ASSESSMENT OF AGRICULTURAL PROJECT FINANCING IN DEVELOPMENT BANK OF ETHIOPIA

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A THESIS SUBMITTED TO COLLEGE OF BUSINESS AND ECONOMICS IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION IN FINANCIAL SERVICES

OCTOBER 2020
ADDIS ABABA, ETHIOPIA.

ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

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DECLARATION

I **AHEZA BERHE** declare that this thesis is a result of my independent research work on the topic entitled "**ASSESSMENT OF AGRICULTURAL PROJECT FINANCING IN DEVELOPMENT BANK OF ETHIOPIA.**" in partial fulfillment of the requirements for the Degree of Masters of Business Administration in financial service at Addis Ababa University College of Business and Economics. This research paper is original in nature and prepared under the guidance of my advisor **Dr. Abebaw Kassie**. All the references are also duly acknowledged.

AHEZA BERHE

Signature______________________

Date ______________________

CONFIRMATION

This is to certify that Aheza Berhe has carried out this thesis on the topic entitled "**ASSESSMENT OF AGRICULTURAL PROJECT FINANCING IN DEVELOPMENT BANK OF ETHIOPIA.**" Accordingly, I here assure that her work is appropriate and standard enough to submitted for the partial fulfillment of the requirements for the award of the degree of Masters of Business Administration in Financial Services

ABEBAW KASSIE (PHD)

Signature__________________

Date _____________________

ACKNOWLEDGMENT

Above all, I give praise to Almighty God and his mother St. virgin Marry for everything has done in my life.

I would like to thank deeply my adviser **Dr**.**Abebaw Kassie** for his valuable comments and unreserved guidance throughout the study. I also extend my special thanks to Development Bank of Ethiopia management staff and employees for their support in providing data and information as well as willingness to fill the questionnaires. I also grateful to my friends and my batch for the help and love they gave me thought study.

Finally, my heartfelt gratitude goes to my families for being by my side since the very beginning of my study with a multitude of support for which I lack words to exhaustively list down.

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ACRONYMS

ADLI	Agriculture Development Led Industrialization
DBE	Development Bank of Ethiopia
FAO	Food and Agriculture Organization
FSIs	Financial Soundness Indicators
IMF	International Monetary Fund
KCB	Kenya Commercial Bank
KYC	Know-Your-Customer
MIS	Management Information Systems
NBE	National Bank of Ethiopia
NPLs	Non-Performing Loans
SMEs	Small & Medium Enterprises

Abstract

The study aims to assess agricultural project financing in development bank of Ethiopia. To achieve this objective, descriptive research design is used and data has been collected mainly through primary source using questionnaire and interview from both borrowers and Head office credit performers. Based on the questioner collected from 170 purposive selected credit performers and borrowers from Head Office agricultural projects that are default loans (Non-performing loans), data analysis and findings are presented. For data analysis, descriptive statistics including mean, frequency and percentages were used and processed through computer loaded SPSS software version 23. The study concluded that borrowers developed culture of loan diversion, focus only on loan approval, absence of specialized credit assessment system for agricultural financing, and practice off-site monitoring. Therefore the researcher has recommended addressing these problems, the bank should formulate an appropriate policy option to curb loan diversion, apply modern work system to select systematically eligible & potential customers, restructure the organization to bring sector based financing specialization, and conduct field visit against off-site monitoring.

Key Words: - *Loan diversion, credit assessment, credit monitoring, non-performing loans,*

CHAPTER ONE

INTRODUCTION

1.1. BACKGROUND OF THE STUDY

It is common knowledge that financial institutions play a vital role in the economy by allocating capital from surplus agents to deficit agents in various economic sectors (Fukida, Dahalan, 2012). This means that a sound banking sector is necessary for economic growth because it ensures macroeconomic stability and develops sound financial institutions (Jovovic, 2014). However, during the last two decades, the deregulation process has strengthened competition among banks. Competition increased banks' credit risk, *i.e.* affecting their loan portfolios in terms of bad loan screening procedures and relaxing borrowing criteria (*e.g.*Manove*et al*. (2001), Bolt, Tieman (2004), Jeong, Jung (2013)). This has led to a significant increased level of non-performing loans (*NPLs*), which affects the liquidity and profitability of banks and thereby the financial stability of the banking systems and, in general, the macroeconomic stability. (Nikola, 2017)

Non-performing loans (NPL) has attracted more attention in recent decades. Several studies examined bank failures and find that asset quality is an indicator of insolvency (Demirguc-Kunt, 1989; and Shelagh Heffernan, 2005). Therefore, the large amount of bad loans in the banking system generally results in a bank failure. The NPL are among the main causes of the problems of economic stagnation (MonicahWanjiru, 2011). Each impaired loan in the financial sector increases the possibility to lead company to difficulty and unprofitability. The minimization of NPL is a necessary condition for improving economic growth. When NPL retained permanently, these will have an impact on the resources that are enclose in unprofitable areas. Thus, NPL are likely to hamper economic growth and reduce the economic efficiency (Hou, 2007). The problem to NPL can arise from factors specific to the bank (internal factors) or macroeconomic imbalances (external factors). (Nikola, 2017)

There has been a general feeling that credit exposure to agricultural sector contribute to a bank's failure or its success. This study argues that depending on banks' lending strategies, there has to be some level of understanding between the lender and borrower. (Deo& Irvine, 2006).

The Development Bank of Ethiopia is a state owned development finance institution, operating since 1909 under various names and it is distinguished feature is "project" based lending tradition. (www.dbe.com)

To support the country's development agenda, the government gave due attention for involvement of financial institutions, particularly public Banks. Development Bank of Ethiopia (DBE) is one of the major state owned institutions established to support the economy through the provision of project finance and technical support by mobilizing resources from domestic and foreign sources to viable projects that are select as priority areas by the government. (DBE 2015)

DBE's major area of focus is provision of medium and long-term loans for investment projects in the Government priority areas. In line with the Agriculture Development Led Industrialization Strategy (ADLI) of the Country, the Bank provides finance to encourage investment in Commercial Agriculture, Agro-processing Industries, Manufacturing Industries, Mining and Extractive Industries and lease financing for Small and Medium Enterprises (SMEs). The Bank finances large scale irrigable and rain fed agricultural farms with minimum equity capital Birr 7.5 million and above. Financing for rain fed agricultural farms is to be only for the production of sesame and cotton located in agro-ecological zones with reliable rain fall.

DBE has remained dedicated to assisting the development endeavors of the country through availing financial and technical assistance to viable projects in accordance with government policies. However, availing loan to borrowers is not an easy task, this is due to the high financial risk of the bank because of failure to collect the disburse loan from the customers. According to NBE directive 2008, loans or advances whose credit quality has deteriorated such that full collection of principal and/or interest in accordance with the contractual repayment terms of the loan or advances in question is called Non-performing loans (NPLs).

Agriculture sector is one of the priority areas on which financial support is expected to be given by the Bank. The budget year operational plan of 2018 includes loan approval of Birr 777.4 Million for about 138 projects, the loan disbursement of Birr 567.4 Million, and the collection of Birr 772.54 Million with the expected loan position of the agriculture sector of Birr 6.61Billion

Table 1. 1 NPLs by Sector and Loan Status

(Amount in Million Birr)

Sector	Total Loan Outstanding NPLs	NPLs Status			Total	NPLs Share of the Sector	NPLs to Sector Loan
		Substandard	Doubtful	Loss			
Agriculture	6,410	1,447	2,075	806	4,328	28.03%	68%
Manufacturing	26,410	7,456	2,899	462	10,818	70.06%	41%
Mining & Energy	248	59	45	19	124	0.80%	50%
Service & Others	6,082	56	16	98	170	1.10%	3%
Total	39,150.00	9,018.36	5,035	1,386	15,439	100%	39.44%
% Share		58.41%	32.61%	8.98%		100.00%	

(Source: DBE Five Year Strategic Reform Plans September 2019)

The above table shows the sectoral distribution of NPLs on the basis of loan status. Accordingly, DBE has NPLs classified projects with a portfolio amount of Birr 15.44 billion. Agriculture sectors take the leading position from the Bank's total NPLs accounting for 68% followed by manufacturing sector with 41%. On the other hand, when reviewed by category of NPLs; 8.98% of the loans are categorized under loss status, 32.61% in the doubtful and 58.41% are in the substandard status. Loans to agricultural sector which stood at Birr 6.41 billion or 16% of the total loans as end of June 2018 are even at high risk. (DBE, 2019)

Loose credit conditions are also applicable to rain-fed agricultural loans granted in Gambela, Benshangul Gumuze, Welega, Jimma, Gonder and Humera areas. These projects were either over financed or not properly implemented. As a result, currently close to Birr 4 billion of these loans already turned NPLs. It is also expected that the whole Birr 5.3 billion loans to this sub-sector are at very high risk with little possibility of recovery in full. The way these all loans were granted is also very flawed and without thorough due diligence assessments of the borrowers and in-depth project appraisal. A borrower in Gambella who took three agricultural loans; in his name, his wife and daughter can be cited as a good example for this defective loan underwriting. (DBE, 2019)

Table 1. 2 project finance and NPL's trends of DBE

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Description	2013/14	2014/15	2015/16	2016/17	2017/18
Outstanding	22.52	27.36	31.63	33.82	39.15
Approval	7.42	9.69	11.84	12.08	13.12
Disbursement	5.47	6.84	6.33	5.38	7.08
Net Income	527.00	678.40	413.90	325.85	367.3
Assets	37.32	43.73	52.25	53.17	78.18
NPLS (%)	8.20	12.54	17.71	24.98	39.43

(**Source** –DBE annual report from June 30, 2013/14 to June 30, 2017/18)

As we see from the above table, considering the last five years i.e. from 2013/14 to 2017/18, the loans approved, loan disbursement, asset amount, loan outstanding balance and NPL's trends of the bank have been an increasing trend in general.

Although DBE has been following these steps in its long journey of project finance using different organizational arrangements, it has been frequently exposed to liquidity problem, poor asset quality, and customer frustration as a result of project failure; moreover, as indicated in the above table the amount of NPLs percentage shows an increasing consequently, the net income growth rate of the bank is declining. This study ,therefore ,concentrates on the determinants of project loan default from the credit experts view point within the project stages that are under the bank intervention and measures their significance in order to help the bank in developing a strategy and mitigation measures to reduce project failure.

