73, SD = 1.38) important factors of NPL under loan diversion.

In addition to bank specific factors the respondents asked what Borrowers specific factors you think are causing the occurrence of non-performing loan in DBE and the respondent responses lack of commitment, diversion of project income and lack of properly managing the project, lack of interest to pay their repayment, borrowers lack of knowledge and awareness about their specific market program and lack of following agreement and the occurrence of COVID 19. Umer (2015) conducted on the Determinants of Nonperforming Loan in Ethiopian Commercial Banks; their study period covered from 2004 to 2013. Seven factors (four bank specific and three macroeconomic factors) affecting banks nonperforming loan were selected and analyzed. Negalign (2019) investigated a study on to identify factors affecting non-performing loans in commercial banking sector, in public and private banks of the study area. The results of the study indicated unwillingness of borrower to pay back loan, customers funds diversion for unexpected purpose were identified as customer specific factors affecting NPLs. In addition to bank specific factors the respondents asked what Borrowers specific factors do you think are causing the occurrence of non-performing loan in DBE and the respondent responses lack of commitment, diversion of project income and lack of properly managing the project, lack of interest to pay their repayment, borrowers lack of knowledge and awareness about their specific market program and lack of following agreement and the occurrence of COVID 19.

4.4 Descriptive statistics for Non-performing Loan

NPL was taken as the dependent variable which was determined by posing several statements to the respondents related to the NPL in the organization. A Likert scale was used to rate effects this variable's effects on a scale of 5 point within a range of; 1 = strongly disagree representing the lowest scale and 5 = strongly agree representing the highest scale and were analyzed using the mean score. The closer the mean score on each score was to 5, the stronger the agreement was to the statement posed. A score around 2.5 would indicate uncertainty while scores significantly below 2.5 would suggest strong disagreement with the posited statements.

Table 4.5: NPL

Statements	Mean	Std. Deviation
The collection of loan performance is very low in the organization	2.87	1.056

The current non- performing loan amount and NPLs ratio of organization is critical.	2.81	.999
The collection of loan is low as compared to the previous year.	3.14	.981
The collection of loan in the organization is low as compared to the total loan collection.	3.43	2.875
NPL in the organization will expect to reduce in the future.	3.17	.967
The rise of NPL affects profitability or financial position and going concern of the organization.	3.50	.892

Source: Own computation using SPSS of the survey, 2022

The study finding shows related to NPL, The rise of NPL affects profitability or financial position and going concern of the organization (Mean = 3.5, SD = 0.892), The collection of loan in the organization is low as compared to the total loan collection (Mean = 3.43, SD = 2.875), NPL in the organization will expect to reduce in the future (Mean = 3.17, SD = 0.967) and the collection of loan is low as compared to the previous year (Mean = 3.14, SD = 0.981) are the most important components of NPL in the organization. The findings of the study the collection of loan performance is very low in the organization (Mean = 2.87, SD = 0.967) and the current non- performing loan amount and NPLs ratio of organization is critical (Mean = 2.81, SD = 0.892) also important factor components of NPL in the organization.

Regarding the measure of NPL the respondent asked what kinds of measure were applied in your organization to improve loan collection performance and the response revealed that serving reminder, close follow-up, communicating, rescheduling loan during implementation stage, reminding monthly or based on due date of the loan maturity if it fails to pay transferring to concerned body for foreclosure or any other action and providing L/C facility.

In addition to distributing questionnaires, interview was also used as another data collection method in which two higher team leader of the organization were interviewed .Accordingly, the researcher forwarded a couple of open ended questions and the respondent asked what are the major factors that affect loan collection performance and the respondents revealed that diversion of the projects income, Natural disaster like COVID-19, Seasonal lack of market, will full defaulters & shortage of raw materials, Lack of good foreign exchange currency, Market problem one restless of the country, Inflation rate, Poor follow-up, poor know your customer assessment, uncollateralized loan and stake holders negligence. Regarding the measure of NPL the respondent asked what kinds of measure were applied in your

organization to improve loan collection performance and the response revealed that serving reminder, close follow-up, communicating, rescheduling loan during implementation stage, reminding monthly or based on due date of the loan maturity if it fails to pay transferring to concerned body for foreclosure or any other action and providing L/C facility

4.5 Summary of descriptive statistics for the variables

As presented in the table below shows the descriptive statistics of credit size, credit assessment, credit monitoring, high interest, loan diversion, collateral strength and borrower’s credit culture as the independent variables and NPL as a dependent variable. The results in the table below show that poor monitoring had the highest mean score of 3.69 followed by credit culture with an overall mean score of 3.47 and the relatively low overall mean score was recorded by poor assessment which is 2.87. Regarding to the dependent variables summery statistics shows that NPL had relatively highest mean score value which is 3.15.

Table 4.6: Descriptive statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Assessment	115	1.20	4.60	2.8702	.72233
Credit size	115	1.40	4.60	2.8939	.70900
Monitoring	115	2.20	5.00	3.6974	.46518
Interest rate	115	1.00	5.00	2.8848	.82071
Diversion	115	1.00	4.20	3.1183	.62570
Collateral	115	1.25	5.00	3.2391	.72653
Credit culture	115	2.20	4.20	3.4765	.45775
NPL	115	1.00	7.50	3.1551	.81880

Source: Own computation and survey, 2022

4.6 Correlation analysis

To determine the relationship between independent variable (credit size, poor credit assessment, poor credit monitoring, high interest, loan diversion, poor collateral strength and borrower’s credit culture) and non-performing loans, Pearson correlation was computed. The study tried to show the correlation strength of each variable with dependent variable based on below criteria. Correlation is an analysis that measures the strengths of association between two variables. The value of the correlation coefficient varies between +1 and -1. When the value of the correlation coefficient lies around ± 1 , then it is said to be a perfect degree of association between the two variables. The more the correlation coefficient value goes towards 0, the relationship between the two variables becomes weaker (Cohen& West, 2003). The Pearson’s

correlation coefficient analysis helped the researcher to better understand whether there was a positive relationship, negative relationship, or no correlation between dependent variable and independent variables. Thus, the strength and direction of relationship between variables was able to be analyzed by the researcher using Pearson correlation coefficient analysis. In addition, the researcher used it to measure whether there was a significant relationship between independent variables and dependent variable.

