



**ST. MARY'S UNIVERSITY
SCHOOL OF GRADUATE STUDIES
PROJECT MANAGEMENT**

**ASSESSMENT OF THE PERFORMANCE OF PROJECT FINANCING IN THE CASE
OF COMMERCIAL BANK OF ETHIOPIA**

**A Thesis Submitted to the School of Graduate Studies of St. Mary's University in Partial
Fulfillment of the Requirements for the Award of the Master of Project Management
(MSC)**

BY

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Under the Guidance of

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June 20, 2012 E.C

ADDIS ABEBA, ETHIOPIA

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MASTER PROGRAM

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AZEB TESFAYE

APPROVED BY BOARD OF EXAMINERS

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Declaration

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of Dr. Maru Bekele . All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for purpose of earning any degree.

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Endorsement

This thesis has been submitted to St. Mary's University, School of Graduate Studies for examination with my approval as a university advisor.

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Acronyms

CBE Commercial Bank of Ethiopia

CPP Credit Process Procedure

CRM Customer Relationship Manager

CSA Central Statistics Authority

IT Information Technology

GTP Growth and Transformation Plan

MIS Management Information System

NBE National Bank of Ethiopia

NPL Non Performing Loan

PD Probability of Default

ABSTRACT

This research studies the performance of project financing in case of commercial bank of Ethiopia. The research employed both quantitative and qualitative research approaches to achieve the intended objectives. Both primary and secondary data types were used to collect data from managerial and non-managerial credit performers using questioners and internal records of the bank. The population of the respondents is 83 out those 56 selected for sample size and used systematics and census sampling technique for select the employees of CBE respondents. From sample size 43 performers are responses the questioners. The paper assessed the capacity of project financing in commercial bank of Ethiopia credit portfolio and examined the bank project financing appraisal technique, to assess CBE has sufficient professionals to finance project and to ermine credit risk management and credit risk grading techniques .The findings indicate the bank has no separate project financing appraisal at procedure level. CBE has inadequacy gap observed in project financing by inviting appropriate expert in the area. In the technical feasibility analysis it has lack of qualified staff for the level of technology. Measurements of customer management, business risk and customer relationship risk are subjective and are not well defined parameter credit grading system. it has no separate credit risk management for project financing Based on the finding the following recommendation forwarded CBE should formulate an appraisal process or procedures for project financing that would encompass matters with basic identification of credit worthy customers, comprehensive credit analysis and authentic sanctioning process. And bank should also make use of approved and certified feasibility report of the proposed project which was suggested by appropriate technical professionals before financing. CBE shall either employee qualified staffs to assess the level of technology in each project or invite external assessors to assure the technical feasibility of the project. The bank should prepare more defining parameters of customer management risk, customer relation risk and customer business or industry risk.

Key words: - project financing, project appraisal, credit risk, credit risk grading

CHAPTER ONE

1. INTRODUCTION

1.1 Background of the study

Commercial banks have always had an active role in project finance transactions. Actually, modern project finance by commercial banks is generally thought to have begun in the 1930s when a Dallas bank made a non-recourse loan to develop an oil and gas property. It “came of age” in the 1970s and 1980s with the successful financing of North Sea oil and gas projects. This day, beyond their traditional role in project finance transactions; commercial banks are developing new roles in providing advisory services; construction financing; intermediation to permanent long term fixed rate financing; commodity, currency and interest rate risk management; foreign tax absorption; and working capital financing for projects throughout the world (Gatti, 2008).

Healthy and vibrant economy requires a financial system that helps in effective and efficient allocation and utilization of scarce resources. The banking sector is the largest component of the financial system, and its roles impinge on all aspects of the economy (Falkena et al 2004).

The commercial bank of Ethiopia, when established, was known as the State Bank of Ethiopia which had assumed a responsibility to provide a commercial and regulatory role. However, in 1963 the bank was divided into the central bank, the Bank of Ethiopia and the Commercial Bank of Ethiopia. Eventually in 1980, the Ethiopian government decided to merge the Addis Bank.

Addis Bank was created by the Ethiopian government from the merger of the Ethiopian operations of Banco di Napoli and Banco di Roma with the newly nationalized Addis Ababa Bank (CBE, 2009/10).

Commercial bank of Ethiopian credit policy is purely aligned with financing projects in line with government priority area. In Ethiopia, as in many developing countries, the growing demand of investors for infrastructure and investment opportunities in agriculture, industry, construction, hotel and tourism, energy, water, transportation, and mining increases the requirement of more funds to be invested. In this regard, Commercial Bank of Ethiopia (CBE) as the largest bank in the country should be able to finance such projects. (Mulugeta, 2012).

Currently the major areas of the CBE's giving projects loan sectors are Agriculture and Agro-processing, Manufacturing, exporters and hotel operators to bring their proposal to the bank (Tesfaye, 2017).

Project finance is the raising of funds to finance an economically separable capital investment project in which the providers of the funds look primarily to cash flow from the project as the source of funds to service their loans and provide the return of and a return on the equity invested in the project (Finnery1996, p.2).

