

**ADDIS ABABA UNIVERSITY
COLEGE OF BUSINESS AND CONOMICS**



**ASSESSMENT OF CREDIT MANAGEMENT IN THE
CASE OF DEVELOPMENT BANK OF ETHIOPIA**

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**ADDIS ABABA UNIVERSITY
COLEGE OF BUSINESS AND CONOMICS**

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DECLARATION

I, Kibret Bahiru, hereby certify that the attached work, the Assessment of Credit Management The Case of Development Bank of Ethiopia, is wholly and completely my own. Moreover, I have indicated all the sources (printed, electronic, personal, etc.) that I have consulted. Any sections quoted from these sources are clearly indicated in quotation marks or are otherwise so declared. I further attest that I have included acknowledgement of the names of any person consulted in the course of preparing this assignment.

Name

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Signature

July, 2019

STATEMENT OF CERTIFICATION

This is to certify that Kibret Bahiru's research work on the topic entitled Assessment of Credit Management: the case of development bank of Ethiopia is her original work and suitable for submission for the award of masters' degree in financial service.

This project paper has been submitted for examination with my approval as a university advisor.

Degea Duressa (PhD)
(Advisor)
July, 2019

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ABSTRACT

The study discusses the perception of Development Bank of Ethiopia staffs' opinion regarding credit management assessment based on existing credit assessment method, skill capacity of the employee working in the credit units, collateralized loans and monitoring and evaluation effect on NPL ratio of the bank. To the best of the researcher's knowledge, there is no document that shows the perception of the DBE employees having direct work relation only in the credit units of the bank. This is a major motivation to carry out this study. The study was conducted based on primary information collected from 138 staffs of Development Bank of Ethiopia having a direct relation with credit management through structured questionnaires and the response rate is 89%. The secondary data was taken from the annual report of the bank for the last 16 years (2003-2018). The collected data were presented into tables, graphs, and charts for easy analysis and discussion of findings. The study findings indicated that the majority staffs of Development Bank of Ethiopia perceive that adequate credit assessment method, skill capacity, collateral coverage, monitoring, and evaluation were reduced NPL ratio of the bank. In generally, perception of banks' staffs' was fall in the agreed category. Based on the perception of the employees of the Development Bank of Ethiopia, it is fair to update the knowledge of loan officers working in credit line in order to minimize the raising of NPL ratio.

Key Words: NPL, DBE, SPSS 25

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ABBREVIATIONS & ACRONYMS

DBE	Development bank of Ethiopia
GDP	Gross Domestic product
HRMD	Human Resource Management Directorate
IIF	Institute of International Finance
IMF	International Monetary Fund
KYC	Know Your Customers
NBE	National Bank of Ethiopia
NPL	Non-Performing Loan
Pr	Probability
UK	United Kingdome

CHAPTER ONE

INTRODUCTION

1.1. Background of study

No one can refuse the importance of financial institutions in any developed or developing Economy, Financial institutions are not only easing the credit flow in the economy but also improve the productivity by stimulating the investment in the long run (Richard, 2011). Economic growth is possible with a sound financial sector (Rajaraman and Visishtha, 2002). Economic growth in any country or region is classified in to good performance and poor performance. Good performance of these financial institutions is the symbol of prosperity. On the other side, poor performances of these institutions hinder the economic growth and structure of the particular region affects the whole world (Khan and Senhadji, 2001).

In the last three decades, banking failures happens in all over the world (Brownbridge and Harvey, 1998), and due to these banking collapses regulatory authorities (Brownbridge, 1998) closed many banks. These banking failures affect the economy negatively in many ways, firstly banking crisis creates damage in the banking sector, and secondly it ultimately affects lessen efficiency and productivity of the business units by minimizing credit flow in the country (Chijoriga, 1997; Brownbridge and Harvey, 1998). According to Brownbridge, (1998) many empirical researches have shown the causes for banking failure or banking crisis are caused due to large non-performing loans.

In the last three to four decades Non-Performing Loans (NPLs) have gained world's attention as these increasing non-performing loans are causing banking crisis which are turning into banking failures (Barr and Siems, 1994). One of the Main reasons that cause insolvency of the financial institutions is Non-performing loans and ultimately hurt the whole economy (Hou, 2007). Therefore, it is necessary to manage non-performing loans for smooth operation of Banks, financial strength and economic growth in the country, If not the resources can be stuck in loss-making projects and sectors which damages the economic escalation. In order to apply control mechanism for non-performing loans it is required to understand the core reason of non-performing loans.

The phenomena and nature of non-performing loans has many connotations; as loan losses are fewer, it is an indicator of comparatively more solid financial system. However, high

level of non-performing loans will be seen as an indicator of unsecure and a worrying signal for financial system, bank management and regulatory authorities. During the great recession 2007-2009 which damaged not only economy of USA but also economies of many countries of the world we find that causes are non-performing loans. (Adebola, et al, 2011). In addition, Granting High risk loans ill-equipped borrowers and overestimated loans were secured against resources or against nothing, and when this economic boom “went bust” those high risk loans and as loans were given to unqualified borrowers those turned into non-performing loans was one of the main factor of great recession in the American financial sector and also economy of the whole world which was affected badly (Clugston, 2009).

The level of nonperforming loan in a Bank’s loan portfolio should be well managed in order to keep the quality of Bank asset, to maintain or improve the efficiency and effectiveness of a bank. In general, to undertake sustainable and sound credit operation good non-performing loans management is among the crucial issues. An optimal non-performing loans management mainly requires standardized and sustainable credit risk management and prudent pre and post credit administration practices which includes the following: undertaking due diligent assessment or know your customers (KYC) principles, standardized project appraisal, loan approval and continuous credit monitoring and evaluation, loan workout, taking timely and appropriate action before and after the loan is registered as NPL (Clugston, 2009).

Development Bank of Ethiopia is one of public banks in Ethiopia that provide mainly long term (5-20 years) investment credit to borrowers in different sectors. Financing long term credit has high credit risk which in turn expose for high NPLs. According to loan portfolio report of the Bank as at June 30, 2018, the Bank’s NPLs was Birr 15.44 billion; this accounted for 39.43% of the total loan portfolio. Currently this large and growing NPLs amount makes the issue of NPLs questionable and crucial in DBE.

This study attempts to explore some of the Bank’s staffs perception on credit assessment method, monitoring and evaluation practice, skill capacity of employee and collateral coverage in relation to NPL ratio.

1.2. Statement of the problem

Successful credit management is instrumental to bring about broad-based and sustainable development. Ethiopia aspires to become a middle-income country by 2025. Towards this end, the country has devised several projects. For these projects to contribute meaningfully to the development endeavor of the country there needs to be efficient and effective project financing, which is a vital tool that supports the realization of developmental projects thereby bring about economic development. As government owned bank, DBE is uniquely positioned in the banking industry as it is empowered to extend project finance along with working capital loans as a package. Accordingly, DBE extends sustainable credit facility for those engaged in manufacturing, agro-processing industries, mining or extractive industries and commercial agricultural projects. However, provision of credit alone does not support the economic development of the country unless it is supplemented with efficient utilization of the fund and repayment of loans as per the loan agreement (DBE, 2018).

The bank extends loans fund, are obtained from two sources. These are domestic and foreign sources of fund. If the Bank is to be sustainable alongside providing loan to the needy, ascertaining sustainability through appropriate loan recovery should be given priority. One of the mechanisms of sustaining the Bank's financial ability is making their payment performance of the bank's clients effective. This will help realize a better asset quality, among others. In fact, non-performing loan (NPL) ratio is used as measurement of a bank's asset quality. This is the standard criterion and one of the prudential standards, guidelines and rating systems for Association of African Development Finance Institutions (AADFI,2006)in which DBE is a member. As a member DBE has agreed to perform towards this standard, which clearly states that non-performing loans should not exceed 15% of the gross loan portfolio or total outstanding loan. However, non-performing loans of DBE reaches as high a percentage as 39.34% (it accounts about Birr 15.44 billion) for the budget year ended June 30, 2018, (Dbe,2018). This shows that the performance of the Bank is way below the standard. This evidently shows that there is a problem of loan collection, whose factors worth studying.

In fact, few studies have so far been studied to identify factors determining non-performing loans to lessen the default rate and to improve the overall performance of banks. Among these studies, the one by Wondimagegnehu (2012), on the determinants of NPLs of banking industry in Ethiopia and that of Seyoum, et.al, (2016) on the factors that affect non-

performing loans of DBE central Region are worth mentioning. The study conducted by Wondimagegnehu (2012) focused on bank specific determinants of non-performing loans in the banking industry in general, while the second study focused on bank and borrower-related factors affecting non-performing loans of DBE, Central Region.

The major loop hole of both studies is the fact that they used descriptive method of data analyses in Ethiopian banks and only one region in DBE. To the best of the researcher's knowledge, there is no document that shows the perception of the DBE employees having direct work relation. Therefore the main objective of this study is to examine credit assessment methods, skill capacity of the employee working in the credit units, collateral coverage, and monitoring and evaluation practices of staffs' perception in DBE.

1.3. Research questions

Having the above revealed statements of the problem, the subsequent research questions to be in this study are indicated as follow:

- How the staffs of DBE perceived about the credit assessment practices, skill capacity of employee working in the credit units, collateral coverage, and monitoring and evaluation practices?

1.4. Objectives of the study

1.4.1. General objective

The major objective of this study is to know the perception of DBE staffs working in credit units.

1.4.2. Specific objectives of the study

More specifically, the researcher assessed the following objectives:

- To examine credit assessment methods, skill capacity of the employee working in the credit units, collateral coverage, and monitoring and evaluation practices of staffs' perception in DBE.

1.5. Scope and Limitation of the study

Even if, the thought of default (NPL ratio) in project finance is significant for all financial institutions who are engaged in providing funds to different large, medium and small scale

projects; the main area of this study was staff of the bank having direct work relation with loans. DBE has financed significant number of projects among carried out in the country for the last decades and the focus area of this study was to assess credit management by overlooking any other problems that the bank would have. Thus, to undertake this study at bank level was difficult to the researcher due to time and financial constraint, as the result this study was limited to DBE.

1.5.1. Scope

Generally, this study assesses the general view of credit management in the case of Development Bank of Ethiopia. The study was delimited to DBE staffs working and having direct relation to loan administration in their day-to-day operation. The secondary data used for analysis was from 2003 to 2018.