Table 4.7: Correlation matrix of NPL and independent variables

Correlations									
		NPL	Assessm ent	Credit size	Monito ring	Interes t rate	Diversi on	Colla teral	Credit culture
NPL	R	1	.648**	.514**	.226*	.552**	.462**	.571**	-.013
	Sig.		.000	.000	.015	.000	.000	.000	.889
	N	115	114	115	115	115	115	115	115
Assessme nt	R	.648**	1	.661**	.108	.567**	.475**	.563**	-.047
	Sig.	.000		.000	.253	.000	.000	.000	.619
	N	114	114	114	114	114	114	114	114
Credit size	R	.514**	.661**	1	.034	.543**	.514**	.627* *	.030
	Sig.	.000	.000		.720	.000	.000	.000	.754
	N	115	114	115	115	115	115	115	115
Monitorin g	R	.226*	.108	.034	1	-.014	-.042	.068	.230*
	Sig.	.015	.253	.720		.882	.653	.470	.013
	N	115	114	115	115	115	115	115	115
Interest rate	R	.552**	.567**	.543**	-.014	1	.597**	.539* *	-.059
	Sig.	.000	.000	.000	.882		.000	.000	.530
	N	115	114	115	115	115	115	115	115
Diversion	R	.462**	.475**	.514**	-.042	.597**	1	.601* *	-.091
	Sig.	.000	.000	.000	.653	.000		.000	.335
	N	115	114	115	115	115	115	115	115
Collateral	R	.571**	.563**	.627**	.068	.539**	.601**	1	.037
	Sig.	.000	.000	.000	.470	.000	.000		.696
	N	115	114	115	115	115	115	115	115
Credit culture	R	-.013	-.047	.030	.230*	-.059	-.091	.037	1
	Sig.	.889	.619	.754	.013	.530	.335	.696	
	N	115	114	115	115	115	115	115	115

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

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

Source: Own computation and survey, 2022

When we see the Pearson correlation table Non performing loan had most significant correlation with poor credit assessment, poor collateral strength, high interest, credit size, loan diversion, poor credit monitoring, and borrower's credit culture respectively.

Correlation analysis between poor credit assessment and non-performing loans

Pearson correlation test was conducted to know the degree of relationship between poor credit assessment and non-performing loans. The results of the correlation between these variables are shown in table 4.7 above. As it is indicated in table there is positive and significant correlation between poor credit assessment and non-performing loans. In other words, poor credit assessment and non-performing loans have positive relationship ($r=0.648$ with $p = 0.00$).

Correlation analysis between poor collateral strength and non-performing loans

Pearson correlation test was conducted to know the degree of relationship between poor collateral and Non-performing loans. The results of the correlation between these variables are shown in above table 4.7. As it is indicated above table there is positive and significant correlation between poor collateral and non- performing loans. Which mean that poor collateral and non-performing loans have positive relationship ($r=0.571$ with $p = 0.00$).

Correlation analysis between high interest rate and non-performing loans

Pearson correlation test was conducted to know the degree of relationship between high interest rate and Non-performing loans. The results of the correlation between these variables are shown in above table 4.7. As it is indicated above table there is positive and significant correlation between high interest rate and non- performing loans. Which mean that high interest rate and non-performing loans have positive relationship ($r=0.552$ with $p = 0.00$).

Correlation analysis between credit size and non-performing loans

Pearson correlation test was conducted to know the degree of relationship between credit size and Non-performing loans. The results of the correlation between these variables are shown in above table 4.7. As it is indicated above table there is positive and significant correlation between credit size and non- performing loans. Which mean that credit size and non-performing loans have positive relationship ($r=0.514$ with $p = 0.00$).

Correlation analysis between loan diversion and non-performing loans

Pearson correlation test was conducted to know the degree of relationship between loan diversion and non-performing loans. The results of the correlation between these variables are shown in above table 4.7. As it is indicated above table there is positive and significant correlation between loan diversion and non- performing loans. Which mean that loan diversion and non-performing loans have positive relationship ($r=0.462$ with $p = 0.00$).

Correlation analysis between poor credit monitoring and non-performing loans

Pearson correlation test was conducted to know the degree of relationship between poor credit monitoring and non-performing loans. The results of the correlation between these variables are shown in above table 4.7. As it is indicated above table there is positive and significant correlation between poor credit monitoring and non- performing loans. Which mean that poor credit monitoring and non-performing loans have positive relationship ($r=0.226$ with $p = 0.00$).

Correlation analysis between borrower's credit culture and non-performing loans

Pearson correlation test was conducted to know the degree of relationship between borrower's credit culture and non-performing loans. The results of the correlation between these variables are shown in above table 4.7. As it is indicated above table there is negative and insignificant correlation between borrower's credit culture and non- performing loans. Which mean that borrower's credit culture and non-performing loans have negative and insignificant relationship ($r= -0.013$ with $p = 0.889$).