Besides, in an attempt to improve the bank's financial position and credibility in the eyes of the international lending agencies, the government assumed the responsibility of collecting huge amount of loans that has remained uncollected during the previous regimes. Although the government is making a structural change and responsibility of uncollected loans in the previous regime, currently the Development Bank of Ethiopia is discovering in a serious problem of non-performing loans (NPLs) that is very far below the accepted international standard. This has an impact on the sustainable provision of credit to the potential investors

and continuing of the bank as a financial institution. So NPLs considered as the most important factor affecting the liquidity and profitability of the bank. (DBE, 2018)
Therefore, this paper tries to explore the basic determinants of NPLs of the Bank in general and particularly determinants in connection with the bank and non-bank specific factors that might cause the occurrence of NPLs, which is the specific sector of agricultural projects financed by DBE.

1.2. STATEMENT OF THE PROBLEM

Credit is as one of the important tool that supports the success of development project, which contributes towards economic development. Similarly, Development Bank of Ethiopia (DBE) provides sustainable credit facility for those engaged in agriculture, industrial and other agro processing, which can result in development of the country. Currently DBE gives due attention to the government focused priority area; that can generate foreign currency to the country and reduce high unemployment rate. So in order to maintain the objective the bank needs to strengthen its liquidity position of the bank by enhancing its loan recovery performance. However, provision of credit alone does not support the economic development of the country rather it accompanied by the existence of factor conducive to efficient utilization of the fund in order to assure the repayment of the loan in accordance with the agreement. This has an impact on continuing sustainable credit facility for those who want for a productive purpose. (Adamu, 2013)

The sustainability of the bank depends not only on domestic and foreign source of fund but also on its loan recovery rate too. The loan repayment performance of its clients should be effective so that the bank will be sustainable as a bank and will have a bankable asset quality. One of the measurements by which bank’s asset quality measured is the non-performing loan ratio (NPLs ratio). Hence, in order to get soft loan from its lenders, DBE’s asset quality should be monitor to assess whether it is within the acceptable standard or not that is 15% of the total outstanding loan, which set by Association of African Development Finance Institutions. (Arega et al (2016).

Although the Bank has expanded in terms of structure and assets, its asset quality has continued to deteriorate. The current financial condition of the bank is not also sound. For instance, Non-Performing Loans (NPLs) has flowed to Birr 15.4 billion, i.e., 39.43% of the total outstanding loans, in June 2018 despite a continuous growth in the volume of total loan portfolio. This is because of increase in the number of troubled projects financed by the Bank. (DBE, 2018)

According to the information obtained from DBE's Annual Performance Report of 2018, agriculture sectors take the leading position from the Bank's total NPLs accounting for 68%. This figure simply shows that how the problem is serious and needs critical study. This situation created a bad image on the public about DBE finance by misperceiving that credit management system of the Bank as the main cause for NPLs.

The rationale for undertaking this study is that, motivated the researcher to the best of the researcher knowledge it appears that adequate researches have not been made that comprehensively assess the causes of Non-performing Loans (NPLs) in banking industry in general and Development Bank of Ethiopia in particular with the specific sector of agricultural projects. Besides, most of the prior studies conducted in other countries focused on bank specific and macro-economic determinates of NPL. However, in the previous empirical analysis no study has been conducted on both lenders' and borrowers' factors cause nonperforming loans of agricultural projects financed by DBE. Moreover, in the recent past, there have been many changes in the country that hugely influenced the economic environment as well as the business climate. Apart from the economic growth and environmental changes registered by the country within the last few years, the Bank has also undergone changes in its lending procedures, lending limit, credit policies and organizational structure. Therefore, the current study tried to narrow the research gaps through focusing on causes of Non-performing loans of agricultural projects financed by the DBE Head Office focused on defaulted projects.

1.3. Basic Research Question

Based on theoretical and empirical foundation in general and guiding way, therefore, identify the causes of non-performance considering the nature of the borrowers and lending institution is potent for the further investigation. Various reasons attributed to non-performance loans. The operational and marketing performance of the project depends on the demographic and socio-economic characteristics of the promoter, and lending institutions. If there is no sound strategies put in place in enhancing the loan repayment of the borrowers, the profitability and survival of the lending institutions becomes questionable and the economic growth of the country goes down or stagnant. Based this description, the basic research questions are the following:-

1. What are the factors attributes to non-performing loans in agricultural project financing of Development Bank of Ethiopia in external environment?
2. What are the factors relates to non-performing loans in agricultural project financing of Development Bank of Ethiopia on the side of the bank?

1.4. OBJECTIVES OF THE STUDY

1.4.1. General objective

The general objective of the study is to assess the causes of non-performing loans in agricultural project financing of Development Bank of Ethiopia.

1.4.2. Specific objectives

1. To assess loan diversion by borrowers effect on non-performing loans in agricultural project financing of Development Bank of Ethiopia.
2. To assess borrowers credit knowledge effect on non-performing loans in agricultural project financing of Development Bank of Ethiopia.
3. To assess credit assessment of the bank effect on non-performing loans in agricultural project financing of Development Bank of Ethiopia.
4. To assess credit monitoring (follow-up) of the bank effect on non-performing loans in agricultural project financing of Development Bank of Ethiopia.

1.5. Significance of the study

Lending institutions are crucial in the endeavors of economic growth of a given country. Lending money by itself does not realize the role of the lending institutions to the economic growth of a country; rather proper utilization of the money and get back the money after being establish successful project. This study forwarded recommendations to decision makers of bank to install exclusively proper credit policy for agricultural projects to tackle the problem at hand. Previously made empirical analyses on the repayment performance of projects at DBE given recommendations separately only for agricultural projects. The study narrowed the knowledge gap on factors affecting loan repayment performance of agricultural projects.

The problem of non-performing loans in project finance is not a onetime challenge for lending institutions. This initiates staffs of the lending institutions and academicians, who are interested in this area, to conduct similar research works focusing on research gap. Thus, this study would shed light for in advance studies in the area. As a result, the prevalence of problem on the subject area would bring down significantly.

Theoretical foundation on the causes of non-performance loan is so limited to the directives of Basel Committee II. In the directive, dimensions or risk drivers are crucial for the development of internal rating based approach to distinguish the loan repayment performance of project, either being default and non-default. Linked with these drivers, specific factors causes attributes to non-performance loans had identified and analysed. Therefore, the study is simultaneously build a theory because of qualitative research and tests the empirical theory using descriptive analysis.

Beyond the accomplishment of these benefits, being a postgraduate student, conducting research based on the interest of the researcher and area of specialization is mandatory to be eligible in the given program. Therefore, this study would reward me to be eligible in the postgraduate of masters in MBA Financial Services.

1.6. Scope and Limitation of the study

From the projects financed by the Bank, the study considered agricultural projects, which had administered at Head office of the Bank. The loan schemes of the Bank can be either long term or short term. The categorization of the loan scheme lies on the repayment period, which extends up to seventeen years for long term project where two years for short terms and paid back directly from the sales processing so that the repayment is directly controlled by the Bank. However, there are borrowers and lender’s characteristics that determine repayment performance of the long-term loan. Thus, the study considers only long and medium term agricultural projects. Moreover, under implementation projects had not considered in the study, this is because the Bank often plans loan repayment to begin when they commence production, mainly principal payment. Due to the nature of the data, which is objective, the study employed questionnaire, which had handed over to the contact officers of each projects to collect the data.

To have theoretical integration of the factors affecting loan repayment, there are no framed theoretical arguments. As a result, the researcher has faced to have various arguments on the issue. Moreover, the data collection process was difficult as there is no organized database to collect the data. In this case, the researcher confronted challenges in obtaining consistent data. At the same time, the time spend to have the data is more than the plan. This prolongs the overall time in conducting the research work.

1.7. Organization of the study

The research report had organized in five chapters. Chapter- 1 introduces the key issues of the study, which consist of background information, statement of the problem, objectives of the study, basic research questions, significance of the study, and scope and limitation of the study. In line with the research question, chapter two discussed specific related literature'sboth theoretical and empirical review. In chapter three, the method of the study, which includes the type, and design of the research, the subjects/participant of the study, the sources of data, the data collection tools/instruments employed, the procedures of data collection and the methods of data analysis are comprehensively incorporated. Following to this, chapter five discussed the data analysis, interpretation and findings of the study. In chapter five, the study forwarded conclusions and recommendations in line with findings.

CHAPTER TWO

LITERATURE REVIEW

This section reviews prior studies on the subject researched. A literature review is "a useful methodology to gain in-depth understanding of a research topic. A systematic examination of existing publications can help researchers in identifying the current body of knowledge and stimulating inspirations for future research" (Mok et al., 2015,). The purpose of this chapter is to present findings of a review of literature's concerning on the area of NPLs that affect the level of NPLs i.e. internal process (.lender specific) factors in the banking industry and the impact of borrowers characteristics in agriculture sector in an attempt to establish a foundation for answering the main research questions. This chapter has three parts which are the theoretical literature, empirical literature and summery of empirical review and identified research gap so as to analyses and identify the main causes of NPL of financing projects with emphasis agricultural projects financed by DBE.

2.1. Theoretical review

2.1.1 Definition and concept of Non-performing loans

The concept of non-performing loans defines in different literatures. According to the International Monetary Fund (IMF, 2009), a Non-Performing Loan is a loan that is in default or close to being in default. A non-performing loan is any loan in which interest and principal payments are more than 90 days overdue; or more than 90 days' worth of interest has refinance. On the other hand, Basel Committee (2001) defined non-performing loans as loans left unpaid for a period of more than 90 days.

Many loans become non-performing after being in default for 3 months, but this can depend on the contract terms. 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 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 made in full.

The most widely known international definition of nonperforming loans was developed by the IMF in the framework of the Financial Soundness Indicators (FSIs) endorsed by the IMF Executive Board.

The FSI Compilation Guide of March 2006 (IMF, 2006), recommends that “loans (and other assets) should be classified as NPL when: -

(1) payments of principal and interest are past due by three months (90 days) or more, or (2) interest payments equal to three months (90 days) interest or more capitalized (re-invested into the principal amount), refinanced, or rolled over (i.e. payment has been delayed by arrangement). The 90-day criterion is the period that most widely used by countries to determine whether a loan is nonperforming. Indeed, the Guide regards the guideline of 90 days past due as an outer bound and does not intend to discourage stricter approaches.”
Apparently, in an attempt to further facilitate cross-country comparability of measurement, “the series ‘nonperforming loans’ are redefined” in the updated November 2007 version of the Compilation Guide (IMF, 2007) “on the basis of a uniform criterion of ‘principal or interest payments 90 days overdue”.