1.5.2. Limitation

The researcher faces the following challenges during the time of research:

- Unwillingness of some staffs included in the study to provide necessary information. Due to this fact the response rate of the study 89%.
- There is time limitation to include the top management perception on bank's NPL ratio. Because, the top management members of the bank are on abroad for exposure visit.

1.6. Significance of the study

The outcome of the study will provide useful input for both credit policy reviewers of the Bank to articulate prudent NPLs management policy, procedures and practices in the Bank's credit policy, for giving emphasis on major assessment of credit management practices to undertaking proactive actions on causes of NPLs based on the recommendations of the study. In general, the study findings are important for sustainable and optimal NPLs management of the Bank as it identify the major causes. By doing so the bank will improve its asset quality, resource mobilization, efficiency in areas of loan administration operations, loan recovery performance and the study is also significant for the bank as it helps the bank in achieving its vision by considering its staff's opinion regarding credit management. Moreover, it may also help other researchers as a source of reference and as a stepping stone for those who want to make further study on the issue of NPLs in the DBE context afterwards. Finally, it may provide a possible opportunity to all stake holders to gain deep knowledge about the leading

cause of NPLs in DBE and its solution in near future to be done by DBE in order to decrease NPLs.

1.7. Organization of the Study

This study consists of five chapters. The first chapter is an introductory part as discussed earlier. The second chapter deals with review of relevant theoretical and empirical literature. The third chapter devoted to methodology used in conducting the study such as research approach and design, population of the study, sampling technique and sample size, data type and sources, model specification and definition of variables, data analysis methodology; typical statistical software used in data processing. Chapter four deals with data presentation, analyses and major findings of the study the last but not least chapter, chapter five consists conclusion and recommendation and at last but not included in the chapters are references, appendix and relevant attachments.

CHAPTER TWO

LITERATURE REVIEW

2.1. Theoretical and Conceptual Review

Credit lending remains the chief activity of the banking sector throughout the world. Banks can no longer survive without this activity. This is the reason that credit worth is considered as a key sign of financial health and soundness of financial institutions particularly the banks. The interests charged by the banks on advances and loans shape large part of the bank's assets (Saeed and Zahid, 2016). These assets constitute the primary source of income by banks. As a business institution, a bank aims at making a giant profit. Since loans and advances are more profitable than any other assets, it is willing to lend as much of its funds as possible. But banks have to be careful about the safety of such advances (Radha and Vasudevan, 1980). Despite the loan portfolio is typically the largest asset and the predominate source of revenue of banks, the function of granting credit is not free of risks (Casu et al. 2006). Risk takes many forms, each affecting the economic activity on a lesser or greater extent (Solomon & Muntean, 2012). In practice, loans are considered as the types of investment which have the highest levels of risks with regards to the difficulty of the funds' recovery. Commercial banks are exposed to numerous difficulties regarding the protection and recovery of funds granted in the form of loans and credit facilities. One of the main difficulties that the commercial banks are exposed to is the failure of borrowers to repay their obligations on time (Casu et al, 2006). As Heffernan (2005) noted the failure of the commercial banks' clients to repay their obligations caused the emergence of NPLs, and is considered the most serious financial problems facing commercial banks.

Definition of Non-performing loans

There is no global standard to define non-performing loans at the practical level. Variations exist in terms of the classification system, the scope, and contents (Chikoko et al, 2012). The extent to which authorities have been involved in developing criteria to distinguish between "good" and "bad" loans differs substantially between countries. Some countries use quantitative criteria (e.g., number of days of overdue schedule payments), while other countries exclusively rely on qualitative norms (such as the availability of information about the client's financial status, and management judgment about future payments). Some

countries (like German and U.K) do not give standard criteria at all. (IMF working paper, 2001)

Caprio and Klin-gebiel(1999) defined Non-performing loans as “loans which for a relatively long period of time do not generate income. This implies that the principal and or interest on these loans have been left unpaid for at least 90 days.” Another definition was given by VanGreuning, & Bratavonic(2003) as “a non-performing loan is an advance by a financial institution that is not earning income and full payment of principal. As such interest is no longer anticipated.” Moreover, Bloem and Freeman (2005) put a criterion for a loan to be called NPL as "a loan is NPL when payments of interest and/or principal are past due by 90 days or more, or interest payments equal to 90 days or more have been capitalized, refinanced, or delayed by agreement".

According to IMF a loan is non-performing when payments of interest and principal are past due by 90 days or more, or at least 90 days of interest payments have been capitalized, refinanced or delayed by agreement, or payments are less than 90 days overdue, but there are other good reasons to doubt that payments will be made in full” (International Monetary Fund, 2005).

2.3 Criteria for Differentiating NPLs

Different financial institutions have developed criteria to distinguish between performing and non-performing loans. Some countries use quantitative criteria (e.g. number of days of overdue schedule payments) while most countries exclusively rely on qualitative norms such as availability of information about the customers financial status, management and judgment of future payment. To improve the ability and comparison between banks across countries, the Institute of International Finance (IIF, 2009) has used following categories;

A. Standard: - Credit sound principal and interest payments are current. Repayment difficulties are not for seen under circumstances and full payments is expected.

B. Watch: Asset subject to conditions, if left on correct, could raise concerns about full payment. These require more than normal attention by credit officers.

C. Sub-standards: full payment is in doubt due to in adequate protection (example, Obligor net worth or collateral) or interest or principal or both are more than 90 days overdue, these assets show underling, well- defined weakness that could lead to

probable loss if not corrected and thus risk becoming impaired assets.

D. Doubtful: Assets from which collection /liquidation in full is determined by Bank management to be improbable due to current condition and interest or principal both are overdue more than 180 days. Assets in these categories are considered impaired but are not yet considered total losses because some spending factors may strengthen the asset quality.

E. Loss: an asset is downgraded to loss when management considers the facility to be virtually uncollectible or when interest or principle or both are overdue more than one year. This classification may indicate that there are two cases that have to be addressed. Loans that are a complete loss and loans whose quality significantly impaired (sub-standard or doubt full) and for which taken as a group experience source that a considerable portion of the future interest or instrument payments will never be made.

In accordance with the NBE Directives cited above, the DBE shall classify all its loans into five categories of pass, special mention, substandard, doubtful and loss based on the following criteria:

- A. **Pass:** Loans in pass category are fully protected by the current financial and paying capacity of the borrower and are not subject to any criticism. Accordingly, given the nature of the Bank and based on the directives of NBE, the following loans shall be classified as pass loans; for short term loans past due for less than 30 (thirty) days while for medium and long term loans past due for less than 180 (one hundred eighty) days; and
- B. **Special Mention:** The following loans at a minimum shall be classified as special mention; for short term loans past due for 30 (thirty) days or more, but less than 90 (ninety) days while for medium and long term loans past due six months or more, but less than 12 (twelve) months.
- C. **Substandard:** The following non-performing loans at a minimum shall be classified substandard; for short term loans past due 90 (ninety) days or more, but less than 180 (one-hundred-eighty) days while medium and long term loans past due 12 (twelve) months or more, but less than 18 (eighteen) months.
- D. **Doubtful Loans:** The following non-performing loans at a minimum shall be

classified doubtful; for Short term loans past due 180 (one-hundred-eighty) days or more, but less than 360 (three-hundred-sixty) days while for medium and long term loans past due 18 (eighteen) months or more, but less than 3 (three) years.

- E. **Loss:** The following non-performing loans at a minimum shall be classified loss; for short term loans past due 360 (three-hundred-sixty) days or more while medium and long term loans past due three years or more.

2.4 Non-performing Loans Provisioning

NBE Directive no SBB/43/2008 requires all banks to maintain a provision for Loan Losses account which shall be created by charges to provision expense in the income statement and shall be maintained at a level adequate to absorb potential losses in the loans or advances portfolio. In determining the adequacy of the provisions for Loan Losses Account, provisions may be attributed to individual loans or advances or groups of loans or advances. The provisions for Loan Losses Account always have a credit balance. Additions to or reductions of the provisions for Loan Losses Account should be made only through charges to provisions in the income statement at least every calendar quarter.

Banks are required to maintain the following minimum provision percentages against the total outstanding principal balance of each loan or advance classified in accordance with the criteria for the classification of loans or advances.

Table 1: Non-performing Loans Provisioning Percentage

Classification Category	Minimum Provision (% against the total outstanding principal balance)
Pass	1%
Special Mention	3%
Substandard	20%
Doubtful	50%
Loss	100%

Source: NBE Directive no SBB/43/2008

2.5 Effects of NPLs

For the last few decades' attention is given for the increment of non-performing loans (NPLs). Bank fail due to speedy consequence of large amount of NPLs in the banking system. (Dermirgue-Kunt, 1989; Barr and Siems, 1994), and that failing banking institutions always have high level of non-performing loans prior to failure.

Historically, the occurrence of banking crises has often been associated with a massive accumulation of non-performing loans which can account for a sizable share of total assets of insolvent banks and financial institutions, especially during episodes of systemic crises (WN Geletta, 2012). Deterioration in banks' loan quality is one of the major causes of financial fragility. Past experience shows that a rapid buildup of bad loans plays a crucial role in banking crises.

(MohdZainiAbdKarim, et al, 2010). As the NPLs amount is becoming larger and larger, it deteriorates Banks' asset quality, reduces banks' efficiency and income (due to increasing provision expenses held on increasing nonperforming loans) these all adversely affects banks': image reputation, resource mobilization capacity, soundness, financial intermediation role; these in turn result in reduction in: investment and related economic growth of countries.

A. NPL reduces profitability

NPLs rate is the most important issue that has negative effect on bank profitability and inability to survive. This is true because NPLs have serious negative impact on loan growth rate; in which case, there will be a negative effect on banks profitability as it reduces loan amount and interest income of the banks simultaneously (Ugoani, 2016). In line with National bank of Ethiopia regulations, the lending institution has to make provision and charges for credit losses (bad debt/impairment) which ultimately reduce the profit level. Beside this delay or failure of repayment of loan principal and interest on time and in full, negatively affects the profitability of the banks by reducing the interest income generated from granting more credit.

B. NPL hurts the bank's reputation

Reputation is everything in the banking business. A lowered reputation will steer away big customers and forces them to look for other banks. This will surely result in lower deposit and consequently, lower lending. (Onchomba, 2014)

C. NPL can cause insolvency

Banks kept only some money deposits as a reserve; the rest is lent out. If the lowered reputation due to NPLs results in withdrawal of deposits of big customers, the bank will effectively be insolvent.