4.7 Regression Analysis

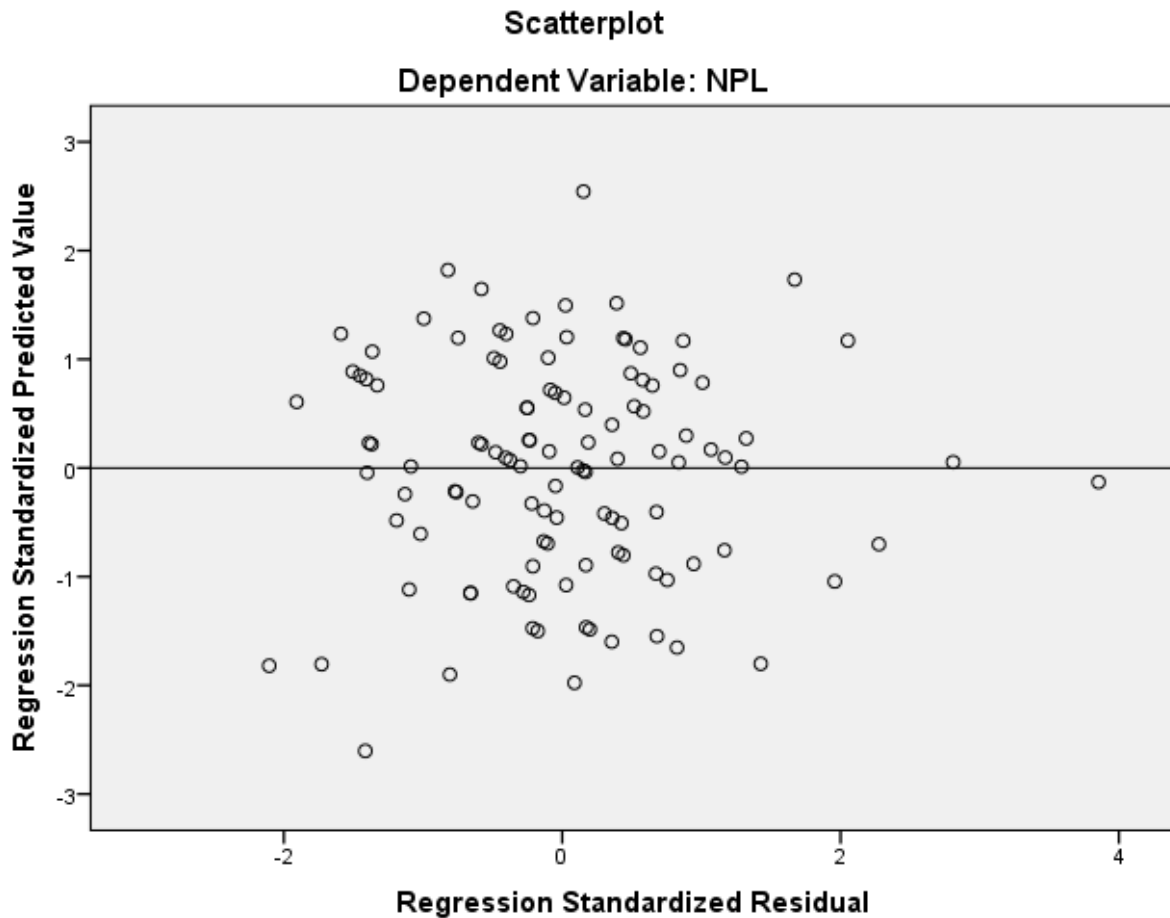
Multiple linear regression analysis is an extension of bivariate regression analysis which allows the simultaneous investigation of the effect of two or more independent variables on a single dependent variable. It allowed researcher to examine which independent variables have the most significant influence on the dependent variable. Thus, to understand the relationship between multiple independent variables and the single dependent variable the study used the regression model summary, and the researcher examined the regression coefficients for each independent variable. Therefore, Multiple Regression Analysis was used to factors affecting NPL.

4.7.1 Diagnostic Tests

Before conducting regression analysis, the study performed the test of regression assumptions. The linearity of the parameter is assumed since the model applies linear ordinary least square (OLS). The objective of the model is to predict the strength and direction of association among the dependent and independent variables. Thus, in order to maintain the validity and robustness of the regression result of the research in classical linear regression model, it is better to satisfy basic assumption classical linear regression model. As noted by Brooks (2008), when these assumptions are satisfied, it is considered as all available information is used in the model. However, if these assumptions are violated, there will be data that left out of the model. Accordingly, before applying the model for testing the significance of the slopes and analyzing the regressed result, Heteroskedasticity, Autocorrelation, Multicollinearity, normality and linearity tests are made for identifying misspecification of data if any so as to fulfill research quality.

4.7.1.1 Homoscedasticity Test

In the classical linear regression model, one of the basic assumptions is Homoscedasticity assumption that states as the probability distribution of the disturbance term remains same for all observations. That is the variance of each u_i is the same for all values of the explanatory variable. However, if the disturbance terms do not have the same variance, this condition of non-constant variance or non-homogeneity of variance is known as heteroscedasticity (Bedru and Seid, 2005). Homoscedasticity of the residuals, in the scatter plots of the residuals the variance of the residuals about predicted dependent variable scores should be the same for all predicted scores. This is the case as the residuals are randomly dispersed around the center line; the test is presented in the following figure.