Non-performing loans further defined as loans whose cash flows stream is so uncertain that the bank does not recognize income until cash received, and loans those whose interest rate lowered on the maturity increase because of problem with the borrower (Machiraju, HR 2001). Accordingly, the IMF’s Compilation Guide on Financial Soundness Indicators, NPLs defined as: ‘’A loan is non-performing when payments of interests and principal are past due by 90 days or more, or at least 90 days of interest payment have been capitalized. Refinanced or delayed by agreement, or payments are less than 90 days overdue, but there are other good reasons such as a debtor filing for bankruptcy to doubt that payment will be made in full’’ (IMF, 2009). According to NBE Non-performing loans means loans whose credit quality 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. NBE Directives No (SBB/48/2010)

2.1.1.1 Measurement of non-performing loans

In recent years, the global financial crisis and the subsequent recession in many developed countries have increased households’ and firm defaults, causing significant losses for banks Wondimagegnehu (2012). In this study the non-performing loans will be measured based on banks internal factors and agricultural projects loan customers’ related factors

2.1.2 Theories Underpinning on Non-performing Loans

This presents review of some important theories that explains the effects of bank-and borrower's specific factors on non-performing loans of DBE. The theoretical reviews covered the following; agency theory, information asymmetry adverse selection theory, and moral hazard theory.

2.1.2.1 Agency Theory

Agency theory has its roots in economic theory and was developed by Jensen and Meckling in 1976. According to the agency theory, there are two parties in a large corporation (such as a bank), the shareholders who are the principals, and the managers who are the agents. The shareholders are the principal or the main party because the corporation belongs to them. As owners, they receive the profit or bear the loss managers are the agents because they are hired by shareholder to run the day- today task of the corporation.

In principal, the agents are supposed to make decisions in the best interest of the principal. To ensure that agents are effective, it will require the principal to monitor the agent. Without monitoring, most managers will diverge from the principal's objectives. They will make decisions, which enhance their interest at the expense of shareholders. The tendency for agents to act in their own interest instead of the principal had called the principal-agent problem (Bester, 1994; Bofondi and Gobbi, 2003).

According to the Agency, theory, better monitoring, such as establishing more incentives that are appropriate for managers can reduce the principal-agency problem. In the field of corporate risk management, agency issues 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 Pfleiderer, 1995).

2.1.2.2 Information Asymmetry Theory

The main purpose of financial intermediation is to obtain information about the quality of the borrower. The interests of the bank "to mitigate credit market imperfections and information asymmetry" (Hertzberg, et al, 2010) require possession of information.

Information asymmetry defines; the borrower is likely to have more information than the lender about the risks of the project for which they receive funds. This leads to the problems of moral hazard and adverse selection (Matthews and Thompson, 2008).

These problems reduce the efficiency of the transfer of funds from surplus to deficit units. The banks overcome these problems in three respects: First by providing commitment to long-term relationships with customers, Secondly through information sharing and thirdly through delegated monitoring of borrowers. Under direct financing, it is necessary for a lender to collect information to try to redress the information asymmetry.

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. Adverse selection and moral hazards have led to significant accumulation of non-performing loans in banks (Bester, 1994).

2.1.2.3 Adverse selection theory

The adverse selection designates an immoral effect of market functioning, which generates information problems. These problems arise when there is a lack of observation of the characteristics of a product or service. Akerlof (1970) considers that "adverse selection, which occurs before the signing of the credit agreement, results from the fact that information about the characteristics of the borrower is dissimulated."

Selecting whom to give more money is a very important part of controlling risk. Give it to a crook, and you lose your money. Spaulding (2014) indicate that if you give money to someone who is not good at handling money, you could also lose it. In fact, without information about those seeking funds, theory goes that you would have to charge an average price for your money or sale item.

Munene (2012) asserts that adverse selection occurs when bad credit risks (firms which have poor investment channels and high inherent risks) become more probable to acquire loans than good credit risks (firms with better investment opportunities and less inherent risks).

2.1.2.4 Moral hazard theory

A definition of “moral hazard” according to Spence and Zeckhauser (1971) is: “moral hazard” occurs if on the one side actions are unobservable, and the consequences, on the other side are observable. Mirrlees (1999) who states adopt some sort of the same definition:

“[moral hazard arises when there is] uncertainty about the outcome of people’s actions, the actions being themselves unobservable though the outcomes are observable.” (p.4).

According to FAO / RFLC, in any lender-borrower relationship, there is a general problem of moral hazard that is the result of specific personal characteristics and decisions of each individual borrower. In this regard, farmers do not differ from any other borrower group in terms of information, incentives, monitoring and enforcement problems associated with the lending process. (FAO 2004)

Swinnen and Gow (1999) assessed the problems of financing Central and Eastern European agriculture during the present transitionary period and the role of government in this process. Initially the paper looks at why credit markets work imperfectly, even in well-developed market economies, focusing on problems related to asymmetric information, adverse selection, moral hazard, credit rationing, optimal debt instrument choice and initial wealth. It shows why these and related problems may cause transaction costs to be so high that credit rationing and high interest rates are rational and efficient responses by lenders to the imperfect information problems of the agricultural sector. A series of specific, transition-related issues are then discussed which have worsened these problems within the Central and Eastern European agricultural sector. The potential roles of governments in solving these issues and actual observed interventions by Central and Eastern Europe governments through credit subsidies, loan guarantees and specialised agricultural lending institutions are analysed. Finally, they discussed how financial market innovations have solved some of the credit market problems and derived the implications for government policies

However, there are other risks beyond the general behavioural risks of a borrower. This second category of loan loss risks is associated with the agricultural sector or agricultural production. It refers to factors external to the farmer’s repayment attitude.

(Aderaw Gashayie. 2015) conducted a study on agricultural finance constraints and innovative models experience for Ethiopia agricultural insurance (index insurance) Index insurance is an important recent innovation. It is a “derivative” instrument in that the pay-out to farmers is effected when the threshold value for an underlying risk indicator (the “index”) is breached, this without actually having to observe the damage done to the farmers’ fields or livestock. This greatly reduces the transaction costs, the risk of moral hazard and adverse selection. In many index insurance policies, multiple thresholds are defined, with increasing pay-outs as the risk event increases in severity. The index can be based on the amount of rainfall (lack of or excess), humidity levels, arrival of locusts, water levels in a river, occurrence and strength of a hurricane, sea-surface temperature, frost, hailstones, etc. This requires highly capable and independent measurement tools, such as weather stations. Remote-sensing techniques with satellites are being used as well (e.g. Canada, USA). In some insurance systems, an estimate is made, via sampling, of the average crop yield in an agricultural region (e.g. Brazil). Farm losses are modeled with actuarial methods (given detailed and long-term data). Successful index insurance is characterized by a high level of transparency and rapid payment after the index has been triggered (both are a problem in traditional harvest insurance, which requires assessment of actual losses by an expert). To be effective, the index used must be highly (and spatially) correlated with the damage that farmers actually incur (in order to avoid basis risk). Thus, the literature shows examples whereby the index consists of several risk variables (Dos Santos, 2010, example from India). Furthermore, to counter basis risk, the places where the index is being monitored (i.e. weather stations) must be sufficiently close to the farmers. This can be a problem in regions with many different sub-climates. Also, such weather stations must be of high quality, make very frequent measurements, and preferably transmit these real-time to a base station for analysis.

To facilitate acceptance by farmers, the index must be easily and objectively observable, and understood by all. An objective and easily verifiable index, with measurement conducted by an independent body, also facilitates re-insurance in the international market. This is crucial because the systematic nature of a natural disaster can easily overwhelm local insurers. Re-insurance policies can also be securitized and sold on the international capital markets. The key innovation in combining index insurance with credit is the standardization of the approach, making reinsurance possible, and thus reducing lending risk. In many of the successful examples, index insurance is part of a value chain finance approach. This also solves the problem of how to distribute the insurance. Index insurance incorporated into value chain financing is distributed by the same entities that provide the credit, namely traders, technical operators, farmers' associations, or (micro) finance institutions. (Aderaw 2015)

2.1.2.5 Ownership structure theory

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.

2.1.3 Causes of Non-performing loans

Scholars dwelling on project in general identified various causes for project failure/NPL/. Some of the scholars' views are as follows:

2.1.3.1 Lender Specific Factors

The existence of NPLs for some borrower under the same macro environment show the micro economic factors, which are viewed as exogenous forces influencing the banking industry are not the exclusive determinant of NPLs. On contrary, the distinctive features of banking sector and the policy choice of each particular bank with respect to their effort for maximum efficiency and improvement in their risk management and expected to exert a decisive influence on the evolution of NPLs. Scholars dwelling on project in general identified various causes for project failure/NPL/. Some of the scholars' views are as follows:

Credit Assessment:

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

The credit quality of an exposure generally refers to the borrower's ability and willingness to meet the commitments of the facility granted. It also includes default probability and anticipated recovery rate (Saunders & Cornett, 2003). Credit assessment thus involves assessing the risks involved in financing and thereby anticipating the probability of default and recovery rate.(Saunders & Cornett 2003)

The major credit risk had assessed by the bank while assessing a credit proposal through borrower analysis. Full particulars of the proprietor, partner, directors, and others are examined and their management capability is ascertained in this analyses. Overall performance and credit status of the allied concerns of the client group is also assessed. Industry include before extending credit in an area, overall business conditions of the area or sector is critically examined, prospects and problem are ascertained by the bank officials. Demand and supply of the concerned goods and services, demand and supply gap, contribution of the borrower in meeting the gap, strength and weakness of the borrower and their competitors to be accurately assessed. Supplier/Buyer is analysis whether the borrower depends on a single or very few customers or gets the supply of the raw materials/dealing items from a single supplier. Such sales and supply concentration had given a very careful consideration, because it has significant impact on the future viability of the borrower. (Rana,2013)

A credit analysis had used by the credit official to evaluate a borrower's character, capital, capacity, collateral and the cyclical aspect of the economy, or generally referred to as the five C's (Strischek, 2000).

The "Five C's- The Basic Components of a Credit Assessment /Credit Analysis/: According to Borrios (2013), credit analysis is the method by which a financial institution calculates the creditworthiness of a business or organization. While each lending situation a bank reviews is unique, most banks utilize some variation of "The Five C's of Credit" when making credit decisions - Character, Capital, Capacity, Collateral and Conditions. .