2.6 Theories underpinning non-performing loans

Three theories underpinning on-performing loans have been explained by Warue (2013) as follow:

2.6.1 Deflation theory

(Fisher,1933), which suggests that when the debt bubble bursts the following sequence of events occurs; debt liquidation leading to distress selling and contraction of deposit currency, as bank loans are paid off. This contraction of deposits cause a fall in the level of prices, which leads to greater fall in the net worth of business, hence precipitating bankruptcies which leads the concerns running at a loss to make a reduction in output, in trade and in employment of labour. These cycles cause complicated disturbances in the rates of interest and a fall in the money value. The complicated disturbances described above can be summed as both external and internal forces (macro and micro factors) influencing state of over-indebtedness existing between, debtors or creditors or both which can compound to loan defaults.

2.6.2 Financial theory

Pioneered by Minsky (1974), also known as financial instability hypothesis, and attempted to provide an understanding and explanation of the characteristics of financial crisis. The theory suggests that, in prosperous times, when corporate cash flow rises beyond what is needed to pay off debt, a speculative euphoria develops, and soon thereafter debts exceed what borrowers can pay off from their incoming revenues, which in turn produces a financial crisis. As a result of such speculative borrowing bubbles, banks and lenders tighten credit availability, even to companies that can afford loans and the economy subsequently contracts. The theory identifies three types of borrowers that contribute to the accumulation of insolvent debt: The "hedge borrower" can make debt payments (covering interest and principal) from current cash flows from investments. For the "speculative borrower", the cash flow from investments can service the debt, i.e., cover the interest due, but the borrower must regularly roll over, or re-borrow, the principal. The "Ponzi borrower" borrows based on the belief that the appreciation of the value of the asset will be sufficient to refinance the debt but cannot make sufficient payments on interest or principal with the cash flow from investments; only the appreciating asset value can keep the Ponzi borrower afloat. Financial theory underpin this study in that, a hedge borrower would have a normal loan and is paying back both the principal and interest; the speculative borrower would have a watch loan; meaning loans“

principal or interest is due and unpaid for 30 to 90 or have been refinanced, or rolled-over into a new loan; and the Ponzi borrower would have a substandard loan, meaning the payments do not cover the interest amount and the principal is actually increasing. The primary sources of repayment are not sufficient to service the loan. The loan is past due for more than 90 days but less than 180 days. Watch loans and substandard loans are nonperforming loans, hence applicability of financial theory in this study.

2.6.3 Ownership structure theory

Pioneered by Jensen (1976) integrated the elements of theory of property rights (Ronald, 1937), the theory of agency (Ross,1973) and Mitnick, 1974) and the theory of finance (Minsky, 1974). The theory explains why highly regulated industries such as public utilities or banks have higher debt-equity ratios for equivalent levels of risk than the average non-regulated firm. Jensen (1976) argues that, “ownership structure” rather than “capital structure” is the crucial variables to be determined, not just the relative amounts of debt and equity but also the fraction of the equity held by the manager.

On the other hand, Muriithi (2013) discussed four theories of nonperforming loans namely asymmetry theory, agency theory, transaction cost theory and stakeholder theory.

2.6.4 Asymmetry Theory

The theory explains that in the market, the party that possesses more information on a specific item to be transacted is in a position to negotiate optimal term for the transaction than the other party (Auronen, 2003).The party that knows less about the same specific item to be transacted is therefore in a position of making either right or wrong decision concerning the transaction. It may be difficult to distinguish good from bad borrowers (Richard, 2011).This may result into adverse selection and moral hazards problems. Adverse selection and moral hazards have led to significant accumulation of Non-Performing loan in banks (Bester, 1994).

2.6.5 Agency Theory

According to the Agency theory, the principal agency problem can be reduced by better monitoring such as establishing more appropriate incentives for managers. In the field of corporate risk management agency issue have been shown to influence managerial attitudes towards risk taking and hedging Smith and Stulz(1985). Theory also explains a possible mismatch of interest between shareholder management and debt holders due to asymmetries

in earning distribution, which can result in the firm taking too much risk or not engaging in positive net value project (Smith and Stulz, 1987). Consequently, agency theory implies that defined hedging policies can have important influence on firm value (Fite and Pflleiderer, 1995).

2.6.6 Transaction Cost Theory

Transaction cost theory has proven an essential framework for decision on the vertical boundaries of the firm. Transaction costs are the cost associated to the division of work. Williamson (2000), indicated that transaction occurs when a good or service is transferred across a technology separable interface. Variables that describe a transaction are among others, the specificity, the uncertainty, and the frequency of the transaction, whether an asset or a service is only or much more valuable in the context of a specific transaction. In the following human capital specificity, the asset specificity and the site specificity are taken into account (Reddy, 2002).

2.6.7 Stakeholder theory

Stakeholders' theory, developed originally by Freeman (1984) as a managerial instrument, has since evolved into a theory of the firm with high explanatory potential. Stakeholder theory focuses explicitly on equilibrium of stakeholder's interests as the main determinant of corporate policy. The most promising contribution to risk management is the extension of implicit contracts theory from employment to other contracts, including sales and financing (Cornell and Shapiro, (1987).

2.7 Determinants of Non-performing loans

Though there is no particular theoretical framework that emphasizes on the determinants of NPLs many empirical studies have been done on the determinants of NPLs. The key causes of non-performing loans in the banking industry are three pronged. These are factors specific to internal organization, factors relating to the macro- economic policies, which ultimately determine how the economy works, and finally those factors relating to the actual management of business (Mucheke, 2001). As both of them are factors specific to the bank, many researches merge factors relating to the actual management of business with factors specific to internal organization. The two concerns of the credit risk or the non-performing loans are (1) macroeconomic factors and (2) bank specific factors (Zurairah, 2010). Although there are researches which separately study the

bank specific determinants and macroeconomic determinants alone many studies combine the two set of factors together to study the determinants of NPLs.

2.7.1 Credit assessment

Credit assessment is the first step in the process to tailor-make a solution to fit the customer's needs. The assessment begins with well understanding of the customer's desires and capacities to ensure there is a good ability in terms of the financing. Credit assessment is the most important safeguard to ensure the underlying quality of the credit being granted and is considered an essential element of credit risk management (Cade, 1999).

The credit quality generally refers to commitments given to borrowers to meet with his ability and willingness for the facility granted. It shall consider default probability and anticipated recovery rate (Saunders & Cornett, 2003). Therefore, Credit assessment involves evaluating the risks involved in financing and anticipating the probability of default and recovery rate.

According to Murphey (2004a), these principles should be the cornerstone of every lending decision. The five C's are discussed as follows:

A. Character:

Character refers to the borrower's reputation and the borrower's willingness to settle debt obligations. In evaluating character, the borrower's honesty, integrity and trustworthiness are assessed. The borrower's credit history and the commitment of the owners are also evaluated (Rose, 2002). A company's reputation, referring specifically to credit, is based on past performance. A borrower has built up a good reputation or credit record if past commitments were promptly met (observed behavior) and repaid timely (Rose, 2002). Character is considered the most important and yet the most difficult to assess (Koch & MacDonald, 2003). Bankers recognize the essential role management plays in a company's success. Critically analyzing quality of management has been one of the ways of assessing character. The history of the business and experience of its management are critical factors in assessing a company's ability to satisfy its financial obligations. The quality of management in the specific business is evaluated by taking reputation, integrity, qualifications, experience and management ability of various business disciplines such as finance, marketing and labor relations into consideration (Sinkey, 2002; Nathenson, 2004).

These factors can be regarded as a risk mitigates if a banker views these positively. Much of its success can in fact be attributed to competent leadership. Companies with strong and competent management teams tend to survive in an economic downturn.

On the other hand, privately owned companies are generally managed by its owners. In this instance, succession planning must be in place, as the role of management remains vital to the success of the company (Koch & MacDonald, 2003).

B. Capacity:

Capacity refers to the business's ability to generate sufficient cash to repay the debt. An analysis of the applicant's businesses plan, management accounts and cash flow forecasts (demonstrating the need and ability to repay the commitments) will give a good indication of the capacity to repay (Sinkey, 2002; Koch & MacDonald, 2003).

C. Capital:

Capital refers to the owner's level of investment in the business (Sinkey, 2002). Banks prefer owners to take a proportionate share of the risk. Although there are no hard and fast rules, a debt/equity ratio of 50:50 would be sufficient to mitigate the bank's risk where funding (unsecured) is based on the business's cash flow to service the funding (Harris, 2003).

Lenders prefer significant equity (own contribution), as it demonstrates an owner's commitment and confidence in the business venture.

D. Conditions:

Conditions are external circumstances that could affect the borrower's ability to repay the amount financed. Lenders consider the overall economic and industry trends, regulatory, legal and liability issues before a decision is made (Sinkey, 2002). Once finance is approved, it is normally subject to terms and covenants and conditions, which are specifically related to the compliance of the approved facility (Leply, 2003).

Banks normally include covenants along with conditions when credit facilities are granted to protect the bank's interest. The primary role of covenants is to serve as an early warning system (Nathenson, 2004). Covenants can either be negative or positive (Sinkey, 2002).

Negative covenants stipulate financial limitations and prohibited events (Rose, 2002; Koch & MacDonald, 2003). Some examples of negative covenants are:

- Cash dividends cannot exceed 50% of the net profit after tax (financial limitation).
- No additional debt may be obtained without the bank's prior approval (prohibited event).

Positive or affirmative covenants stipulate the provisions the borrower must adhere to (Rose, 2002; Koch & MacDonald, 2003). Some examples of positive covenants are:

- Audited financial statements must be provided within 90 days of the company's financial year-end.
- The borrower must maintain the following financial ratios: Interest cover ratio of 4:1 (defined as earnings before interest and tax divided by interest paid), Gearing ratio of 2:1 (defined as total liabilities divided by owner's equity). Conditions normally stipulate that all the security relevant to the loan should be in order before any funds will be advanced.

E. Collateral:

Collateral (also called security) is the assets that the borrower pledges to the bank to mitigate the bank's risk in event of default (Sinkey, 2002). It is something valuable which is pledged to the bank by the borrower to support the borrower's intention to repay the money advanced.