Source: Own computation, survey 2022
Figure 4.1: Homoscedasticity Test

4.7.1.2 Autocorrelation Test

Furthermore, the researcher tested the autocorrelation assumptions that imply zero covariance of error terms over time. That means errors associated with one observation are uncorrelated with the errors of any other observation. As noted by Gujarati (2004), the best renowned test for detecting serial correlation is Durbin Watson test. The null hypothesis of the test is that there is no serial correlation in the residuals up to the specified order. Durbin-Watson statistic is approximately 2, and an acceptable range is 1.50 - 2.50. As it can be shown from the table below the Durbin-Watson statistic value is 2.023 and this value almost approaches 2 therefore, there is no autocorrelation problem in this model.

Table 4.8: Autocorrelation Test

Model Summary^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.819 ^a	.671	.650	.42180	2.023
a. Predictors: (Constant), Credit culture, Credit size, Monitoring, Diversion, Interest rate, Assessment, Collateral					
b. Dependent Variable: NPL					

Source: Own computation, survey 2022

4.7.1.3 Multicollinearity Test

Multicollinearity is a test that evaluates whether the independent variables are highly correlated. It occurs when two or more predictors in the model are highly correlated leading to unreliable and unstable estimates of regression coefficients hence causing strange results when attempting to study how well individual independent variables constitute to an understanding of the dependent variable. The consequences of Multicollinearity are increased standard error of estimates of the Betas, meaning decreased reliability and often confusing and misleading results. The test for Multicollinearity was conducted to assess whether one or more of the variables of interest is highly correlated with one or more of the other independent variables. Tolerance is the indicator of how much of the variability of independent variable is not explained by another independent variable. Thus, if the value is less than 0.1 or VIF: the inverse of tolerance value is greater than 10, it implies possibility of multicollinearity. As the multiple regression result on table 4.9 shows all tolerance values are greater than 0.1 and VIF is less than 10, there is no possibility of multicollinearity among the variables.

Table 4.9: Multicollinearity Test

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Assessment	.476	2.100
	Credit size	.449	2.227
	Monitoring	.920	1.086
	Interest rate	.514	1.945
	Diversion	.519	1.928
	Collateral	.474	2.110
	Credit culture	.920	1.087

Source: Own computation and survey, 2022

4.7.1.4 Normality Test

Statistical errors are common in scientific literature. Many of the statistical procedures including correlation, regression, t- tests and analysis of variance are based on the assumption that the data follows normal distribution. Thus, it is assumed that the populations from which the samples are taken are normally distributed. Normality is important because if the assumptions do not hold, it is the impossible to draw accurate and reliable conclusions about reality. Since the assumptions are not always the case, the test of normality is usually carried out to assess the extent to which the variables of interest assume a normal probability distribution. Normality test is used to determine whether the error term is zero men and constant variance in the model. Normality test is one of the additional assumptions of linear classical ordinary least square method. Multiple regressions require the residuals to be normally distributed. Multiple regressions assume that variables have normal distributions. This means that the errors between observed and predicted values (i.e., the residuals of the regression) should be normally distributed. This assumption may be checked by looking at a histogram or a Q-Q-Plot. Normality can also be checked with the decision is obtained by looking at the normal probability plots, that is from the points where the data points form a linear pattern, so that it can be considered as consistent with a normal distribution. The result of the tests is presented in the figure below.

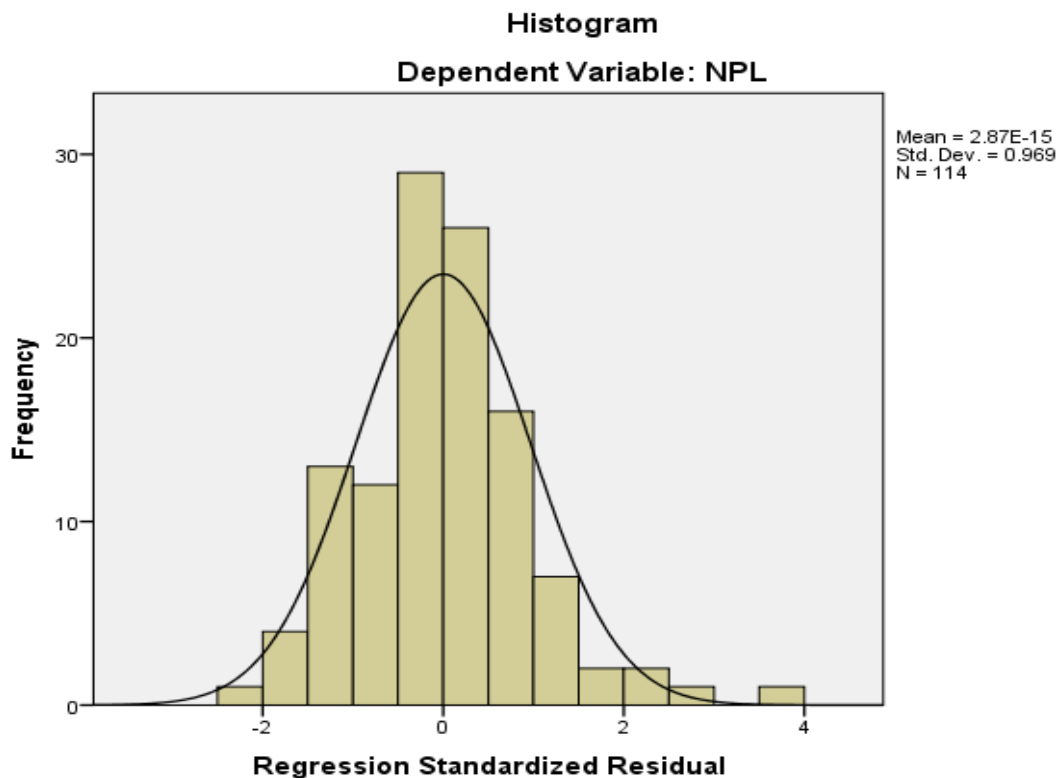


Figure 4.2: Normality Test

4.7.1.5 Test of linearity

Standard multiple regression can only accurately estimate the relationship between dependent and independent variables if the relationships are linear in nature. As there are many instances in the social sciences where non-linear relationships occur, it is essential to examine analyses for non-linearity. Linearity was tested. If the relationship between independent variables (IV) and the dependent variable (DV) is not linear, the results of the regression analysis will under-estimate the true relationship.