Character

Character is the personal impression borrowers make on the potential lender. The lender decides whether or not borrowers are sufficiently trustworthy to repay the loan. It is important that loan applicants get a copy of their personal credit report and score before they apply for the loan and make sure that the information is accurate and that there are not errors. A borrower has built up a good reputation or credit record if past commitments were promptly met (observed behavior) and repaid timely (Rose, 2002; Koch & McDonald, 2003). 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).

Capital

Capital refers to the owner's level of investment in the business (Sinkey, 2002) Business loan applicants must have a reasonable amount invested in their business, equity investment. This reflects a personal commitment and ensures that, when combined with borrowed funds, the business can start and continue operations. For start-up businesses, banks usually will require at least 20 percent of the total funds to invest by the owners; for some businesses, the percentage could be higher. Funds for the equity investment have to be available at the time of the loan application.

Capacity

Borrowers have to be able to demonstrate their ability to repay the intended loan from their business operation. Banks will require detailed financial projections showing when business income will become cash and when the expenses must paid. Financial projections include a cash flow statement, broken down on a monthly basis and covering three years after the loan has received. A critical factor in loan approval is making sure the lender understands how revenue projections will generated. This is especially important when the projections are for a new business. 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).

Collateral

It is well known that cash flow and not collateral will repay the loan. However, collateral is a form of security, which can used to assure a lender that borrowers have a second source of loan repayment. (Koch & MacDonald, 2003).Assets such as equipment, buildings, accounts receivable, and (in some cases) inventory are considered possible sources of repayment if they can be sold by the bank for cash. Banks will usually take for collateral assets that are usable in the business; however, if the value of the business assets is not sufficient to secure the loan, banks can require personal assets that remain outside the business as collateral.

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 has made (Sinkey, 2002). Borrowers should prepare market research. The research will provide important information about the industry and enhance business decision-making. If an industry is expanding, this will provide a positive factor for the credit analysis of the loan (Borrios 2013). Once finance has approved, it is normally subject to terms, covenants, and conditions, which have specifically related to the compliance of the approved facility (Leply, 2003).

Project follow-up attributes

Rondinelli, (1983) the key goal of the follow-up process is to monitor the course of a project and adjust project activities when needed to ensure effectiveness of project results. The project follow-up process starts with the beginning of project activities, lasts throughout project implementation, and ends up with completion of project goals. Another name of this process is project delivery management.

Bank profitability and sustainability can only provide through a proper flow of interest income generated through the lending function of banks. However, since banks are no longer able to generate enough interest income through classical safe credit and are required to maintain reserves in the form of provisions to cover for eventual loan losses, bank capital decreases together with their health, which is becoming fragile, increasing the trend of NPLs. Therefore, banks are required to take proactive action to deal with the phenomenon of bad choice of borrowers by identifying and understanding the macroeconomic factors that contribute to the rise of classified credit in banking system (Anjom and Karim, 2015)

2.1.3.2 Borrower related factors- theoretical review

These are factors affecting loan repayment behaviour of the borrowers. Customer failure to disclose vital information during the application process leads to occurrence of non-performing loans (Brownbridge 1998). The following are some of the customer specific factors; diversion of funds by the borrower from the intended purpose, illness or death of the borrower, age and gender among other factors contributes to loan default.

Diversion of funds

Diversion of funds occur when the funds borrowed have to used only for a particular or the purpose it had intended for Ashiq (2003). Nevertheless, more often than not, such funds have not used for the primary purpose they were intended for and as such, many projects become halfway done, in such case the funds were meant for income generating project but the borrower decides to divert into a different project thus leading to loan overdue

Illness or death of the borrower

Under certain circumstances of illness, the borrower instead of repaying the loan he/she uses the funds for medical expenses instead of the intended purpose. This can be seen in the illness such as HIV Aids, Cancer that can be very expensive to treat. Due to illness, such borrowers will find it difficult in honouring their loan obligation, Lehman and Neuberger (1998). In many cases where the borrower is terminally ill or dies, the borrower may end up not repaying the loan in good time or not even repay at all. This kind of problem could more cases that have pronounced in where the borrower is either an individual or a principal partner of a company. The general health of the borrower should been taken into consideration and health of a close relative (Nzambi, 2010).

Gender

Gender can be either male or female. Which gender is prone to loan default regardless of their age group male or female? This study will seek to find answers for the above question. In the past, very few women used to work in the corporate world but this trend has since changed. These days we have more women in leadership positions both in the public and in the private sectors. Presently most women have also become the breadwinners of most families just like their male counterparts. Currently women play the roles men used to do because they have been empowered through education. Nowadays women have equally have privileges to borrow from any financial institutions to satisfy both business and personal needs just like their male counterparts.

Age

Age may be defined as the number of years associated with a human individual's life. Age can be either male or female. KCB lending manual states that the persons who are eligible for borrowing a loan are persons who are 18 years of age or above it. The study was investigated which age bracket is prone to loan default. The first age group who are eligible for borrowing are young, single professionals between the ages bracket of 18-24. This group is entering into the professional workforce for the first time and has access to a higher level of income than when they were in college. Young single professionals are at the age in their lives where they have little responsibilities or concerns (Clayton, 2011). The second age group is between the ages of 25-49 they are the married couples with children. This group are very busy with professional and personal life. They have more responsibilities and concerns than young adults and have a set of functional needs that go in line with their increased responsibility and family (Clayton, 2011). The third age group is retired couples 50 years and older. This group has more free time than at any other time in their adult lives and have the necessary income saved to travel and enjoy the remainder of their lives (Clayton, 2011).

2.2 Empirical Review on Determinants of Non-performing loans in other country

Research in determinants of NPLs for financing projects in general had identified to examine determinants of NPLs of DBE particularly financing agricultural projects because the researcher did not get peer-reviewed articles on this specific topic. Accordingly, a number of determinants have been raise as systematically influencing NPLs by different authors in different developed and developing countries. Hence, the review covers only few and important literature for grasping what the empirical studies offer presented as follows.

2.2.1 Lender specific factors

The study of Chikoko et al. (2012) was prompted by the gradual deterioration in asset quality in most commercial banks in Zimbabwe after the adoption of the multiple currency exchange rate regimes. The poor asset qualities have reflected by the non-performing loans trending towards the watch list category. In this regard, they investigated the commercial bank credit process with the objective of understanding the fundamental causes of the impaired assets that are bedeviling the Zimbabwean banking sector. They adopted a survey research using questionnaires and interviews with commercial banks head credit risk, head retail and head corporate banking division from 15 registered commercial banks in Zimbabwe. Research findings show that some banks were sitting on nonperforming loans due to poor credit analysis processes; wrong products offered to the clients; lending based on balance sheet strength instead of cash flow based lending; banks taking too much comfort in Security; information asymmetry leading to moral hazard; economic environment and political influence.

Nzambi (2010) conducted a study on the significance of factors contributing to non-performing loans in commercial banks in Kenya, (A census of commercial banks in Nairobi), Kenyatta University. The study found out that other factors which lead to non-performing loans were; Know Your Customer (KYC), Security issues, Company mergers and interbank competition also from the study, the factor identified to have the highest contribution to NPLs problem was the borrower's company dissolution

Patersson (2004) in its study asserts that the occurrence of NPL is the result of weak credit assessment on the credit worthiness of the borrower and market value of the collateral. However, another study shows specifically it is lack of proper skills by the loan officers and speedy loan processing due to external pressures that cause the occurrence of high NPL concentration. (Waweru and Kalini , 2009).

Bester, (1994) has shown that under adverse selection or moral hazard, collateral reduces agency costs associated with debt financing. In both cases, collateral should been used in financing less risky projects while debt contracts specified for riskier projects should not include collateral. Under adverse selection, borrowers endowed with a less risky project provide collateral in order to send a signal, which is too costly for borrowers with a riskier project to imitate

Joseph, et al. (2012) with the theory of asymmetric information tells us that it may be difficult to distinguish good from bad borrowers, (Auronen, 2003) in Richard (2011), which may result into adverse selection and moral hazards problems. The theory explains that in the market, the party that possesses more information on a specific item to be transacted (in this case the borrower) is in a position to negotiate optimal terms for the transaction than the other party (in this case, the lender) (Auronen, 2003) in Richard (2011). The party that knows less about the same specific item to transact is therefore in a position of making either right or wrong decision concerning the transaction. Adverse selection and moral hazards have led to significant accumulation of non-performing loans in banks (Bester, 1994).

Ahmad and Bashir (2013) investigated the bank-specific determinants of non-performing loans for thirty banks in Pakistan over the 2006 to 2011 period. The results showed that the loan to deposit ratio, return on assets, credit growth and reserve ratio have significant positive influence on non-performing loans. In another study, Ahmad and Bashir (2013b) analysed the impact of macroeconomic variables on non-performing loans in Pakistan over the 1990 to 2011 period. The findings revealed that the impact of GDP growth, interest rate, inflation rate, exports and industrial production was negative and significant, while the consumer price index has significant positive effect on non-performing loans. The other variables unemployment rate, real effective exchange rate and foreign direct investment were insignificant in explaining variations in non-performing loans. Hassan et al. (2015) also conducted a study on Pakistan banks. Their results indicated that various bank-specific variables like credit assessment, credit monitoring and credit growth have significant effect on non-performing loans, whereas interest has weak significance. In addition, social factors including political interference and bankers' incompetence have significant impact on non-performing loans.

In a more recent study, Rajha (2016) investigated the bank-specific and macroeconomic determinants of non-performing loans for twelve banks in Jordan over the 2008 to 2012 period. The empirical results revealed that economic growth and inflation have significant negative effect on non-performing loans, while the impact of the loans to asset ratio and dummy variable representing the global financial crisis was positive and significant. There was also evidence of persistence in the non-performing loans. The lending rate and bank size variables were insignificant in explaining movements in non-performing loans in the Jordanian banks.

Ownership structure

In an imperfect world with high transaction costs, ownership does matter to economic efficiency and making different ownership types is associated with different transaction costs (Cooter and Ulen 2000). In this regard, most existing literature suggested that state-owned banks are usually associated with high NPLs than privately owned banks. Salas and Saurina (2002) argue that to enhance the economic development of the country, state-owned banks have more incentives to fund riskier projects and to allocate more credits that are favorable for small and medium firms. Private institutions clearly have an incentive to solve adverse selection and moral hazard problems and lend to borrowers who have productive investment opportunities. Governments have less incentive to do so because they have not driven by the profit motive. The absence of a profit motive also means that state-owned banks are less likely to manage risk properly and be efficient (Hu 2004). This inadequate risk taking behavior (compared to the return profile) will lead to a higher level of NPLs.