Security is taken to mitigate the bank's risk in the event of default and is considered a secondary source of repayment (Koch & MacDonald, 2003).

The purpose of security is to reduce the risk of giving credit by increasing the chances of the lender recovering the amounts that become due to the borrower. Security increases the availability of credit and improves the terms on which credit is available. The offer of security influences the lender's decision whether or not to lend, and it also changes the terms on which he is prepared to lend, typically by increasing the amount of the loan, by extending the period for which the loan is granted and by lowering the interest rate (Norton and Andenas, 1998: 144).

According to De Lucia and Peters (1998), in the banking environment, security is required for the following three reasons:

- To ensure the full commitment of the borrower to its operations,
- To provide protection should the borrower deviate from the planned course of action outlined at the time credit is extended, and to provide insurance should the borrower default.

The security value of an asset is based on the estimated re-sale value of the assets at the time of disposing of it (McManus, 2000) The specific type of property is valued by the bank to determine the property's market value for security purposes (Rose, 2002). Besides the physical collateral a third party can provide a surety ship for the debt of the borrower. Should the borrower not be in a position to repay the debt, the bank will then call on the surety for repayment (Koch & MacDonald, 2003). It is normal banking practice for the banks to take the surety ships of the shareholders/directors when funds are advanced to a company (Rose, 2002; Vance, 2004).

Five C's" are well-known credit assessment principles, commercial banks have developed their own qualitative credit risk assessment models to assess whether the bank will agree to lend to a specific business (Sinkey, 2002).

2.7.2 Capacity of employee

Training is considered to affect the performance. Loan collection may be affected by the quality of loan officers. Poor screening and insufficient monitoring of loans affect the quality of loans (Yaron, et.al, 1997).

2.7.3 Poor Loan Follow-up (Monitoring)

Regular monitoring of loan quality, possibly with an early warning system capable of alerting regulatory authorities of potential bank stress, is essential to ensure a sound financial system and prevent systemic crises. (Agresti et al.,2008).

The need to give due attention to borrower thus need not be overemphasized in order to ensure loan performance. There is a tendency by borrowers to give better attention to their loans when they perceive they got better attention .Some of the loans defaults ascribe to lower level of attention given to borrowers. It is advised that banks keep up with their loans timely (Mayers, undated).

Banks rarely lose money solely because the initial decision to lend was wrong. Even where there are greater risks that the banks recognize, they only cause a loss after giving a warning

sign (Machiraju). More banks lose money because they do not monitor their borrower's property, and fail to recognize warning signs early enough. When banks fail to give due attention to the borrowers and what they are doing with the money, then they will fail to see the risk of loss. The objective of supervising a loan is to verify whether the basis on which the lending decision was taken continues to hold good and to ascertain the loan funds are being properly utilized for the purpose they were granted.

In order to meet these objectives banks, need to see whether the character of the borrower, its capacity to repay the loan, capital contribution, prevailing market conditions and the value of the collateral that was taken during loan approval time continues to remain the same (George G, 2004). As has been mention under section 3.1.4 a bank can use different ways to monitor the borrower. Follow up the financial stability of a borrower can be done by periodically scrutinizing the operations of the accounts, examining the stock statements and ascertaining the value of security. Visiting the borrower periodically to have understanding of the progress of the borrower's business activity and thereby give advice as necessary is also among the methods Banks adopt to follow up their loans.

It is clear that effective credit monitoring involves looking into various operations of the company including operations of the loan, checking whether the company is properly managed, and the environment in which the company is carrying out its business is satisfactory.

Constant monitoring increases the chance that the company will respond to a bank's concern and provide information more willingly. A bank which always closely follows a company's standing can often point out danger or opportunities to the company, as well as quick agreement to request for credit. It thus establishes that monitoring is basically constructive, and not a panic reaction and carries more weight when it expresses concern (George G, 2004)

A bank should have clearly defined continuous procedures for identifying potential bad and doubtful loans. These procedures should include regular independent reviews of the loan portfolio. Within this system, there should be formal procedures for the continuous review of all large loans and all areas of lending concentration. These reviews should place particular emphasis upon the borrower's continuing ability to service the loan. Failure to do these continuous reviews and monitoring will lead to loss to banks or increases the risk of such losses. From the regulatory point of view, Ethiopian banks are required to make continuous

review of their loan and submit reports to the central bank. This function of banks has a legal as well as contractual base. But the detail as to the frequency of visiting the borrower's premises, verifying the use of the loan and other related circumstances is left to the discretion of individual banks. The legal base for banks to do the review is provided under Article 5 of Directive No.SBB/43/2008.

2.7.4 Risk assessment and NPLs

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 (Petersson, 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. This causes NPLs to grow at even a higher pace. The banks should access information about creditability of the customers, so that NPLs can be reduced. In this regard responsibilities of banks should be clearly defined. It should be ensured that banks exercise effective policies and adequate risk management (Basel, 2001).

The study of Akerlof (1970) explains that due to adverse selection, the borrowers can be differentiated with respect to quality. Low quality borrowers cannot use amount of loan in productive ventures as compared with high quality borrowers. This can result in an increase in NPLs. The adverse selection problem indicates that when lenders cannot distinguish good from bad borrowers, all borrowers are charged a standard interest rate that reveals their collective practice. If this rate is elevated than valuable borrowers justify, it will drive some good borrowers out of the borrowing market, forcing in turn to banks charging even higher rates to the remaining borrowers. That's why the banks prefer to choose high quality borrowers. The selection of borrowers is a challenge in order to control NPLs.

2.7.5 Loan growth

A rapid credit expansion is considered one of the most important causes of problem loans (Clair, 1992). Credit growth transmits information on general conditions in the credit market and reflects how easy it is to get access to credit and roll over earlier contracts, if necessary, in order to avoid default (Kattai, 2010). To maximize the short run benefits, managers seek to rapidly expand credit activities and may hence take inadequate credit exposures. Particularly, during periods of economic growth, the financial institutions engage in market share conquest campaigns

discarding the necessary assessment of credit quality of borrowers (Fernandez De Lis et al., 2000). If so, the bank will be negatively affected by adverse selection. Higher levels of credit growth may increase the propensity for more defaults in the future because that increase might reflect that more risky loans are approved. This will contribute to an increasing rate of nonperforming loans in the future. Sinkey and Greenwalt (1991), Salas and Saurina (2002), Jimenez and Saurina (2006) and Metaxas et al (2010) found out a direct (positive) association between Loan growth and the volume of NPLs.

2.7.6 Macroeconomic factors

The existing literature provides evidence that suggests a strong association between NPLs and macroeconomic factors. A great deal of studies like Salas and Saurina (2002), Jimenez and Saurina (2006), Jakubík (2007), Aver (2008), Bohachova (2008), Bonfim (2009), Kattai (2010) and Nkusu (2011), among others, concentrate their research basically on the impact of macroeconomic variables over the credit risk growth and stress that those variables should be included into the analysis since they have considerable influence on the changes of credit risk.

2.7.6.1 Trade openness

Trade openness is a degree of which countries or economies permit or have international trade with others. Higher trade openness can relate to higher bank lending but also makes a country more vulnerable to international shocks. Increasing trade openness in Sub-Saharan Africa exposes the banking system to adverse shocks Mpofo&Nikolaidou (2018). As Mpofo&Nikolaidou (2018) has found out trade openness have positive and significant impact on NPLs.

2.7.6.2 Real Lending Rate

The real interest rate affects the debt burden i.e increasing interest rates will lead to a higher NPLs ratio (Gonzalez-Hermosillo (1997), Aver(2008), Louzis, Vouldis& Metaxas(2012), Nkusu(2011), Fofack(2005), Quagliariello(2007) and Castro(2013)).Asymmetric information and the resulting adverse selection problem can lead to “credit rationing,” in which some borrowers are denied loans even when they are willing to pay a higher interest rate (Stiglitz and Weiss 1981). This occurs because as interest rates rise, prudent borrowers are more likely to decide that it would be unwise to borrow, whereas borrowers with the riskiest investment

projects are often those who are willing to pay the highest interest rates. In this general setting, a higher interest rate leads to even greater adverse selection; that is, the higher interest rate increases the likelihood that the lender is lending to a bad credit risk and ultimately increases NPLs (Sinkey and Greenwalt (1991), Louziset al. (2010), Saurina (2006), Pasha and Khemraj (2009),Espinosa and Prasad (2010), Ahmad et al (2009) and Metaxas et al (2010)).

2.7.6.3 Exchange rate

One of the main determinants of economic instability is the exchange rate volatility (Zameer&Siddiqi, 2010). Its impact on NPL can be positive or negative (Nkusu 2011). Depreciation of the exchange rate can have mixed implications on borrowers' debt servicing capacity. On the one hand, it can improve the competitiveness of export-oriented firms. As long as the value of domestic currency depreciated (lower), export-oriented firms can dominate the international market at lower price (since their production cost is covered in domestic currency which has lower value than foreign currency and their revenue is collected in foreign currency which has higher value as compared to the domestic currency. Hence, depreciation of exchange rate can improve the debt-servicing capacity of export-oriented borrowers. On the other hand, it can adversely affect the debt-servicing capacity of borrowers who borrow in foreign currency (import-oriented firms). A negative correlation of real effective exchange rate and NPLs was founded by Castro (2013), Zribi&Boujelbene (2011), Gonsel (2012), Vogiazas&Nikolaidou (2011) and Fofack (2005).

Other studies such as: Kalirai&Scheicher (2002) and Aver (2008) have not identified any relationship between foreign exchange fluctuation and NPLs ratio.

2.7.6.4 Unemployment rate

Measures of unemployment appear to be a good predictor of problem loans in all countries (Gambera, 2000). Iuga and Lazea (2012) examined the influence of unemployment rate on non-performing loans in Romania during 2008- 2011. The results reveal that there is a strong correlation between unemployment rate and nonperforming loans. Nkusu (2011), Farhan et al. (2012), Selma and Jouini (2013), Akinlo and Emmanuel (2014), Vogiazas and Nikolaidou (2011), Bucur and Dragomirescu (2014) and Bofondi and Ropele (2011) also found positive and significant relationship between NPLs and unemployment. The reason behind the result is explained by the literatures as increase in unemployment negatively affects income of

individuals thereby increasing their debt burden. In addition, increased unemployment in the economy negatively affected the demand for products of firms which ultimately affected the production/sales of the firms, which led to a decline in revenues of the firms and a fragile debt conditions.