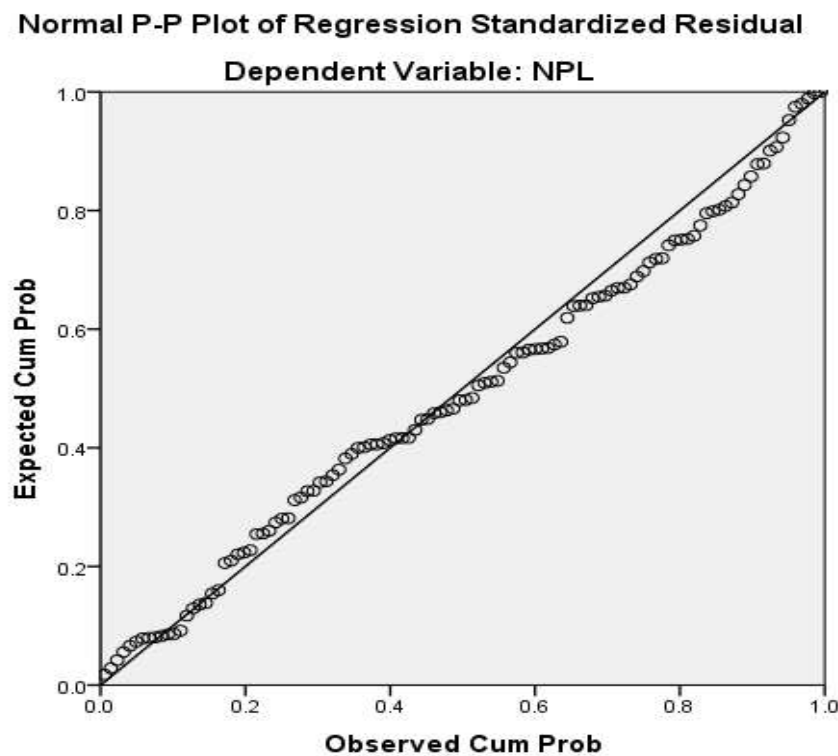


Figure 4.3: Linearity test

4.7.2 Regression result and discussion

The next part will present the results of the regression analysis to determine the level of significance of the effects of bank's specific factors and borrower/customer factors on non-performing loans. With the help of multiple linear regression analysis, model summary, ANOVA, and Beta coefficient were determined, and the regression model was developed.

Model Summary

The R value is the correlation coefficient between the dependent variable and the independent variables. According to the model summary in Table 4.10, the value of correlation coefficient (R) for a set of independent variables (poor credit assessment, poor collateral strength, high interest, credit size, loan diversion, poor credit monitoring, and borrower’s credit culture) with the dependent variable (NPL) was 0.819. Therefore, there was a high positive correlation between those independent variables and NPL. Table 4.10 shows the coefficients of determination is 0.671. The R square value of 0.671 confirming that, 67.1 % of the variation in non-performing loan is explained by the independent (explanatory) variables (poor credit assessment, poor collateral strength, high interest, credit size, loan diversion, poor credit monitoring, and borrower’s credit culture) of this study. Other unknown variables may explain the variation in non-performing loans which accounts for about 32.9%. This shows there are other factors that the study did not cover that explain 32.9 % variation in NPL.

Table 4. 10: Model Summary

Model Summary^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.819 ^a	.671	.650	.42180
a. Predictors: (Constant), Credit culture, Credit size, Monitoring, Diversion, Interest rate, Assessment, Collateral				
b. Dependent Variable: NPL				

ANOVA test

Analysis of variance in this study was used to determine whether the model was a good fit for the data. The F value of the test for the data in Table 4.11 below is 30.93. The p-value associated with F value .000 which is lower than the alpha value 0.05. In addition, ANOVA table indicates that there was significant impact of the independent variables on the dependent variable and the model applied was significantly suitable to predict the dependent variable.

Table 4.11: ANOVA table

ANOVA^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	38.526	7	5.504	30.934	.000 ^b
	Residual	18.859	106	.178		
	Total	57.385	113			
a. Dependent Variable: NPL						
b. Predictors: (Constant), Credit culture, Credit size, Monitoring, Diversion, Interest rate, Assessment, Collateral						

Source: Own computation, survey 2022

Table 4.12: Regression output

Coefficients^a						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.405	.458		-.885	.378
	Assessment	.158	.080	.160	1.987	.049
	Credit size	.206	.084	.204	2.461	.015
	Monitoring	.266	.089	.174	2.995	.003
	Interest rate	.178	.067	.206	2.659	.009
	Diversion	.110	.088	.097	1.251	.214
	Collateral	.292	.079	.299	3.694	.000
	Credit culture	-.092	.090	-.059	-1.023	.309

a. Dependent Variable: NPL

Source: Own computation, survey 2022

Standardized Beta Coefficient: It is the coefficients that can explain the relative importance of explanatory variables. These coefficients are obtained from regression analysis after all the explanatory variables are standardized. Table 4.12 above shows the standardized coefficient of poor collateral is the largest value followed by credit size, poor credit monitoring, poor credit assessment, loan diversion and credit culture two to seven respectively. The larger the standardized coefficient, the higher is the relative effect of the factors to the NPL.