Hu et al (2006) analysed the relationship between NPLs and ownership structure 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 non- performing loans. They also found that bank size has negatively related to NPLs while diversification may not be a determinant.

2.2.2 Borrower related Factors

There are empirical evidence that show integrity of the borrower as a major cause of non-performing loans (Mabrune and others, 2012)

Waweru and Kalani (2009) investigated the commercial banking crisis in Kenya, causes and remedies. The study suggests that many financial institutions that collapsed in Kenya since 1986 failed due to non-performing loans. Customer failure to disclose vital information during the loan application process has considered the main customer specific factor

Empirical studies conducted on Microfinance institutions in Kenya also indicates lack of technical training for loan beneficiaries and the performance of entrepreneur business as a critical driver of loan delinquency occurrence (Gitamu, Eric and Frederick, 2014, Munen & Guyo , 2013).

Another empirical study find out that selection of unsuitable and unviable schemes and projects, willful default and misuse of loan amount as a cause of project loan default (Patniak, 2011)

2.3 Empirical studies Particularly in Ethiopia

As per the problem impact, in the context of Ethiopian Banks, there appears to be very limited studies had done in the subject and this section discusses some empirical evidence in banking industry of our county. To the knowledge of the researcher there are the works of Mamuye (2015), (Arega, Hanna and Tadele (2016) and Simeon (2018 that investigated the determinants of NPLs of projects financed by DBE in general. Besides, other studies investigated the other aspect of NPLs in Ethiopian Commercial Banks. These studies are the works of Tilahun (2010), Wondimagegnehu N (2011), Negera (2012), Gadissie (2014), Mesay (2017)andSitina (2018). Thus, this particular section provides a detailed review of those related studies conducted in the context of Ethiopian banks.

Mamuye (2015) in his study on determinants of Non-performing Loans in Development Bank of Ethiopia, those four factors had the probability of NPLs in DBE. These factors include rapid credit growth, monitoring, interest and risk assessment. The study employed econometrics regression using liner probability model to identify the occurrence of NPLs

Another study conducted by Arega, et.al. (2016) they investigate the major factors affecting Non-performing loans of Development Bank of Ethiopia, Central Region. The study used descriptive statistics and the result showed that poor credit assessment and credit monitoring are the major causes for the occurrence of NPL in DBE. Credit size (includes aggressive lending, compromised integrity in approval, rapid credit growth and bank's great risk appetite); high interest rate, poorly negotiated credit terms and lenient/lax credit terms, and elongated process of loan approval were bank specific causes for the occurrence of nonperforming loans. On the other hand, poor credit culture of customers, lack of knowledge of borrower for the business they engaged in, wilful default, loan diversion, and project management problems have identified as the major customer specific causes of NPLs.

The study made by Simeon. (2018,) investigated the determinants of NPLs the case of Development Bank of Ethiopia. The study employed a probit regression model and the results showed that project follow up attributes, policy induced attributes and credit evaluation criteria during project appraisal were the likelihood of NPLs significantly.

On the other hand, the study of Tilahun (2010), identified the underlying NPLs management difficulty of ten privately owned commercial bank in Ethiopia given in to consideration that the managements are different from bank to banks based on their perception towards the NPLs. The study applies mixed research approach. The data obtained from questionnaires and unstructured interviews presented and analysed through descriptive statistics. The result revealed that, credit policy and supervision by the management has less contribution to the NPLs. Most of the NPLs have caused by factors after the loan released like moral hazard of the borrower, ineffective monitoring, and operational loss of the borrower. Ineffective monitoring system has contributed to the NPLs because of less amount and type of information assessed, understaffing and lack of communication among branches of the bank. Dealing with NPLs on a timely manner is also another problem identified by the paper. The directive from NBE have a positive impact by creating safe ground the bank can do business and by giving absolute right to the banks to take their collateral at any time the bank need to do so without notifying courts.

Wondimagegnehu N (2012), intends to assess determinants of NPLs, the researcher only see bank specific factors of NPLs in Ethiopian commercial banks by adopting mixed research approach. The researcher conclude that poor credit assessment, failed loan monitoring, underdeveloped credit culture, lenient credit terms and conditions, aggressive lending, compromised integrity, weak institutional capacity, unfair competition among banks, wilful default by borrowers and their knowledge limitation, fund diversion for unintended purpose, over/under financing by banks ascribe to the causes of loan default.

Negera (2012) assessed the determinants of NPLs in Ethiopian commercial banking sector using a survey data collected from both private and state owned commercial Banks using a self-administered questionnaire. In addition to the survey data, the study used interview with senior bank officials. A descriptive statistics and correlation matrix were used so as to analyse the data. The findings of the study shows that poor credit assessment, failed loan monitoring, underdeveloped credit culture, lenient credit terms and conditions, aggressive lending, compromised integrity, weak institutional capacity, unfair competition among banks, wilful default by borrowers and their knowledge limitation, fund diversion for unintended purpose, over/under financing by banks ascribe to the causes of loan default. However, the study outcome failed to support the existence of relationship between banks size, interest rate they charge and ownership type of banks and occurrences of nonperforming loans

Another study also conducted by Gadise G. (2014) on determinants of non-performing loans: in case of commercial banks in Ethiopia, study had conducted to examine both bank specific and macroeconomic determinants of NPLs. The finding revealed that inflation rate had negative, but insignificant effect on NPLs. however; bank profitability, banks capital adequacy ratio and lending rate had negative and statistically significant effect.

Mesay (2017) conducted the study on determinants of Non-performing Loans in Ethiopian private Commercial Banks with emphasis on manufacturing sector. The study targets population comprises 6 Ethiopian private commercial banks and 12 manufacturing sub sectors (food and beverage and textile). The study used descriptive statics, correlation matrix and multiple linear regression analysis. The results showed that business profit margin, deposit interest rate, loan growth rate, loan to deposit ratio, credit monitoring and follow-up and nature of business statistically significant relationship with banks' NPLs.

Sitina (2018) conducted the study on determinants of Non-performing Loans in Ethiopian Commercial Banks. The empirical results showed that trade openness positively and significantly affects non-performing loans, whereas, exchange rate, unemployment and loan growth affects NPLs negatively and significantly.

2.4 Chapter Summary

Theoretical literature point that borrowers are likely to have more information than lenders about risks of projects they are seeking for financing. This scenario leads to moral hazards, adverse selection and non-performing loans. With asymmetric information, it is a challenge to distinguish well from bad borrowers. Financial intermediaries have thus expected to reduce frictions of transaction costs and asymmetric costs in the credit markets.

From the above theoretical and empirical reviews, various causes of NPLs in banking sectors had identified by various literatures. The agricultural bank financed projects causes of NPLs in general is not a focus area of research as it is shown in empirical literature review Most of the literature's that had discussed so far appeared to have focused on studies that had conducted in the banking sector of different countries outside Ethiopia. However, the economic performance, political, social and cultural factors are varies from country to country.

The studies conducted in Ethiopian context had focused on private commercial banks. Moreover, no special focus had given to DBE though. It is the only development banking institution in the country, which has a great exposure in project financing. Yet as per its danger still, there is a few studies had conducted, in DBE as to the researcher knowledge, specifically there is no empirical study on causes of NPLs of agricultural projects financed by DBE. Even though, the unique nature of projects requires studying of causes of NPLs of agricultural financed projects in relation to lenders factors and borrowers factors in the credit system of DBE

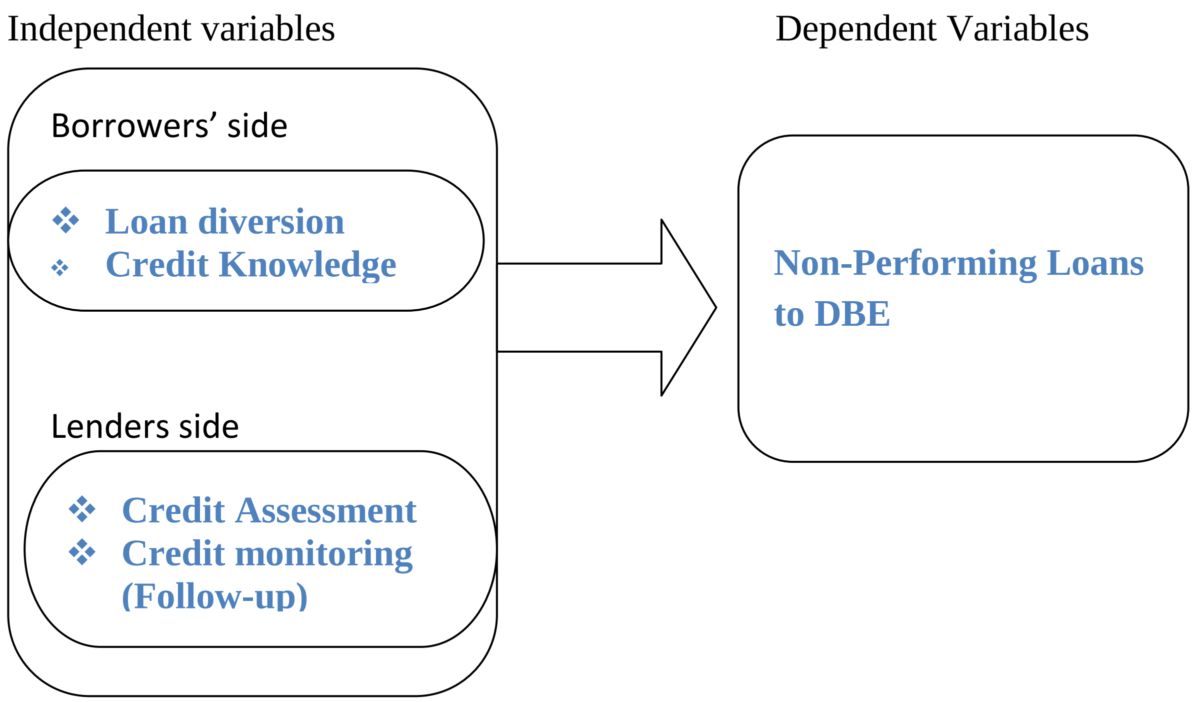
Moreover, the observation considered for their study are weak to explain the current causes of NPLs for the projects financed by DBE, because they considered only projects that are already phase out for their data source.