Louzis, Vouldis & Metaxas (2012) explored the Greek banking industry in pre-crisis period and discovered that unemployment has a strong negative influence on credit risk. Also Valahzaghari et al (2012) analyze the unemployment rate influence on loan portfolio quality and their results indicate no significant relationship between unemployment rate and credit risk.

2.8 Empirical review

2.8.1 Empirical Evidence from other countries

There is large number of empirical literature on the study of determinants of nonperforming loan with macro level and bank specific analysis. Some of important studies that are relevant for this study are reviewed as follows:

Saba et al (2012) determinates of nonperforming loan in US banking sector from 1985 to 2010. They employed correlation and regression tests. The study considers the Real GDP per Capita, Inflation, and Total Loans as independent variables, and Non-Performing Loan Ratio as dependent variable. The regression tests shows all the independent variables have significant impact on the depended variable, however, values of coefficients are not much high.

On the other hand, Joseph et al (2012) examined the causes of non-performing loans in Zimbabwe. They used descriptive analysis of interpreting factors affecting NPL. The paper revealed that external factors are more prevalent in causing non-performing loans in CBZ Bank Limited. Their findings indicated that non-performing loans were caused by internal and external factors. In the context of CBZ Bank Limited, internal factors such as poor credit policy, weak credit analysis, poor credit monitoring, inadequate risk management and insider loans have a limited influence towards non-performing loans. However, external factors namely natural disaster, government policy and the integrity of the borrower as the major factors that caused non-performing loans in CBZ Bank Limited.

In another study, Messai and Jouini (2013) tried to detect the determinants of non-performing loans for a sample of 85 banks in Italy, Greece and Spain for the period of 2004 to 2008. They used macroeconomic variables and specific variables to the bank as determinates of NPL. The macroeconomic variables are included the rate of growth of GDP, unemployment rate and real interest rate with respect to specific variables opted for the return on assets, the change in loans and the loan loss reserves to total loans ratio (LLR/TL). After the application of the method of panel data, they found that NPL is negatively with the growth rate of GDP, the return on assets and positively with the unemployment rate, the loan loss reserves to total loans and the real interest rate.

In the contrary, Farhan M. et al, (2012) study the economic factors causing non-performing loans in the Pakistani banking sector. The study was conducted via a well-structured questionnaire and data was collected from 201 bankers who are involved in the lending decisions or analyze the credit risk or handling non-performing loans portfolio. Correlation and regression analysis was carried out to analyze the impact of selected independent variables (Interest Rate, Energy Crisis, Unemployment, Inflation, GDP Growth, and Exchange Rate) on the non-performing loans of Pakistani banking sector. Top 10 Pakistani banks were selected as a sample. According to the results Pakistani bankers perceive that Interest Rate, Energy Crisis, Unemployment, Inflation, and Exchange Rate has a significant positive relationship with the non-performing loans of Pakistani banking sector while GDP growth has significant negative relationship with the non-performing loans of Pakistani banking sector.

Shingjergji and Shingjergji (2013) also analyzed the nonperforming loans in the Albanian banking system. They used a simple regression model. In the model are taken into consideration some macroeconomic and banking factors that have contributed to increase the nonperforming loans level. They found out that real effective exchange rate is positively related with the nonperforming loans according to which the international competition of the economy of a country is an important determinant of the credit risk. In other words any time there is a deterioration of the competition in a country's economy the nonperforming loans level that derives from the main export sectors is likely to increase.

In Kenya, Wanjiru (2013) examined the cause of nonperforming loan using multiple regressions over a period of 2008 to 2012. The study revealed that non-performing loans of commercial banks in Kenya are positively correlated with inflation rate. The study also found

that non-performing loans are negatively correlated with real interest rate and growth rate in loans.

Similarly, Evelyn Richard (2011) critically examined the reasons for non-performing loans (NPLs) in commercial banks in Tanzania and strategies employed in dealing with NPLs. A semi-structured questionnaire was administered to 48 bank officers from 14 commercial banks that provide corporate loans and had been in operations for at least five years. Findings suggest that use of funds for purposes different from agreed ones as a major factor that cause NPLs. Creating an environment to make banks seen as problem solvers and trusted advisor to borrowers was cited as the main strategy towards solving NPLs problems.

The study of Hippolyte Fofack, (2005) investigated the leading causes of nonperforming loans during the economic and banking crises that affected a large number of countries in Sub-Saharan Africa in the 1990s using causality and pseudo-panel models. Empirical analysis shows a dramatic increase in these loans and extremely high credit risk, with significant differences between the CFA and non-CFA countries, and substantially higher financial costs for the latter sub-panel of countries. The results also highlight a strong causality between these loans and, economic growth, real exchange rate appreciation, the real interest rate, net interest margins and interbank loans, consistent with the causality and econometric analysis, which reveal the significance of macro and microeconomic factors.

Ali S. and Iva (2013) who conducted study on “the impact of bank specific factors on NPLs in Albanian banking system” considered Interest rate in total loan, credit growth, inflation rate, real exchange rate and GDP growth rate as determinant factors. They utilized OLS regression model for panel data from 2002 to 2012 period. The finding reveals a positive association of loan growth and real exchange rate, and negative association of GDP growth rate with NPLs. However, the association between interest rate and NPL is negative but weak. And also inflation rate has insignificant effect on NPLs.

Similarly, Shingjergji (2013) conducted study on the “impact of bank specific factors on NPLs in Albanian banking system”. In the study, capital adequacy ratio, loan to asset ratio, net interest margin, and return on equity were considered as a determinant factor of NPLs. The study utilized simple regression model for the panel data from 2002 to 2012 period and found as capital adequacy ratio has negative but insignificant whereas ROE and loan to asset ratio has negative significant effect on NPLs. Besides, total loan and net interest margin has

positive significant relation with NPLs. The study justifies that an increase of the CAR will cause a reduction of the NPLs ratio. Besides, an increase of ROE will determine a reduction of NPLs ratio.

Besides, Mileris (2012) on the title of “macroeconomic determinants of loan portfolio credit risk in banks” was used multiple and polynomial regression model with cluster analysis, logistic regression, and factor analysis for the prediction. The finding indicates that NPLs are highly dependent of macroeconomic factors.

However, Swamy (2012) conduct study to examine the macroeconomic and indigenous determinants of NPLs in the Indian banking sector using panel data a period from 1997 to 2009. The variables included were GDP growth, inflation rate, per capital income, saving growth rate, bank size, loan to deposit ratio, bank lending rate, operating expense to total assets, ratio of priority sector`s loan to total loan and ROA. The study found that real GDP growth rate, inflation, capital adequacy, bank lending rate and saving growth rate had insignificant effect; whereas loan to deposit ratio and ROA has strong positive effect but bank size has strong negative effect on the level of NPLs.

Chirwa (1997) used a probit model to estimate the probability of agriculture credit repayment in Malawi. The result indicated that crop sales, income transfers, degree of diversification and quality of information are positively related while size of club negatively related to the probability of repayment. Other factors like amount of loan, sex, household size and club experience were found to be insignificant.

Keeton and Morris (1987), investigated the causes of loan losses for a sample of nearly 2,500 US commercial banks for the period 1979–1985. Using simple linear regressions, they found out local economic conditions along with the poor performance of certain sectors like agriculture and energy explain the variation in loan losses recorded by the banks. The study also stated that commercial banks with greater risk desire tend to record higher losses.

Hu et al (2006) examined the relationship of ownership structure, size of banks and income diversification with NPLs of commercial banks in Taiwan with a panel dataset covering the period 1996-1999. The study shows that banks with higher government ownership recorded lower NPLs. Hu et al (2006) also show that bank size is negatively related to NPLs while diversification has not found a significant association with banks NPLs in Taiwan commercial banking sector

A study by Rahman et al (2017) on the impact of financial ratios on non-performing loans of

Bangladesh commercial banks applied an econometric model to find out correlations among financial ratios and a sample of 96 observations has been analyzed from 20 banks out of 30 listed commercial banks during 2010-2015. The study mostly agrees with the existing literature that, credit-deposit ratio, net interest margin have a positive influence on the non-performing loans and capital adequacy ratio, return on assets have a negative influence on the non-performing loans. It also reveals that, sensitive sector's loan, priority sector's loan have significant positive influence on the non-performing loans and unsecured loans, profit per employee, investment deposit ratio have significant negative impact on gross non-performing loan.

Salas and Saurina (2002) analyze problem loans of the Spanish commercial and savings banks and find that credit risk is determined by microeconomic individual bank level variables, such as bank size net interest margin, capital ratio and market power, in addition to real GDP growth.

Louzis et al., (2010) examined the determinants of NPLs in the Greek financial sector using dynamic panel data model and found as real GDP growth rate, ROA and ROE had negative whereas lending, unemployment and inflation rate had positive significant while loan to deposit ratio and capital adequacy ratio had insignificant effect on NPLs.

Vogiazas and Nikolaidou (2011) investigated the credit risk determinants of the Bulgarian banking sector by means of time series modeling approach covering the time period from January 2001 to December 2010. The results indicate that, the macroeconomic and financial markets' variables, specifically the unemployment rate, the construction index, the industrial production index and the real effective exchange rate jointly with the credit growth and the global financial crisis influence the NPLs of Bulgarian banks.

2.8.2 Empirical Studies in Ethiopia

Using panel data of eight commercial banks from 2005 to 2011, Mitku, 2014, analyzed determinants of commercial bank lending in Ethiopia. He used Ordinary least square (OLS) method to determine the impact of the predictor variables on commercial bank lending. He tested the relationship between commercial bank lending and its some determinants (bank size, credit risk, gross domestic product, investment, deposit, interest rate, liquidity ratio and cash required reserve). The result suggests that, there is significant relationship between commercial bank lending and its size, credit risk, gross domestic product and liquidity ratio. But deposit, investment, cash required reserve and interest rate does not affect Ethiopian commercial bank lending for the study period.

Wendemagegnehu (2012) in his study on Determinants of non-performing loans: the case of Ethiopian banks. The study intends to assess determinants of nonperforming loans. The researcher used mixed research approach for the study. Descriptive statistics was employed to analyze data and the results were tested with non-parametric tests of significance. Structure questionnaire was distributed for the survey in both private and state-owned Banks in Ethiopia to fill by professionals holding different positions. The findings of the study showed that the causes for loan default are 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.