To know about the effect of independent variable on NPL multiple regressions was used as a model. It allows us to compare the predictive ability of particular independent variables and to find the best set of variables to predict a dependent variable. As depicted below in Table 4.12, from the unstandardized coefficient values listed as β , the study constructs the following regression equation: The study determined the relationship between NPL and independent variables (poor credit assessment, poor collateral strength, high interest, credit size, loan diversion, poor credit monitoring, and borrower's credit culture).

Unstandardized Beta Coefficient (β): As it is defined in chapter three, the unstandardized coefficients (β_1 up to β_7) are the coefficients of the estimated regression model. Hence, by including the error term (ϵ), the model for NPL can be written as.

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \beta_6 X_{6i} + \beta_6 X_{6i} + \epsilon_i$$

$$\hat{Y}_i = -0.405 + 0.158X_{1i} + 0.206X_{2i} + 0.266X_{3i} + 0.178X_{4i} + 0.110X_{5i} + 0.292X_{6i} - 0.092X_{6i}$$

The intercept (β_0) is the point on the vertical axis where the regression line crosses the Y axis. The value of β_0 is -0.405 which means the expected value of NPL is -0.092 when all the seven explanatory variables assume zero value.

From all factors five variables found to be a statistically significant effect on NPL. The significant variables are poor credit assessment, poor collateral strength, high interest, credit size and poor credit monitoring. But loan diversion and borrower's credit culture were insignificant effect.

4.8 Discussion of the Regression Result

The effect of Poor credit assessment on NPL

As per the regression output table 4.12 above, the coefficient of poor credit assessment is positive and statistically significant at 5 percent level of significance. This implies that a one-unit increase in poor credit assessment leads to 0.158 unit increase in NPL being other variables are constant. 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). A weak Risk assessment can also play a role in increasing NPLs. The reputes of borrowers to repay loan and the market value of securities are not adequately assessed while giving loans which become key reasons behind NPLs (Petersson, 2004). The finding of this study is in line with the findings of Petersson (2004), Ning (2007), Arega (2016) and Wondimagegnehu (2012) and Negalign (2019)

The effect of credit size on NPL

The coefficient of credit size is positive and statistically significant at 5 percent level of significance. This implies that a one-unit increase in credit size leads to 0.206 unit increases in NPL being other variables are constant. Therefore, the study failed to accept the null hypothesis that credit sizes a negative effect on NPL. This means, there is enough evidence to support the positive relationship between NPL and credit size. Aggressive lending, bank's great risk appetite and compromised integrity in approving credit cause large volume of nonperforming loans (Salas and Saurina, 2002). The findings of this study is inconsistent the findings Keeton (1999) , Boudriga, Boulila, & Jellouli (2009) and Negalign (2019)

The effect of poor credit monitoring on NPL

The coefficient of poor credit monitoring is positive and statistically insignificant at 1 percent level of significance. This implies that a one-unit increase in poor credit monitoring leads to 0.266 unit increase in NPL being other variables are constant. Therefore, the study failed to accept the null hypothesis that poor credit monitoring factor a negative effect on NPL. This means, there is enough evidence to support the positive relationship between NPL and poor credit monitoring factor. The relationship is not positive as expected. Follow-up or credit monitoring means bank officers checks the borrower's behaviour of turnover, the information regarding the profitability, liquidity, cash flow situation, level of security offered, insurance coverage of security and trend in sales in maintaining various ratios of the borrower to meet its timely obligation. The finding of this study is in line with the findings of Agresti et al, (2008), Wondimagegnehu (2012) and Arega (2016) and Negalign (2019)

The effect of high Interest rate on NPL

As per the regression output of model table 4.12 above, the coefficient of interest rate is 0.178. The coefficient is positive and has statistically significant effect on NPL at one percent level of significance. The coefficient of interest rate interpreted as holding constant other explanatory variables when interest rate increased by one unit, the level of NPL is increased by 0.178 units. Therefore, the study failed to accept the null hypothesis that interest rate has a negative effect on NPL. This means, there is enough evidence to support the positive relationship between NPL and high interest rate. The relationship is positive as expected. When the interest rate is low, net NPLs is also low. And when interest rate is high, the amount of NPLs will also be increased. Various researchers have given a variety of findings about this relationship. According to some researcher's high interest rate has a significant and positive relationship with Non- Performing Loans. The finding of this study is in line with the findings of Stiglitz and Weiss (1981).

The effect of poor collateral on NPL

As per the regression output of model table 4.12 above, the coefficient of poor collateral is 0.292. The coefficient is positive and has statistically significant effect on NPL at one percent level of significance. The coefficient of poor collateral interpreted as holding constant other explanatory variables when poor collateral increased by one unit, the level of NPL is increased by 0.292 units. Therefore, the study failed to accept the null hypothesis that poor

collateral has a negative effect on NPL. This means, there is enough evidence to support the positive relationship between NPL and poor collateral. The relationship is positive as expected. collateralizing loan protect loan default as the same time a bank granted a loan without sufficient collateral coverage the chance to be deflated of a loan is high compared to non-collateralized loans. The finding of this study is in line with the findings of Wondimagegnehu (2012) and Arega (2016) and Mamuye (2015).