This study, therefore, will fills the research study gap in area of cause of NPLs for agricultural projects financed by banks in general and serves as initial study for DBE in particular. In contrary to the related studies on DBE, this study has focused on defaulted agricultural projects in order to emphasize about the current causes of projects failure. Moreover, in this study interviews are conducted from the credit experts and borrowers point of view based on their relevance.

2.5 Conceptual framework

The figure below was the proposed conceptual framework which is designed to serve as the foundation of the study. The theoretical framework will help researchers to assess factors that influence the dependent variable. In this study, there are four independent variables which are loan diversion, credit knowledge of the borrower, credit assessment and credit monitoring (follow-up) while non-performing loan is the dependent variable.

Figure 1: The proposed conceptual framework,



Source: Formed by the researcher

CHAPTER THREE
RESEARCH DESIGN AND METHODS

This section of the research presents the elements of research design and methods that applied in the study. It covered research design, source of data, sampling frame, sample size determination and data analysis. It used descriptive method in the design, the sample size, and types of data collected as well as how to analyze the data gathered. Hence, in the chapter all above sub-topics had discussed as follows:

3.1. Research Design

The research design sets the conceptual structure with in which a study had conducted. It was an important component of any research study as it derived the subsequent stage of the study. It constituted the blue print for collection, measuring, presentation and analysis of data collected. The researcher used qualitative and quantitative approach to method to interpret the data collected from the questionnaire and interview. Therefore the research has been conducted by using both methods of qualitative and quantitative.

3.2. Population of the Study

The population for this study consisted of credit staffs that are involved in the loan process and in project rehabilitation and recovery process, which has a population of 147 staffs. In addition, agricultural loan clients of Development Bank of Ethiopia, which are loan defaulters' about 23 clients. The total population is 170 from the borrower's and staffs.

3.3. Sample Size and Sampling Techniques

3.3.1. Sample Size

As Delport (2005) cited by Cramer and Hewitt (2004) one of the most frequent problems in research design is the determination of the appropriate sample size. One may ask why sample size so important. The answer to this is that an appropriate sample size is required for validity. If the sample size is too small, it will not yield valid results. An appropriate sample size can produce accuracy of results. Moreover, the result from small sample size was questionable and sample size that is too large, resulted in wasting time and money. It is also unethical to choose large sample size. The study had conducted in Head Office credit performers of Development Bank of Ethiopia and customers who had be borrowed for agricultural project loan and are defaulted by various reasons. To get viable information Senior Management officials of the bank were also the part of the study.

Therefore, the total numbers of credit performers in Development Bank of Ethiopia at Head Office whom do have direct involvement in project finance are 147 employees.

The sample size determination was the same as the population number of staffs, which was manageable for this study. Therefore, 147 staffs had selected as a sample size of this study.

In addition, the clients of agricultural loan in Head Office are 23 in number of population size. Therefore, by considering the total population can be taken as a sample size due to lesser number and manageable. The study had 170-sample size to participate on filling semi-structured questionnaires and conducting interview.

3.4. Source of Data

In attempt to address the causes of NPLs of DBE particularly from agricultural projects at corporate level, the study used primary data, which consists of interview and questionnaire with senior bank credit performers and borrowers to identify the reason behind such high NPLs. The questionnaire is composed of structured questions and Likert scale questions. Moreover, secondary data such as DBE annual reports, brushers and 'zenalimat bank' periodical used to overview the DBE performance during the previous years. The questioners had administered to employees and agricultural projects financing borrowers in Head Office because it was difficult to administer for employees and customers all over Ethiopia.

3.5. Data collection Instruments

Methods of data collections were primary and secondary. The primary data collection was done on self-administered close-ended questionnaires by the researcher .In order to increase the reliability and validity of this research project, appropriate techniques were used when collecting and analyzing data. Representative samples had taken by employing appropriate sample selection techniques.

The researcher believes that the instruments used in primary data collections of this study were valid and reliable because the instruments are set in consultation with some experienced credit units' staffs. In addition, through review of literature in the area has helped the researcher in formulating and designing valid and reliable data collecting tools and instruments.

The questionnaire divided in to three sections. The first section contained the demographic characteristics of the respondents. The second section designed to incorporate all independent variables and the third sections included dependent variable of the study. All questionnaires in section 2 and 3, the respondents requested to indicate their agreement level. Weighted measurement is listed as follows;1=strongly disagree, i.e., very much dissatisfied with the case described, 2=disagree, i.e., not satisfied with the case described, 3=neutral, i.e., uncertain with the case, 4=agree, i.e., feeling all right with the case described, and 5= strongly agree, i.e., very much supporting the case described.

3.6. Methods of Data Analysis

After the data has collected, the researcher turned to the task of analysing the response. The analysis of data required a number of closely related operations such as establishment of categories, the application of these categories to raw data through coding, tabulation, and then drawing statistical inferences.

Thus, the researcher analysed the collected data using descriptive statistics (frequencies, percentages, mean, and standard deviation) to obtain information on causes of Non-performing loans for agricultural loans. The statistical software SPSS version-23 used for analysis. The researcher has used descriptive statistics measures of central tendency (mean and standard deviation) to analyse the variables.

3.7. Validity and Reliability

Validity indicates the degree to which an instrument measures what it is supposed to measure while reliability has to do with the accuracy and precision of a measurement procedure (a measuring instrument is reliable if it provided consistent results).

Consequently, to insure its validity, six experts on agricultural financing were requested to comment on the representativeness and suitability of the questions in each subscales of the independent variables. They were also asked to comment on the wording of each statement (items). By doing so, the content validity and face validity were insured. Moreover, to ensure construct validity, literatures, books and journal articles were reviewed. To this end, some adjustments were made on instruments without making significant change on the original tool.

To check for reliability, the test result had summarized in table below; most of the variables have the results much higher than the threshold value.

Table 3. 1 Reliability Statistics

Dimensions	Cronbach's Alpha	No. of Items
Credit Assessment	.690	5
Follow-up	.744	4
Loan Diversion	.629	4
Credit Knowledge	.617	6
Non-performing loans	.542	5

Source: SPSS output computed on own survey, 2019

CHAPTER FOUR
RESULT AND DISCUSSION

The previous chapters presented orientation of the study, theoretical foundations, literature review and the research methods adopted in the study. This chapter discusses about analysis of the result and presents the results in the form of frequency tables, percentages, chart using SPSS version 23 to assess the causes of Non-performing loans in agricultural projects financed by DBE.

The open-ended questionnaire have been dispatched to 147 Bank's employees who are currently working at customer relationship management cluster of the Bank & loan rehabilitation as well as 23 customers who has a loan in agricultural projects. Out of 170 questionnaires, about 156 were completed and collected from respondents. As a result, the response rate was 91.76 percent.

To obtain the idea that did not been captured by the quantitative survey and to have deeper understanding of the lender's specific factors that would cause occurrence of Non-performing loans, unstructured interviews were conducted with three (3) Directors and ten (10) customers'.

This chapter has organized into four sections. The first section of this chapter discusses the result of demographic characteristic of respondents, the second section is about descriptive results of borrowers and lender related issues attributes to non-performing loans.

4.1. Demographic characteristic of respondents

In this section discusses the demographic information of respondents in Development Bank of Ethiopia. The information of respondent's has classified into seven. These are age classification, gender, education level, and position of the respondents, work experience in DBE, work experience in credit units and experience on agricultural loans.

Table 4. 1Demographic characteristic of respondents

Items	Description	Frequency	Percent	Valid Percent	Cumulative Percent
Age	26-35	101	64.7		
	36-45	31	19.9		
	above 45	21	13.4		
Gender	Male	113	72.4	72.4	72.4
	Female	43	27.6	27.6	100
	Total	156	100	100	
Educational level	BA/BSc	83	53.2		
	MA/ MSC	60	38.5		
	OTHER	13	8.3		
	Total	156	100		
Job Position	Officer	26	16.7	18.4	18.4
	Senior Officer	81	51.9	57.4	75.9
	Principal	20	12.8	14.2	90.1
	Manager	14	9	9.9	100
	Total	141	90.4	100	
	System	15	9.6		
	Total	156	100		
Work Experience in DBE	01-5	36	23.1	25.5	25.5
	06-10	66	42.3	46.8	72.3
	11-15	22	14.1	15.6	87.9
	16-20	4	2.6	2.8	90.8
	Above 20	13	8.3	9.2	100
	Total	141	90.4	100	
	System	15	9.6		
	Total	156	100		
Work Experience in loaning unit	01-5	66	42.3	46.8	46.8
	06-10	54	34.6	38.3	85.1
	11-15	13	8.3	9.2	94.3
	16-20	1	0.6	0.7	95
	Above 20	7	4.5	5	100
	Total	141	90.4	100	
	System	15	9.6		
	Total	156	100		
Work Experience in Agricultural project financing	less than 5 years	2	13.3		
	5-10 years	6	40		
	10-15 years	6	40		
	more than 15 years	1	6.6		
	Total	15	9.6		

Source: SPSS output computed on own survey, (2019)

Table 4.1 above revealed that, from the total respondents, 1.9 percents categorizing under 18-25 years old. Whereas, 101 (64.7%) of the respondents are 26-35 years old. In addition, Respondents under 36-45and above 45 are accounted for 31 (19.9%) and 21 (13.4%) respectively. Therefore, the respondents age classified above 26 accounts for 98 % that confirms their responses are more accurate and reliable to address the question that helped to meet the objective. Regarding to their gender out of the total respondents for whom questioners distributed during the survey majority of respondents 113 (72.4%) were male and the remaining 43 (27.6%), were Female. Even if Females are less in composition, males available in the credit areas are larger. So, these represent a good combination and helped to meet the objective of the study to realize the participation of gender on the credit. Education level of respondents, most of the respondents were first degree graduates which accounted 83 (53.2%), respondents who graduates Masters and above were accounted for 60 (38.5%). Therefore, the Education Background of the respondents shows that they were able to address the responses without any ambiguity and full understanding about the study that helped to meet the objective of the study. Pposition of the respondents have within the bank. The researcher asked this question to know in which position the respondents are working. From the results, 16.7percent of the respondents are an officer. From the respondents 51.9 % are working in position of senior officer. From the total respondents 12.8 % are working as Principal Officers. For positions of manager are accounted for 9.0 % respectively. Therefore, the position of the respondents showed their perspectives are good in composition that helped the researcher to address the objective. Working experience of respondents shows that 36 (23.1%) of the respondents has been working 1 to 5 years in the bank. The most respondents 66 (42.3) percent of respondents have working experience with in the bank 6-10 years. Whereas, 14.1 percent of the respondents have working experience of 11 to 15 years. The respondents who have working experience in bank from 16 to 20 and above are accounted for 2.6% and 9.4% respectively. As the most respondents were experienced more than 6 years, their response helped the researcher to meet the objective. Specific experience of respondents in credit units, from the total respondents 66 (42.3%) of the respondents has been working about 1 to 5 years in the credit area, while most respondents 54 (34.6%) percent of respondents have working experience with in the credit unit 6-10 years. Whereas, 13 (8.3%), 1(0.6%) and 7 (4.5%) of the respondents have working experience of 11 to 15 years, 16 to 20 years and above 20 years in credit units respectively. This shows that most respondents' (57%) work experience in credit units of the bank were above 6 years, which created confidence for the researcher to meet the objective.