Geletta (2012) in his study on determinants of non- performing loans the case of Ethiopian Banks, using descriptive statistics approach that focus on Bank specific NPLs determinant variables; indicated that Poor credit assessment ascribing to capacity limitation of credit operators, institutional capacity drawbacks and unavailability of national data for project financing that had also led to setting terms and conditions that were not practical and/or not properly discussed with borrowers had been the cause for occurrences of loan default.

Geleta (2012) also despite the fact that credit monitoring/ follow-up plays pivotal role to ensure loan collection failure to do this properly was also found to be causes for sick loans. The research also indicated that over financing due to poor credit assessment, compromised integrity of credit operators were cause for incidences of NPL. In fact, cases of under financing loan requirement that meant shortage of working capital or not being able to meet planned targets were associated with defaults. In addition, the study also 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.

Yetimgeta Abera (2011) in his study, the impact of non-performing loans on the performance of financial institutions a case study in Development Bank of Ethiopia, the researcher used econometric models to make inference about some variables that explains non-performing loans. It is found that the effect of the amount of loan in arrear is significant and positively related with NPL and in addition, the variables, net income and collection are negatively related with non-performing loans where as doubtful debt expenses and disbursements are

positively related with non- performing loans.

Kassahun Fiseha (2013) in his study on factors causing non-performing loan to Development Bank of Ethiopia Dilla Branch found out that non-performing loans were caused by both internal and external factor in the context of development bank of Dilla Branch. Internal factors such as poor credit policy, Weak credit analysis, poor credit monitoring and inadequate risk management. The researcher finding highlighted; external factor namely natural disaster, market failure and integrity of the borrowers. Findings shows the performance interims of profitability and liquidity of the bank is affected negatively by non-performing loans. In addition, loan diversion seen from most of the borrowers does not use the loan for intended purpose.

Seyoum, *et.al*, (2016),in his study on the “specific factors for non-performing loans” by using descriptive statistics (Mean, median, mode, standard deviation). 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 NPL.

2.8.3 Conclusions and Research gap

In general, the above empirical studies can be categorized as External/ macroeconomic factors, Bank specific factors and Borrower specific factors. External /macroeconomic factors includes, government policy, interest rate, unemployment, inflation, GDP growth, exchange rate, sensitivity to change in stock market, sensitivity to change in inflation, economic cycle, asset and house price, currency depreciation are major external determinants of loan default.

Bank specific determinants of non-performing loans are also identified by various empirical studies as week credit assessment, lack of proper skill by the loan officers, long loan processing/approval time, agency problem, poor credit policies, loan recovery procedures, lenient credit terms and conditions, credit growth, poor credit assessment, failed loan monitoring, aggressive lending, compromised integrity, ownership structure of the bank, bank

size and weak institutional capacity , un fair competition among banks, poor asset quality, poor corporate governance and risk management practice are the major Bank specific determinants of loan default.

And Borrower specific determinants of non-performing loan are identified by various studies as uncompromised integrity of the borrower, lack of technical training for loan beneficiaries, under-developed credit culture, and wilful default by the borrower, knowledge limitation of the borrower, fund diversion for unintended purpose and misuse of loan amounts states as a reason for loan default.

Varies determinants of NPL have been identified by various literature as stated earlier, these determinants have been categorized under External/macro-economic factors Bank specific factors and Borrower specific factors of loan default; However, there are still gaps identified in empirical literatures discussed above.

- The studies conducted were focused on some bank specific factors. But for non-performing loans this are not the only factors, there are also specific factors that will lead the loan to become NPL.
- Most of the studies are conducted in developed countries but very few studies are conducted in Ethiopia context. Even the studies conducted in Ethiopia are focused in all Banks regardless of Bank size and ownership structure and no special focus is given to Development bank of Ethiopia however it is the largest project and investment financing Bank in Ethiopia.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

It involves a blueprint for the collection, measurement and analysis of data. In this stage, most decisions about how research was executed and how respondents were approached, as well as when, where and how the research was completed is discussed. Therefore, in general this part of the study describes the research design and methodology that were used to guide the study under the following sub-headings: the research design, target population, sample and sampling design, sample frame, reason for the sampling, data collection instruments, data collection procedures, and data analysis procedures.

3.1. Research Design

According to Kerlinger (1986) research design is the plan and structure of investigation conceived so as to obtain answers to research questions. The plan represents the overall strategy used in collecting and analysing data.

In this study, only descriptive statistic was used, which aims to assess the credit management why DBE loans are not performing well by taking a cross sectional of the sample at one time. As stated above, study that was concerned with finding out factors influencing or determining the Non-performing loans in case of DBE. According to Kerlinger (1973) survey is a method that studies large population (universe) by selecting and studying the samples from the population to discover the relative incidence, distribution and interrelations of sociological and psychological variables.

3.2. Target Population

Target population is the specific population about which information is desired. According to Ngechu (2004), a population is a well-defined or set of people, services, elements, events, group of things or households that are being investigated. Mugenda and Mugenda (2003), explain that the target population should have some observable characteristics, to which the researcher intends to generalize the results of the study. There are 5,204 loans in the bank administrated by credit units. Of the total, those listed in Table 2 below administrate 4,329 loans. Commonly the bank categorized its working units in head quarter, and district based on loan sanction limit. District can able to manage up to 45 million loan amount and any loan greater than 45 million loan amounts administered at head office. The researcher purposively selects six credit units as target population from 13 operating units in the bank by considering

their loan number concentration and loan diversification. Based on Human Resource Management Directorate of the bank, there are a total 300 staffs to engage to administrate the 4,329 loan (HRMD, 2019). See Table 2 below.

Table 2: Target population

S.No.	Selected units of the bank	Staff engaged in Credit related Activities
1	Head office	70
2	Addis Ababa District	55
3	Adama District	38
4	Bahirdar District	54
5	Jimma District	36
6	Mekelle District	47
Total		300

Source: DBE, Human Resource Management Directorate

3.3. Sample Size Selection

Ngechu (2004) underscores the importance of selecting a representative sample through making a sampling frame. From the population frame the required number of subjects, respondents, elements or firms was selected in order to make a sample. The sampling frame for any probability sample is a complete list of all the cases in the population from which a sample is drawn (Cochran, 1977, Saunders et al., 2007).

A sample is a smaller and more accessible sub set of the population that adequately represents the overall group, thus enabling one to give an accurate picture of the population as a whole, with respect to the particular aspects of interests of the study (Cochran, 1977). Sample of responded of DBE staffs was drawn from 300 target possible respondents according to Equation 1. The sample size is 89 % of the total population or it is responding rate. Accordingly, a total of 155 questionnaires were distributed to DBE staffs 138 questionnaires were properly filled and returned back.

From the population frame the required number of subjects, respondents, was selected in order to make a sample. For this study Simple Random Sampling technique was used to select the sample. According to Cochran (1977), simple random sampling technique produce estimates of overall population parameters with greater precision and ensures a more representative sample is derived from a relatively homogeneous population. The sample size formula used for the study depicted in Equation 1 as follow.

Equation 1: Sample Size formula

$$n = \frac{NZ + \alpha^2 P(1-P)}{N\alpha + Z^2 P(1-P)} \quad (1)$$

Where:

N: Target Population size = 300

n: Sample size

Z: Confidence level = 2.58

P : Largest Possible Proportion = 0.50

α : Sampling error = 1%

$$n = \frac{(300)(2.58) + (0.01^2)(0.50)(1-0.50)}{(300)(0.01) + (2.58^2)(0.50)(1-0.50)} = \frac{774}{5} = 155$$

An appropriate sample size for this number of population (i.e. 300 individuals) is 155 employees working in credit areas of the bank from selected or stratified districts.

3.4. Data Collection Methods and Procedures

In order to achieve the research objectives, both primary and secondary data was collected through questionnaires and specifically questionnaires was designed and distributed to staffs engaged in credit units and annual report of the bank. The questionnaires were used because they are straightforward and less time consuming for both the researcher and the participants (Owens, 2002). The Questionnaires had a number of sub-sections that are sub-divided based on the major research questions except the first sub-section (part I) that is meant to capture the background information of the participants like gender, marital status, age. Other sections cover the main areas of the study. The questionnaire was including both the close and open-ended questions. Questionnaires are appropriate for studies since they collect information that is not directly observable as it is inquire about feelings, motivations, attitudes, accomplishments as well as experiences of individuals (Borg and Gall, 1996).

In order to obtain secondary data the researcher was examined series annual report of the bank to NPL ratio movement for the last 16 years.

3.5. Data Analysis

The collected data was analysed by using descriptive statistics methods using software called SPSS version 25. The collected data in different forms, shall be organized properly and examine by using quantitative data both the primary and secondary sources. The descriptive

analysis was presented through various statistical techniques like means, median, percentages, standard deviations, frequency distribution; correlation was used to analyses the selected variables for the study. A correlation matrix was uses to examine the magnitude of relationship between the selected variables.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

This chapter deals with the results of the study, which include descriptive statistics; specifically, mean, median, and mode correlation coefficient result between selected factors used for credit management assessment in the bank. The statistical package SPSS 25 was used to compute these statistical tests.

4.1. Descriptive Analysis

Descriptive statistics are important tools to present research results clearly and concisely. They help one to have a clear picture of the characteristics of sample units by applying descriptive statistics such as mean, standard deviation, percentages, frequency, charts, graphs and correlation matrix to show the relationship between selected factors such as credit risk assessment collateral coverage, skill capacity and monitoring and evaluation based on the opinion of DBE staffs.

Likert scales are widely used in survey studies. In particular, the questionnaires propagated by the five or seven grading approaches were based on Likert scales. A number of researchers have provided empirical evidence suggesting that using the median to approach Likert scale variable to generate new variable from a group of variables that are Likert scale type (Bhattacharjee, 2012).

In order to test the objective of the study, the researcher tries to take the median of Likert scale for questions which are depicted in part two of the questionnaire starting from number 1-24 for credit assessment method, for skill capacity of employee take from number 25-35. Median of number 36-38 for monitoring and evaluation and median of questions number 39-41 to represent collateralized loans coverage. For further information, see the questionnaire part.