The effect of loan diversion on NPL

As per the regression output of model table 4.12 above, the coefficient of loan diversion is 0.110. The coefficient is positive and has statistically insignificant effect on NPL. The coefficient of loan diversion interpreted as holding constant other explanatory variables when loan diversion increased by one unit, the level of NPL is increased by 0.110 units. Therefore, the study failed to reject the null hypothesis that loan diversion has a negative and significant effect on NPL. This means, there is enough evidence to support the positive relationship between NPL and loan diversion. The relationship is positive as expected. Diversion of funds occurs when the funds borrowed have to be used only for a particular or the purpose it was intended for Ashiq (2003).

The effect of borrower credit culture on NPL

As per the regression output of model table 4.12 above, the coefficient of borrower credit culture is -0.092. The coefficient is negative and has statistically insignificant effect on NPL. The coefficient of borrower credit culture interpreted as holding constant other explanatory variables when borrower credit culture increased by one unit, the level of NPL is decreased by -0.092 units. Therefore, the study failed to reject the null hypothesis that borrower credit culture has a negative and significant effect on NPL. This means, there is enough evidence to support the negative relationship between NPL and borrower credit culture. The relationship is positive as expected. Diversion of funds occurs when the funds borrowed have to be used only for a particular or the purpose it was intended for Ashiq (2003).

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the study and makes a conclusion based on findings. Moreover recommendations of the study were presented. The chapter is organized in to the following sub sections; introduction, summary of finding, conclusion, recommendation and suggestion for further studies.

5.2 Summary of Findings

The objective of the study aimed to examine the basic factors that affecting NPLs in case of Development Bank of Ethiopia. Explanatory research designs as well as quantitative and qualitative methods of data were used. The study used both primary data sources. The primary sources were collected from questionnaires and interviews. Regarding sample size 120 employees were used as whole by using census study. From 120 questionnaires distributed 115 were returned and the data were analyzed and interpreted by using descriptive and inferential statistic with the help of SPSS and qualitative analysis.

In the descriptive part of the analysis, the result indicated that majority of the total respondents are male (75.7%), 47 % of the respondents are in the age range of 31 – 40 years and 53 % of the respondents are master's degree holders.

Before going to the main analysis of the study, a reliability test was administered to check whether the questionnaire is reliable or not. In this regard as per Table 3.2 illustrates all the quaternaries were reliable and acceptable with overall Cronbach's Alpha result 0.879.

NPLs are defined as loans which are not paid, and their overdue time period is 90 days after maturity date. NPLs are also explained as, Loans or advances whom credit quality has deteriorated such that full collection of principal and interest in accordance with the loan or advances in repayment terms of the loan or advances in question. In DBE the quality of its assets, measured by non-performing loans ratio, has continued to deteriorate fast, posing significant challenges to its very survival.

The result from Pearson coefficients implies that the seven factors were all positively related with NPL within the range of 0.648 to -0.013. Findings from the multiple regression analysis depict, 67.1 % variation in NPL is explained by employed explanatory variables (whereby R square is 0.671 and adjusted R square is 0.650). Furthermore, the significance value of F statistics shows a value 30.934, which is less than $p < 0.05$, implies the model is significant. The standardized coefficient of poor collateral is the largest value followed by credit size, poor credit monitoring, poor credit assessment, loan diversion and credit culture two to seven respectively. The larger the standardized coefficient, the higher is the relative effect of the factors to the NPL.

5.3 Conclusions

To realize the objectives of the study, three research questions were generated, and correlation and multiple regression method were employed to answer the research objective: To address the problem the study aim to find answers to the following basic research questions; What is the bank specific and borrower specific factors of NPL in in development bank of Ethiopia? How bank-specific factors affecting Non-performing loans in development bank of Ethiopia? And which factors have more effect on non-performing loans in development bank of Ethiopia?

Thus, on the base of research questions and specific objectives the following conclusions were made. The specific research objectives are: To assess the bank specific and borrower specific factors of NPL in in development bank of Ethiopia, To determine the effect of bank-specific factors that affecting Non-performing loans in development bank of Ethiopia and to Analyze factors have more effect on Non-performing loans in development bank of Ethiopia This research work can justify that NPL has positive relationship and impact with poor credit assessment, poor collateral strength, high interest, credit size, loan diversion and poor credit monitoring.

The multiple regression assumptions like multicollinearity, Autocorrelation, normality and Heteroskedasticity tests were meet accordingly in model. The ANOVA test result in model showed that, the value of R and R^2 obtained under the model summary part was statistically significant and overall significant. The multiple linear regression analysis of the independent variables and dependent variables shows that in the model out of seven independent variables five variables are positively and statistically significant effect on NPL i.e. poor credit

assessment, poor collateral strength, high interest, credit size and poor credit monitoring while the other variable has insignificant effect on NPL i.e. loan diversion and credit culture. From the above result the researcher conclude that poor credit assessment, poor collateral strength, high interest, credit size and poor credit monitoring affects NPL in DBE.

5.4 Policy recommendation

To ensure effective monitoring, it is recommended that management should ensure that credit offices of the branch should be adequately resourced in terms of staff, vehicles and other logistics, to support monitoring activities. It enables the lender assesses borrowers' current financial conditions, ensure the adequacy of collaterals, ensure that loans are in compliance with the terms and conditions of the facility, and identify potential problem loans for action to be taken. Loans granted to customers should be well secured in terms of adequacy of the collateral provided and also ensure that proper legal documentation is put place. This would reduce the losses arising from problem loans and minimize the effects of such loans in the form of bad debt provisions, on the financial performance of the bank.