Additionally, the experience of respondents in credit of agricultural projects, 2 (13.3%) of the respondents has been working about less than 5 years in the bank. The most respondents 6 (40%) percent of respondents have working experience with in the bank 5-10 years. Whereas, 6 (40%) and 1 (6.6%) of the respondents have working experience of 10 to 15 years and above 15 years in borrowing loans on agricultural projects respectively. This shows that most respondents' (86%) has experience borrowing loans on agricultural projects were above 6 years, which created confidence for the researcher to meet the objective for borrowers' side.

4.2. Descriptive results

Illustration of the descriptive statistics for each main constructs and its dimensions using mean and standard deviation had given on this part. Twenty-six statements had presented to workers in DBE through the structured questionnaire to measure their degree of agreement or disagreement over the causes to loan default and credit risk management. A statistical mean value and standard deviation, which had calculated based on employees' response on the questionnaire for four constructs, had presented.

Likert-type or frequency scales use fixed choice response formats and has designed to measure attitudes or opinions (Bowling,, Burns, & Grove, 1997). These ordinal scales measure levels of agreement/disagreement. The research questionnaire designed using 5 point Likert scale to collect appropriate responses, in relation to this the respondents indicated the extent they agree with the statements by choosing: 1-Strongly disagree, 2-Disagree, 3-Neutral, 4-Agree and 5-Strongly Agree. Based on the response of the respondents mean (M) score of 0-1.5 means that the respondents strongly disagreed, between 1.50 to 2.50 means they disagreed, 2.50 to 3.50 means the respondents were neutral, 3.50-4.50 means they agreed and a mean above 4.50 means the respondents strongly agreed.

4.2.1. Borrower's Related Causes

4.2.1.1. Borrowers 'Loan diversion

The table 4.2 below shows that the loan diversion and capacity of the borrower has 4 items to describe their mean value with Likert scale by their agreement level of occurrence of NPLs. Most respondents have agreed on all of the statements. The project management capacity of the borrowers is not good enough to administer their project well; Borrowers become wilful defaulter by neglecting the agreement made with the bank: Due to natural calamities and pests, lower productivity and product price for agricultural projects the competitive market, product market failures, agricultural markets are sensitive to highly variable supply and demand conditions in world markets had directly or indirectly affect the borrower's repayment capacity. Therefore, customers are unable to pay debt and they divert for other purpose have a mean value greater than (3.5) shows that there is a contribution of borrower's loan diversion capacity in the bank on occurrence of NPL. These Implies that most respondents agreed up on the loan diversion is playing a role for agricultural projects. Since the Development Bank of Ethiopia is based project financing, whenever, the project did not produce, there is no means to collect the debt as well as the customers are becoming defaulted due to diverting loan and periodic expected income for other purposes.

Table 4. 2 Loan diversion

Items	Mean	Std. Deviation
There is a culture of diverting loan and income	4.12	.782
The project management capacity of the borrowers in the area of agriculture is not good enough and unable to administer their project well	3.99	.872
Borrowers become wilful defaulter by neglecting the agreement made with the bank	3.78	.934
Due to market condition of the product they produced are not sold as planned before, customers are unable to pay debt and they divert for other purpose	3.77	.802

Source: SPSS output computed on own survey, 2019

4.2.1.2. Borrowers' credit culture (credit knowledge of borrowers)

Kashuliza (1993) on his study showed that level of education and attitude towards repayment income positively affected the NPL.

The table 4.3 below shows that the credit assessment of loan has 6 items to describe their mean value with Likert scale by their agreement level of occurrence of NPLs. Therefore, the statement called "Borrower's focus only on getting loan approval" has the highest mean value (3.3) which means most respondents agreed that borrowers focus only on getting loan approval that contributing for the occurrence of NPL. For this reason, some borrowers feel it is a possibility to establish and run a company without contributing a single coin as equity by simply borrowing money from the Bank or overvaluing civil works and prices of machineries. While the statement "Borrowers' take training for their credit management and understanding well about credit" has the lowest mean value (2.40) and standard deviation

1.107 the lowest mean value implies that most respondents have disagreement about the statement and borrowers are not taking training as well as they don't understand well about credit terms.

The implication of the study shows that the borrowers of DBE has limited understanding about their project and focused only getting loan approval. The understanding of credit terms, negotiation on the terms, the amount of loan before the contract and training about the loan default.

Table 4. 3 Credit Knowledge of Borrower's

Items	Mean	Std. Deviation
Borrowers has enough understanding about their agricultural projects	3.12	1.028
Borrowers focus only on getting loan approval from the bank	3.85	.849
Borrowers understand credit terms well while appraisal study is conducted and contract agreement	3.25	1.063
Borrowers negotiate on credit terms and repayment period and amount of loan before loan contract	3.79	.909
There is poor credit borrowing culture	3.82	.883
Borrowers take training for their credit management and understanding well about credit	2.42	1.136

Source: SPSS output computed on own survey, 2019

4.2.2. Lender's Specific related Causes

4.2.2.1. Credit assessment

Stough (1999) note that the failure of a bank is mainly seen as a result of mismanagement because of bad lending decisions made with respect to wrong appraisal of credit status, or the repayment of non-performing credits and excessive focus on giving loans to certain customers.

The table 4.4 below shows that the credit assessment of loan has 5 items to describe their mean value with Likert scale by their agreement level of occurrence of NPLs. Therefore, the statement called "Poor credit assessment is the major causes for the occurrence of NPL in DBEwould lead to loan default" has the highest mean value (4.45) which means most respondents agreed that DBE has poor credit risk assessment that contributing for the occurrence of NPL. While the statement “Loan access and easily admitting in agricultural loanborrowers usually become defaulter” has the lowest mean value (3.37) and standard deviation 1.131the lowest mean value implies that most respondents have low level of agreement and neutral about the occurrence of default due to the easily admitted borrowers usually become defaulter. Respondents also agreed up on all other statements with mean value greater than (3.5) shows that there is a contribution of credit assessment practice in the bank on occurrence of NPL. The reasons are:- the Bank’s due diligence assessment was based on information collected from the customers themselves, not strongly backed by full and reliable information especially for foreign investors, PLCs and borrowers of rain-fed agricultural loans. Poor KYC could be cited as the main reason for failure of loans to most rain-fed agricultural projects.

Table 4. 4 Credit Assessment

Items	Mean	Std. Deviation
The Loan access and admitting in agricultural loan is easy for the borrower than other loan products provided by the bank	3.37	1.131
The bank has implemented know your customer (KYC) assessment improperly	4.37	.602
There is Under/Over financing of agricultural loan by the bank while appraising projects	4.19	.752
Absence of credit assessment for agricultural projects	4.45	.646
The bank provide enough training on credit assessment for employees to reduce NPL	4.03	.736

Source; SPSS output computed on own survey, 2019

4.2.2.2. Credit monitoring (Follow up practice)

The major cause of NPL among the factors is poor supervision or follow-up identified by Balogun and Alimi (1988).

The table 4.5 below shows that the follow-up practice of loan has 4 items presented to be describe by their mean value to know agreement level of occurrence of NPLs. Therefore, the statement called “There is credit calls to customers to conduct off-site follow-up” has the highest mean value (3.47) and standard deviation 1.267 which means most respondents agreed that DBE has Low frequent periodic credit calls and conducting follow-up not in detail contributing for the occurrence of NPL. While the statement “There are periodic visits of agricultural projects with good frequency” has the lowest mean value (3.12) and standard deviation1.204 the lowest mean value implies that most respondents are neutral about the occurrence of NPL due to the conducting credit risk rating for projects periodically. Statements in the table imply that there is poor follow-up practice of the bank and contribute in occurrence of NPL. The follow-up is not doing by incorporating every detail of the projects. The decision passed for the projects had not based on the follow-up report rather management intervene.

Table 4. 5 Credit monitoring (Follow-up of NPL Practice)

Items	Mean	Std. Deviation
There is practice of calls to customers to conduct off-site follow-up as required	3.47	1.267
There are periodic visits as per the standard (quarterly/4 time a year) of agricultural projects with good frequency	3.12	1.204
The bank uses techniques on credit risk rating for agricultural loans	3.40	1.314
The bank pass decision on time for agricultural projects based on follow-up finding	3.45	1.018
Valid N (list wise)		

Source: SPSS output computed on own survey, 2019

4.2.3. Non-Performing 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 (George G, 2004).

The table 4.6 below shows that the credit assessment of loan has 5 items to describe their mean value with Likert scale by their agreement level of occurrence of NPLs. Therefore, the statement called “Strict monitoring & screening reduce credit risk” has the highest mean value (3.99) with standard deviation (1.063), which means most respondents agreed that DBE has strict monitoring & screening reduce credit risk for the occurrence of NPL and their response variation is lower. While the statement “Poorly assessed and advanced loans may perform well if properly monitored” has the lowest mean value (3.03) and standard deviation (1.251) the lowest mean value implies that most respondents have low level of agreement and neutral about the occurrence of default due to the Poorly assessed and advanced loans may not perform well if properly monitored. In addition, the statement mentioned in the table implies that the credit risk of agricultural projects implies that the development banks of Ethiopia using non-collateralized loans are defaulted and the performances of poorly assessed loans are not well. The existing guidelines of the bank support the goals and objectives of Non-performing loans.