From Table 3 below, the mean NPL ratio of the bank for the last 16 years (2003-2018) was about 26.75%. During the period, the bank register the highest NPL ratio was 60% in year 2003 and the minimum NPL ratio was 8% in year 2012. Regarding NPL ratio movement, it was decreasing from year 2003 to 2012 and then increasing. For graphical representation, see Figure 23 in the appendix part section B.

Table 3: Summary of NPL ratio of DBE (2003-2018)-

Description	Mean	Median	Standard Deviation	Minimum value	Maximum value
DBE NPL Ratio	26.75	26.50	14.83	8	60

Source: Own Survey, 2019

4.1.1. DBE Staffs' perception about credit assessment method

Table 4 shows that the mean of the value of the statement regarding the impact of credit assessment practices on non-performing loan is only 4. This shows that in average the staff's view is agree regarding the impact of credit assessment method on NPL. The median value is the same as mean i.e. four.

Nearly 76.8 percent of bankers agreed and strongly agree that the credit assessment methods are used in DBE in different form in order to minimizing NPL ratio. This indicates that the credit assessment perceived by the DBE staffs as one of the important issues considered in the credit processing units of the bank. About 23.2 percent of the staffs are in doubt or neutral regarding their views of the credit assessment practices.

Table 4: Summary of credit assessment practices

Description	Frequency	Percent	Cumulative Percent
Neutral	32	23.2	23.2
Agree	103	74.6	97.8
Strongly Agree	3	2.2	100.0
Total	138	100.0	
Mean	4		
Median	4		
Variance	0.21		
Std. Deviation	0.46		

Source: Own Survey 2019

4.1.2. DBE Staffs perception on skill capacity of employee

Table 5 shows that the mean, median and mode of the values of the statement regarding the skill capacity of employee in order to minimize non-performing loan is only 3. This shows that in average perception of the staff's is neutral regarding the skill capacity of the employee working in the credit units on NPL ratio.

However only 18.8 % of the bankers agree or strongly agree that the employee have adequate knowhow to administrate the loan in order to minimizing NPL ratio of the bank. Nearly 61.6

% of the bankers are in neutral view regarding the statement existing staffs capacity in order to minimize the NPL ratio. In addition, about 19.6 % are disagreeing that the existing capacities of the staffs working in the credit units have adequate to minimizing NPL ratio of the bank.

Table 5: Summary of staffs' perception related to skill capacity of employee (Median of #25-35)

Descriptive	Frequency	Percent	Cumulative Percent
Disagree	27	19.60	19.60
Neutral	85	61.60	81.20
Agree	24	17.40	98.60
Strongly Agree	2	1.40	100.00
Total	138	100.00	
Mean		3	
Median		3	
Mode		3	
Variance		0.43	
Std. Deviation		0.66	

Source: Own Survey 2019

4.1.3. DBE Staffs perception on monitoring and evaluation

Table 6 shows that the mean values of the statement regarding the monitoring and evaluation practices in order to minimize non-performing loan is only 3.51 . This shows that in average perception of the staff's is either neutral or agree regarding the monitoring and evaluation practices among units having direct relation with credit management. The median and mode value is four.

Regarding the impact of monitoring and evaluation perception, about 63.8% of the bankers agreed that the existing practice of monitoring and evaluation directly related to occurrence of NPL ratio. However, only 13 % of the bankers disagreed for the issues. On the other hand, about 23.2% of the staffs neutral that the existing practice of monitoring and evaluation in relation to NPL ratio of the bank.

Table 6: Summary of staffs' perception on monitoring and evaluation ensures loan performance (Median of #36-38)

Description	Frequency	Percent	Cumulative Percent
Disagree	18	13.0	13.0
Neutral	32	23.2	36.2
Agree	88	63.8	100.0
Total	138	100.0	
Mean	3.51		
Median	4		
Mode	4		
Variance	0.515		
Std. Deviation	0.717		

Source: Own Survey 2019

4.1.4. DBE Staffs Opinion on Collateral coverage and the occurrence of NPL

Table 7 shows that the mean values of the statement regarding the monitoring and evaluation practices in order to minimize non-performing loan is only 3.65 . This shows that in average perception of the staff's is agree regarding the strong collateral coverage minimizing the prevalence of NPL ratio. As to the both median and mode value of staff opinion is 4.

Regarding the impact of monitoring and evaluation perception, about 70.3% of the bankers agreed that the collateralized loans are performing well in order to reduce the NPL ratio of the bank. However, only 5.1 % of the bankers disagreed that the collateralized loans reduce the NPL ratio. On the other hand, about 24.6% of the staffs neutral that collateralized loans

Table 7: Summary of staffs' opinion related to collateral and the occurrence of NPL (Median of #39-41)

Descriptive	Frequency	Percent	Cumulative Percent
Disagree	7	5.1	5.1
Neutral	34	24.6	29.7
Agree	97	70.3	100.0
Total	138	100.0	
Mean	3.65		
Median		4	
Mode		4	
Variance		0.33	
Std. Deviation		0.58	

Source: Own Survey 2019

4.1.5. Correlation analysis of the selected factors

In this section, the correlation between the selected variables was discussed. A correlation matrix is useful to evaluate the correlation between the variables. Maddala (1992) suggested that a correlation coefficient above 0.75 between two factors, it is an indication of strong positive interrelated and a correlation coefficient below -0.75 it is an indication of strong negative relationship between them. The result of correlation analysis of staffs perception shows that credit assessment method with skill capacity of employee, and collateralized loan have a weak positive relationship 12.6 % and 30.2% respectively on the other hand credit assessment practices has weak negative relationship with monitoring & evaluation at 7.3%. Similarly, for correlation between skill capacity and collateralized lands is a weak positive relationship at 6.5% and the correlation value for skill capacity and monitoring and evaluation is negative 20.6%. The correlation value between monitoring & evaluation and collateralized loans show a negative correlation at 1.2%. A correlation coefficient is a statistical measure of the degree to which changes to the value of one factor source change to the value of another (Greene, 2012). See Table 8 below.

Based on the survey staffs' perception of DBE, as the monitoring and evaluation applied in the bank it has a negative relation with other three selected factors. This tell us that as the bank improve its monitoring and evaluation practices decrease the effect of other three variable in other word the effect of monitoring and evaluation affecting the NPL ratio independent of the other selected three variables.

Table 8: Correlation matrix

	Credit assessment method	Skill capacity of employee	Monitoring & Evaluation	Collateraliz ed loan
Credit assessment method	1			
Skill capacity of employee	0.126	1		
Monitoring & Evaluation	-0.073	-0.209	1	
Collateralized loan	0.302	0.065	-0.012	1

Source: Own Survey 2019

As per Asset Classification and Provisioning Directives of the NBE for Development Finance Institutions (NBE Directives No SBB/48/2010 and 52/2012); the DBE has classified all its loans into five categories of pass, special mention, substandard, doubtful and loss. The details of loan classification are elaborated in the previous chapters.

In DBE's context a loan is said to be non-performing when whose credit quality loans has deteriorated such that full collection of principal and/or interest in accordance with the contractual repayment terms of the loan or advance is in question. For short term loans are non-performing when principal and/or interest is due and uncollected for 90 (ninety) consecutive days or more beyond the scheduled payment date or maturity while for medium and long term loans are non-performing when principal and/or interest is due and uncollected for 12 (twelve) consecutive months or more beyond the scheduled payment date or maturity.

The trend of NPLs in DBE from 2013/18 onward it depicts increasing trend and as at June 30, 2018 the Bank's NPLs reached about Birr 15.44 Billion and this accounts 39.43% of the total loan portfolio of the Bank. See the appendix.

The major reasons given by the bank regarding to NPLs increment are;

- Low commitment & unwillingness of the promoters to meet their obligations,
- Lack of up to date and well organized information on both foreign & local investors (KYC),
- Price challenge in international market, change of project idea and design by promoters,
- Difficulty in managing distressed project as on-going concern, lack of buyers for projects under disposal,
- Frequent breakdown of machine for agricultural projects located in poor infrastructural areas,
- Delay in project implementation due to conflict among the shareholders, loan diversion, delay in equity blocking and proforma over-invoicing.
- Infrastructure problems, particularly power (frequent blackout).

- Mega textile projects failed to produce competitive and quality products to penetrate international markets.
- Rehabilitation of mega projects to get them back to track taking longer time.
- Damage of projects due to social unrest and
- Raw material shortage due to foreign currency problem resulted with under capacity operation of those projects mainly dependent on imported materials are the major ones.

Even though, the bank gives the above mentioned points as major reasons, the bank has been aggressively lending for rain fed commercial agriculture projects and financing of second hand machineries as equity contribution. As at June 30, 2018 from the total non-performing loans the share of manufacturing was 70.06%, while the share of agriculture was 28.03%; and out of Birr 15.44 billion (Non-performing loan amount), 36% (it accounts Birr 3.08 billion) was the contribution of projects financed through second hand machinery by taking into consideration as equity contribution. Lately, the bank has stopped the consideration of second hand machineries as equity contribution and pending the financing of rain fed commercial agriculture.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

In this chapter the major findings of the study are summarized, conclusions are drawn based on the finding, and recommendations are forwarded for Development Bank of Ethiopia, the regulatory body and policy decision makers.

5.1. SUMMARY

Development Bank of Ethiopia was established for the sole purpose of providing project financing to strategic projects as well as technical services and advice for those projects established by DBE. Providing of credit only could not support the economic development of the country unless an effective monitoring and evaluation system is put in place to ensure efficient and effective utilization of the fund/credit for the intended purpose. More importantly, the Bank must ensure in advance that the loan will be repaid timely in accordance with the terms and conditions stipulated in the contractual agreement.

The main objective of this study is to examine credit assessment methods, skill capacity of the employee working in the credit units, collateral coverage, and monitoring and evaluation practices of staffs' perception in DBE. For this study both primary and secondary data sources were used to analyse the assessment of credit management practices and the level of NPL ratio. The primary data were collected from 138 staffs of the bank and the secondary data were collected from DBE annual report for NPL ratio for the last 16 years. To this end, mean, median, and mode of statistical tools were used to understand the opinion of DBE staffs regarding the credit assessment practices how to the view in relation to NPL ratio.