DBE should put in place a vibrant credit process that would encompass issues of proper customer selection, robust credit analysis, authentic sanctioning process, proactive monitoring and follow up and clear recovery strategies for sick loans. DBE higher management team should pay appropriate attention on bank specific, and borrower specific factors impact of NPL's of priority sector of businesses loans and should be able to prepare prudential credit policies and procedure to protect adverse impacts of such type of non-performing loans. The bank should know your customer based on KYC assessment. Which mean identify the integrity of borrowers and check the borrower credit worthiness.

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APPENDIX



ST.MARY'S UNIVERSTIY

SCHOOL OF GRADUATE STUDIES

Structured questionnaire

Dear Respondent,

My name is Rebka Beyene I am attending Accounting and Finance at St.Mary's University. I am conducting a research on the title "The Determinant of Non-Performing Loans In The Case Of Development Bank of Ethiopia" as a partial fulfillment of the requirements for the Masters in Accounting and Finance, at St.Mary's University, College of Graduate studies.

This questionnaire is designed to collect data on The Determinant of Non-Performing Loans In The Case of Development Bank of Ethiopia. The data to be collected through the questionnaire is highly valuable to meet the objectives of this study. Therefore, you are kindly requested to fill in and return the questionnaire. The information you supply would be used for academic purpose only and will be kept confidential.

Thank you in advance for your cooperation!

Questionnaires

Part one: Background Information

1. Your gender

A. Male

B. Female

2. Age

A. 20-30

B. 31-40

C. 41-50

D. above 51

3. Marital status

A. Single

B. Married

C. Divorced

D. Widowed

4. Your current position in DBE

A. District manager

B. Branch manager

C. Team leader

D. Senior loan officer

E. Loan officer

F. Junior loan officer

5. Your work experience in DBE

A. 1-4 years

C. 11-15 years

B. 5-10 years

E. Above 15 years

6. Indicate your Education background

A. College Diploma and below

C. Master Degree and above

B. First Degree

Part Two: Questions on the Determinants of Non-Performing Loan

Please indicate the extent to which you agree or disagree with the Question in Table given below regarding about issues related to the main factors that intend you to resign or switch to new job. Where 5 = Strongly Agree; 4 = Agree; 3= Neutral; 2 = Disagree; 1= Strongly Disagree.

No	A. Factors Indicating Credit Size and Loan Default	1	2	3	4	5
1	Having large number of borrowers causes loan default					
2	Aggressive lending leads to large NPL volume/ratio					
3	Loans default rate is directly related to banks' size					
4	Rapid credit growth leads to large NPL					

5	The Banks great risk appetite leads to large NPL					
	<i>B. Factors Indicating Credit Assessment and Loan Default</i>	1	2	3	4	5
1	Poor credit analysis leads to loan Default					
2	Know Your Customer (KYC) policy of banks lead to high loans quality					
3	Poor loan underwriting leads loan default					
4	Poor risk assessment leads to loan default					
5	Easily admitted borrowers usually default					
	<i>C. Credit Monitoring and Loan Default</i>	1	2	3	4	5
1	Lack of strict monitoring leads to loan default					
2	Poorly assessed advanced loans may perform well if properly monitored					
3	Poorly Loan follow up is directly related to occurrence of nonperforming loans					
4	Lack of banks loan supervision capacity have higher non-performing loans					
5	Lower budget for loan monitoring result in higher NPLs					
	<i>D. High interest rate and Loan Default</i>	1	2	3	4	5
1	High interest rate affects loan performance					
2	Loan price affects loan performance					
3	Loans with higher interest rate would turn to NPL					
4	Charging higher interest rate leads to loan default					
	<i>E. Loan diversion and Loan Default</i>	1	2	3	4	5
1	Lack of proper monitoring					
2	Ignorance of lending terms and conditions					
3	Over financing					
4	Under financing					
5	Anticipation of windfall profits in other business areas					
	<i>F. Collateral strength and Loan Default</i>	1	2	3	4	5
1	Less collateralized loans has high chance to be defaulted					
2	Collateralized loans help protect loan defaulted					
3	Most of the time non-collateralized loans are defaulted					

4	Poor collateral estimation directly related to loan default					
<i>G. Borrower's credit culture and Loan Default</i>		1	2	3	4	5
1	Borrower's orientation/culture is related to loan performance					
2	Default in some area is ascribed to the culture of the borrowers					
3	Society's cultural development leads to good loan performance					
4	Borrowers default because they don't understand credit terms well					

Part Three: Questions related to NPL collection

Please state your level of opinion for the NPL in the organization by using the following rating scales: Please tick and fill in the blanks if you select others. Each scale represents the following rating:

1 = strongly disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = strongly agree

	<i>Items</i>	1	2	3	4	5
1	The collection of loan performance is very low in the organization					
2	The current non- performing loan amount and NPLs ratio of organization is critical.					
3	The collection of loan is low as compared to the previous year.					
4	The collection of loan in the organization is low as compared to the total loan collection.					
5	NPL in the organization will expect to reduce in the future.					
6	The rise of NPL affects profitability or financial position and going concern of the organization.					

Structured Interview questions only for the Team manager of DBE

Part IV: Interview

1. In your organization what are the major factors that affect loan collection performance?

2. What Bank specific factors do you think are causing the occurrence of non-performing loan in DBE?

3. What Borrowers specific factors do you think are causing the occurrence of non-performing loan in DBE?

4. What kinds of measure were applied in your organization to improve loan collection performance?

5. Any other comments or suggestions or ideas you may have with regard to the Bank's NPLs