Table 4. 6 Non-Performing Loans

Items	Mean	Std. Deviation
The characteristics of the borrower is clearly seen before loan contract and for treating NPL	3.60	1.082
There is lack of observation for agricultural loan product in the bank to help from getting in NPL	3.58	1.041
The bank is taking high risk than optimal in agricultural loan that may goes to NPL	3.47	1.138
Managers pursue their private benefits and invest in NPL projects	3.53	1.194
The borrower has no accurate information than the bank on agriculture loan when the project fall under NPL	3.24	1.121

Source; SPSS output computed on own survey, 2019

4.3. Interview result with Banks Directors and Customer on assessment of Non-Performing Loans

Most of the interview participants pointed the following issues as the major problem of Non-performing loan. One of the Bank specific determinants of NPL, the interviewee believed that due to poor credit assessment, foremost reasons the bank has failed on the know-your-customer (KYC) assessment that attribute for the occurrence of NPL. In addition, the Interviewee has pointed out those customers' recruitment methods for agricultural loan had not well systemized. The interviewee of loan appraisal process of the bank takes longer time, which has effect on loan process in implementation of projects that will result affecting the repayment schedule. Additionally, under/over financing of agricultural projects had seen in the bank that is due to lack of proper method of appraisal and updated commodity study by the research team of the bank. These all factors have a great contributor for NPL. Because, under financing irritate the customer and the project end up with shortage of financial resource. On the other hand, over financing of the project will affect the commitment of the customer that leads to divert loan to other business.

The second bank specific factor was failing in follow up the consequence is directly failing in loan collection. They urged that to do follow up seriously to have good loan portfolios. The effect of improper loan appraisal, project follow up & due diligence assessment invites default loan. The frequency of the follow-up in the bank is not much enough as well as the time given for accomplishing or conducting follow-up is less per the project. This has effect to manage the credit risk of the agricultural projects defaulted. Therefore, frequent and detail follow-up is required to ensure the in decrease the occurrence of NPL in the agricultural projects. Since, agriculture is seasonal, the full-fledged follow-up is highly recommended to forecast the environment regarding to weather, market and other related issues.

The interviewee also discussed the following factors that cause Non-performing loans that emanated from borrower's side and have strong bearing on occurrences of non-performing loans. Some of the points raised by the interviewees are:

- ❖ Fund being directed to unintended purpose,
- ❖ Lack of proper orientation given by bank's managers and contact officers,
- ❖ Borrowers not making competitive analysis before engaging in a particular sector,,
- ❖ Poor record keeping system,
- ❖ Intentional or wilful default

Borrowers lack of awareness and entrepreneur mentality (engaging in unstudied business and management capability limitation) that means most of middle business men/women have knowledge gap in managing their business and problem of intentional or wilful default.

CHAPTER FIVE
CONCLUSION AND RECOMMENDATION

This chapter discussed about the summarized findings of the study. The first section of this chapter discusses the summery and conclusion. The second section is recommendation for the findings.

5.1. Conclusion

Based on the key findings of the study, the following issues had outlined as major conclusion remarks.

- It can be concluded that borrows develop culture of loan diversion and income due to wrong perception to pay back the loan properly and timely.
- Major borrowers focused on getting loan approval instead of planning about the project profitability and continuity that is a sign of loan default. This implies that borrowers initially come to the bank with wilful defaulter perception, no to pay back the loan ahead of receiving the loan.
- The bank does not apply specialized credit assessment system on sector bases categories such industry and agriculture sectors, rather they apply generalized customer assessment system under the same mechanism and not related discipline.
- The Bank expected to undertake close monitoring and follow-up on financed projects regularly. However, Project follow-up was not focus on evaluating actual performance of a project with what was planned and assumed during its appraisal in terms of technical, managerial, marketing and financial aspects. It is weak in identifying real problems encountered a project and indicating realistic remedial solutions for the problems

5.2. Recommendation

In line with the above conclusion remarks, the following recommendations are formulate to improve the non-performing loans by apply policy change on the selected issues.

- To curb substantial amount of loan diversion, the Bank should strictly monitory the cash transition of the projects through regular monitoring system, for example by establishing permanent offices within the project area and assigned permanent staff representative the Bank to avail regular information and data for controlling the entire transaction of the project.

- The bank should systematically select eligible customers by installing modern work system such as advanced due-diligence assessment mechanism as well as increasing equity contribution ratio and collateral coverage ratio.
- The bank should restructure of the entire organization administration of the institution by properly assigning professionally and formulate appropriate customer assessment mechanisms that identify right and potential customers.
- The Bank should undertake close monitoring and follow-up on financed projects regularly should not negotiate on the collecting of information and data on the facts of the project, instead of monitoring on off-site monitoring.

5.3. Areas for Further Research

Finally, the researcher recommends for other researchers to do by including other factors that are not included and discussed in this paper; for instance, governmental policy in causing non-performing loans and macro-economic causes to get more influential significant.

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ANNEX 1

QUESTIONNAIRES

ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

MASTERS DEGREE PROGRAM MBA IN FINANCIAL SERVICE

Questionnaires will be filling by permanent employees of Development Bank of Ethiopia

Dear Respondents,

I am a student at Addis Ababa University College of Business and Economics. This questionnaire is prepared for research purpose entitled "**DETERMINANTS OF LOAN DEFAULT IN CREDIT RISK MANAGEMENT: THE CASE BY DBE".** Since you are a member of your organization, your participation in this study will be valuable and greatly appreciated. Information gathered will be treating with utmost **confidentiality** and will not use for any other purpose.

INSTRUCTIONS: The questionnaires contain statements about determinants of non-performing loans. Give your own opinion and feeling about each item. Please put tick mark (√)to each statement according to the following five-point scale in terms of your own agreement and disagreement of the statement.

Dear respondent, some words in the questionnaire have special meanings you need to know. The definitions of some terms for the purpose of this Questionnaire are as follows

"**Loan**" means a credit given to borrowers or customers to repay in the future after execution of projects.

"**Your Organization**" implies your bank (**Development bank of Ethiopia**)

"NPLs" implies loans whose credit quality 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. NBE Directives No (SBB/48/2010)

Part One – Background Information

1. **Age: -**

18-25 ☐ 26-35 ☐ 36-45 ☐ above 45years ☐

2. **Sex/Gender**

Male ☐ Female ☐

3. **Educational level: -**

BA/BSc ☐ MA/MSc ☐ PhD ☐

4. **Your current position in Development Bank of Ethiopia**

PRLR **Officer** ☐   Senior PRLR officer ☐   Principal PRLR ☐   PRLR Manager ☐

District Manager ☐   Other, please specify____________

5. **Indicate your experience in Development Bank of Ethiopia**

1 to5 year ☐   6 to 10 ☐   11 to 15 ☐   16 to 20 ☐

Above 20 ☐   Other, please specify____________

6. **Indicate your experience in the bank credit Unit(s)**

1 to5 yrs ☐   6 to 10 ☐   11 to 15 ☐   16 to 20 ☐

Above 20 ☐

7. **How many years did you engaged on agricultural projects (only customers)?**

1 to5 yrs ☐   6 to 10 ☐   11 to 15 ☐   16 to 20 ☐

Above 20 ☐

PART TWO – QUESTIONS ON THE DETERMINANTS OF NON PERFORMING LOANS IN DBE

A. Lender Specific Factors

1. Please indicate your degree of agreement or disagreement to the statements pertaining to credit assessment practice in credit risk management to occurrence of NPL.

Sr. No	**Credit Assessment method or process**	**Strongly Disagree (1)**	**Disagree (2)**	**Neutral (3)**	**Agree (4)**	**Strongly Agree (5)**
1	Loan access and admitting in agricultural loan is easy					
2	The bank has implemented know your customer (KYC) improperly					
3	There is Under/Over financing of agricultural loan while appraising projects					
4	The bank will undertake credit risk assessment for agricultural projects differently					
5	The bank provide enough training on credit assessment for employees to reduce NPL					

2. **Follow-up of agricultural projects**

Please indicate your degree of agreement or disagreement to the statements pertaining to follow-up practice in credit risk management to occurrence of NPL.

S.N	Follow-up Techniques	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
1	There is practice of calls to customers to conduct off-site follow-up					
2	There are periodic visits of agricultural projects with good frequency					
3	The bank uses techniques on credit risk rating for agricultural loans					
4	The bank pass decision on time for agricultural projects based on follow-up finding					

B. Non-Bank Specific Factors

1. Please indicate your degree of agreement or disagreement to the statements pertaining to non-bank specific factors and the occurrence of NPLs

S.N	Follow-up Techniques	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly
1	There is a culture of diverting loan and income					
2	The project management capacity of the borrowers is not good enough to administer their project well					
3	Borrowers become wilful- defaulter by neglecting the agreement made with the bank					
4	Due to market condition, customers are unable to pay debt and they divert for other purpose					

2. Please indicate your degree of agreement or disagreement to the statements pertaining to borrower's knowledge of credit utilization

S.N	Borrower's credit utilization knowledge	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
1	Borrowers has enough understanding about their agricultural projects					
2	Borrowers focus only on getting loan approval from the bank					
3	Borrowers understand credit terms well while appraisal study is conducted and contract agreement					
4	Borrowers negotiate on credit terms and repayment period and amount of loan before loan contract					
5	There is poor credit borrowing culture					
6	Borrowers take training for their credit management and understanding well about credit					

PART THREE; NON PERFORMING LOAN

1. Please indicate your degree of agreement or disagreement to the statements pertaining to credit monitoring and the occurrence of NPL

S. N		Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
1	The characteristics of the borrower is clearly seen before loan contract					
2	There is lack of observation for agricultural loan product in the bank					
3	The bank is taking high risk than optimal in agricultural loan					
4	managers pursue their private benefits and invest in these projects					
5	The borrower has no accurate information than the bank on agriculture loan					

C. If you have further comments in your organization specific factors that cause credit risk, please use the space below.

Thank you!

Annex 2.

INTERVIEW QUESTIONS

1. What are the main factors contributed for occurrence of NPLs of agricultural projects of the bank?
2. Do you think well credit assessment of agricultural projects of the bank decrease the NPL amount in the bank?
3. Does the bank have full-fledged follow-up practice for agricultural projects?
4. How the borrower's knowledge of agricultural projects contributes for the occurrence of NPL?
5. Does the loan diversion practice exist in the Bank and how does the bank control?
6. What do you recommend for the reduction of NPL in the bank?