To understand the staffs' perception regarding the impact of credit assessment, a structured questionnaire was developed with five Likert scale. The scale was 1 for strongly disagree, 2 for disagree, 3 for neutral, 4 for agree and 5 for strongly agree. For each selected bankers perception questions, the median of the several opinions of the employees have been taken for analysis purpose. The questions were mainly related to the perception regarding the credit assessment put into practise like credit assessment method, monitoring and evaluation, collateral coverage, and skill capacity of the employee on non-performing loan ratio of DBE. The primary information was collected from 138 staffs those having direct relation with credit management of the bank. The findings of the study are analysed with Tables, Figures, with SPSS 25.

Regarding the opinion of DBE staffs on different factors affecting NPL ratio, the researcher tries their responding by using descriptive tools. The staffs' opinions of the bank have fall in the agreed category in most case.

5.2. CONCLUSIONS

The bank has adopted various credit management systems. The banks considered the following factors as being important in loan processing such as appraisal and subsequent approval based on the staffs' opinion: credit assessment methods, monitoring and evaluation, skill capacity of the employee and collateral coverage. The bank also adopted various tools for controlling NPL ratio. With respect to monitoring and evaluation (follow-up) of the loans, the following activities were undertaken by the bank: frequent contact with loans, as indicated by all the respondents; creating an environment that the bank can be seen as a solver of problems and trusted advisor, development of the culture of being supportive to borrowers wherever they are recognized to be in difficulties and are striving to deal with the situation, monitoring the flow of borrower's business through the bank's account, regular review of borrowers reports as well as an on-site visit, and updating loans credit files and periodically reviewing the rating of the loans assigned at the time the credit was granted.

5.3. RECOMMENDATIONS

This study has the potential to support the policymakers of DBE to take corrective measures on the most important factors of successful loan management based on the staffs' perception. The possible policy implications emerged from the study is forwarded as follows:

The staffs 'of bank perceive that good credit management tools such as credit assessment method, monitoring and evaluation, skill capacity of the employee, and collateral coverage may reduce the non-performing loan ratio. However, for the last six years (2013-2018) the NPL ratio of the bank show an increasing trend, the bank may revise its existing credit management to become more accepting and unique in today's competitive banking environment and for the bank to meet its vision and mission. Similarly, it is prudent for the bank to make its credit policy and loan procedure flexible to meet the expectation of its potential and existing loans and thereby implementing a better administrative set up that improves credit management. The timely collateral coverage evaluation should be done by considering the nature and operation of the loans has an impact to diminish the NPL ratio. In addition to this, the staffs of the bank having direct work relation with credit units in

particular and all staffs of the bank at large must be trained in modern and an efficient method of credit management tools and procedures, in order to improve the existing credit management practice of the bank and to win the confidence both existing and potential cause that increases the bank's NPL ratio.

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APPENDIXS

A. Summary of Descriptive Statistic

Table 9: Summary of statistic

Status	NPL Ratio	Credit Assessment Method	Skill capacity	Collateral Coverage	M & E
Mean	26.75	3.79	3.01	3.65	3.51
Standard Deviation	14.83	0.46	0.66	0.58	0.72
Skewness	0.50	-0.72	0.30	-1.42	-1.10
Kurtosis	2.60	3.15	3.28	4.02	2.78

Source: Own survey 2019

B. DBE NPL Ratio Trend 2003 -2018

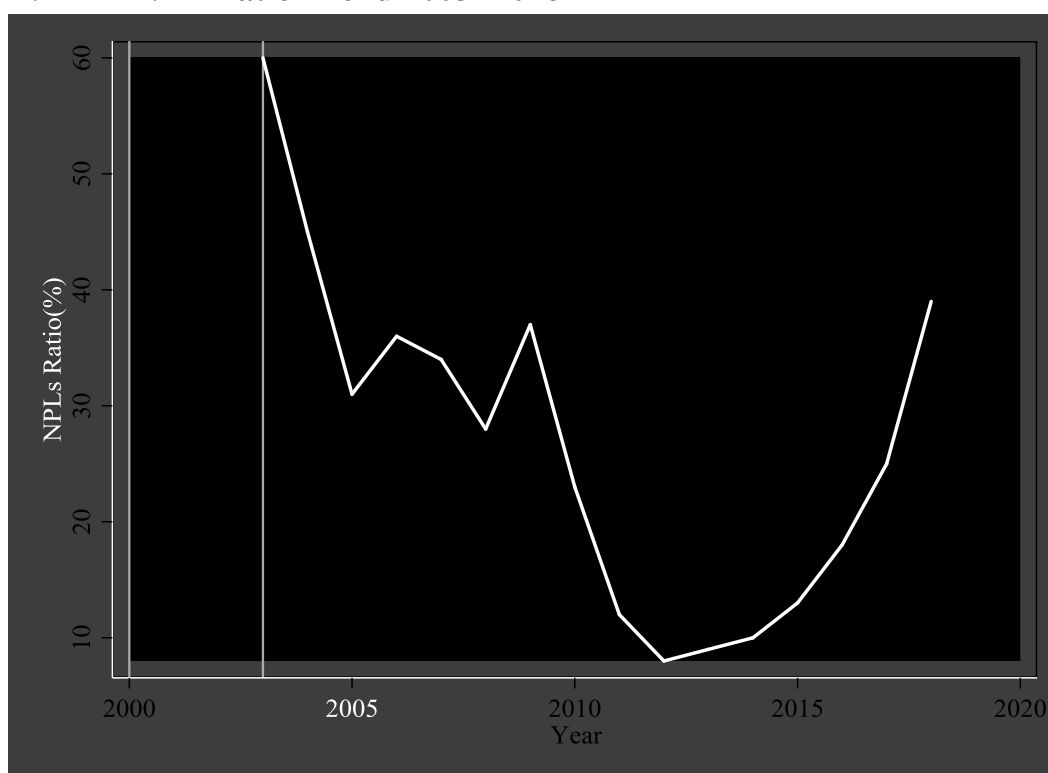


Figure 1: NPL ratio trend

C. Questionnaire

The questionnaire consists of three parts:

- **Part I** consists of general information (demographic elements)
- **Part II** consists of respondent's opinion with regard to the effectiveness of the determinants of NPLs in Development Bank of Ethiopia.
- **Part III** consists of open-ended questions for which respondents are invited to give their response in detail.

Note: - You are not required to write your name

PART I: Demographic Profile

1. Place of work: Directorate/District/Branch: _____
2. Please Indicate your gender :
 1. Male
 2. Female
3. Age :
 1. Under 30 years old
 2. 30-45 years old
 3. >45 years old
4. How long have you been working for the bank?
 1. 0-5 years
 2. 6-10 years
 3. >10 years
5. Highest Level of Education Achieved:
 1. Bachelor's Degree
 2. Master's Degree
 3. PhD.
6. Position:
 1. Managerial
 2. Non-Managerial

PART II: Questions regarding determinants of NPLs in Development Bank of Ethiopia

Description	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Statements related to credit assessment method					
1. The Bank has clear and effective credit, portfolio, write-off/back policies and regularly reviews and updates them.					
2. The Bank has initiated steps to identify and assess emerging gaps and opportunities in the credit delivery system starting from entry to exit.					
3. The existing credit reference bureau (CIC) has been effective in giving information on customer credit history for decision making e.g. defaulters					
4. The loan-originating units (CRMDs) identify, assess and prioritize loan customers in line with the risk appetite and ease of loan recovery.					
5. Improper/Poor Project Appraisal or negligence is one of the major causes for project failure, loan default/NPLs in the Bank.					
6. Improper/Poor client selection, due diligence assessment (KYC) is one of the major causes for project failure, loan default/NPLs in the Bank.					
7. The Bank has effective monitoring and follow-up systems implemented by the loan administration units(CRMDs) as					

Description	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
well as recovery units (PRLRDs)					
8. Good loan underwriting ensures loan performance					
9. The revaluation of collaterals is done timely and in a satisfactory manner					
10. The Bank's Top Management is always involved, supportive & proactive in ensuring customers receive and repay back their loans in time.					
11. There is always information flow concerning credit operations amongst staff					
12. Under/Over/ financing of projects would lead to loan default and NPL.					
13. Poor credit risk assessment would lead to loan default and NPL					
14. Strict credit monitoring ensures good loan performance					
15. Loan follow up is directly related to occurrence of NPLs					
16. Higher budget for loan monitoring result in lower NPLs					
17. Low capacity of loan monitoring officers result in higher NPLs					
18. The bank demands a business plan from all clients to identify risk exposure					
19. The bank look at relevant experience of the loan applicant					
20. The bank carries out credit processing activities independent of the appraisal					
21. The banks credit granting and approval process establish accountability to decision makers					
22. There are times the credit granting and monitoring of applicant's can be influences by directors, senior managers or influential staff of the bank					
23. The bank look at collateral whenever granting any loan					
24. The bank consider the past repayment track record of applicants					
Statements related to skill capacity of employee					
25. Do you think you have enough knowledge relate to diverse project?					
26. How do you rate the existing work force composition in skill variety and level in credit					
27. Do you think the personnel of the bank have Measurement Skills for different Industry Programme?					
28. The bank facilitate Enough training on credit assessment for employees					
29. Do you think you have enough participated in credit-related staff training?					
30. In your opinion, do you think/agree that additional training and specializations are require to perform new credit forms like project financing and lease financing ?					
31. Do you think lack of training offering from the bank side?					
32. Do you think the bank financing different project and leased financing certification costs					
33. The bank facilitate e-Learning Training Programme related NPL measurement and management technique					
34. Do you think the personnel of the bank have enough knowledge related to mechanical engineering					
35. Do you think the personnel of the bank have enough knowledge related to mechanical engineering?					

Description	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Statements related to Strict monitoring ensures loan performance					
36. Poorly assessed and advanced loans may perform well if properly monitored					
37. Loan follow up is directly related to occurrence of nonperforming loans					
38. Banks with higher budget for loan monitoring have lower non-performing loans					
Statements related to Collateral and the occurrence of NPL					
39. Collateralized loans perform well					
40. Collateralizing loans help protect loan default					
41. Most of the time non collateralized loans are defaulted					

PART III: Open ended Questions

1. Being a Management/Employee of the Bank, how do you evaluate the performance of the Bank in terms of its Loan recovery performance? NPLs portfolio?

2. In your opinion, what measures can be implemented to help the Bank reduce the high NPLs portfolio and default rates with respect to the internal factors, the Borrowers (customers) related and external exogenous factors? Please elaborate your response.

3. Any other *comments* or *suggestions* or *ideas* you may have with regard to the Bank's NPLs Portfolio and possible remedies?

Thank you for your input