Project finance is finance for a particular project, such as a mine, toll road, railway, pipeline, power station, ship, hotel or other profit oriented ventures, which is repaid from the cash-flow of that project. Project finance is different from traditional forms of finance because the financier principally looks to the assets and revenue of the project in order to secure and service the loan. In contrast to an ordinary borrowing situation, in a project financing the financier usually has little or no recourse to the non-project assets of the borrower or the sponsors of the project. In this situation, the credit risk associated with the borrower is not as important as in an ordinary loan transaction; what is most important is the identification, analysis, allocation and management of every risk associated with the project. In a no recourse or limited recourse project financing, the risks for a financier are great. Since the loan can only be repaid when the project is operational, if a major part of the project fails, the financiers are likely to lose a substantial amount of money. The assets that remain are usually highly specialized and possibly in a remote location. If saleable, they may have little value outside the project. Therefore, it is not surprising that financiers, and their advisers, go to substantial efforts to ensure that the risks associated with the project are reduced or eliminated as far as possible. It is also not surprising that because of the risks involved, the cost of such finance is generally higher and it is more time consuming for such finance to be provided. (DBE Credit Policy, 2004)

On account of projects risk identification, analysis and mitigation assumes significance. More importantly, the bankers need to reassess the credit rating mechanism which is used for rating projects, deciding on the pricing of loans and asset classification and which are just an extension of models used in corporate finance and may lead to inappropriate rating leading to inappropriate pricing decisions. It is necessary that the banks should have the required expertise for basic appraisal, the credit risk rating techniques financial appraisal and technical feasibility.

1.2. Statement of the Problem

Project financing discipline includes understanding the rationale for project financing, how to prepare the financial plan, assess the risks, design the financing mix, and raise the funds. In addition, one must understand the cogent analyses of why some project financing plans have succeeded while others have failed (DBE, 2009).

Commercial bank of Ethiopia (CBE) has given project financing for agricultural and manufacturing, projects as well as to exporters and hotel operators. For agriculture 7 %, manufacturing 61 %, hotel and spa 10 % and for exports 8 % are financed (CBE, 2016/17). On April 10, 2017 the national bank directed CBE to stop giving out private investment project loan and ordered investors to instead apply at the state owned development bank of Ethiopia (DBE). Now both DBE and CBE are giving out project and working capital loan. The change came about after discussions between CBE officials and the national bank of Ethiopia. And CBE is giving loans for projects that asking agriculture and manufacturing, exporters and hotel operators to bring their proposals to the bank.

The major problems are being observed from customer perspective relations to the project financing and management, poor quality of project proposal and lack of skills and knowledge, poor credit culture and delay for implementation of projects, investment cost overrun which the largely caused by change in exchange rate. Those problems are positive effect for project failures and it's increased the bank credit loss and none performing loan, so the bank needs sufficient professional, strong financial appraisal and also credit risk management techniques to reduce the problems.

These problems are observed by the researcher through direct discussion with Bank officers, credit customers and promoters of rejects. Therefore the research assessed the performance of project financing in case of commercial bank of Ethiopia focuses on appraisal process and expertise, the credit risk rating and management technique, financial appraisal and technical feasibility of projects financing.

1.3. Research Questions

1. How much is the share of project financing by CBE's credit portfolio?
2. How is CBE's appraisal processes of financial appraisal, technical feasibility in project financing.
3. Is CBE has sufficient professional to finance projects?

4. How is CBE'S credit risks management and credit risk grading techniques?

1.4. Research Objective

1.4.1. General objectives

The main objective of the study is to assess performance of project financing in commercial bank of Ethiopia.

1.4.2. Specific objective of the study

The specific objectives of the study are:-

1. To assess the capacity of financing projects in CBE.
2. To examine CBE project financing appraisal technique.
3. To assess the CBE has sufficient professionals to financing projects.
4. To examine credit risk management and grading technique for project financing in CBE.

1.5 Significance of the Study

The significance of the research understands the project financing problems for CBE and to take corrective actions to the Executive Managements body. In addition to this, other interested parties, like government, corporate customers and other who may have concern alleviate the difficulties of project financing problems in CBE. Furthermore, it might be useful for further research studies.

1.6. Scope and limitation of the study

Projects financed can be in the form of initial startup, expansion and renovations. In commercial bank difficult to get data in their purpose for project financing therefore this study is focused to long term repayment project loan that financed for five economic sectors namely industries, Domestic trade and service, agriculture, building and constructions and international trade are taken.

1.7. Organization of the thesis

This study is arranged in five chapters. The first chapter consists of the introduction that includes: background of the study, statement of the problem associated with questions, objective of the study, significance of the study, scope and limitation of the study and organization of the study. The second chapter will consist of review of related theoretical and empirical literature. The third chapter will cover the data collection and the fourth chapter also covers data analysis,

interpretation of the chapter. The last chapter will be consisting of conclusions, and recommendation.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1. INTRODUCTION

In this chapter is present a critical review of related literature. The chapter is discusses both the theoretical and empirical reviews in accordance with the objectives and factors consider in the study.

2.2 Theoretical Literature Review

2.2.1 Project and Project financing

A project is a temporary endeavor undertaken to create a unique product, service or result. The temporary nature of projects indicates that a project has a definite beginning and end. The end is reached when the project s objectives have been achieved, or when the projects objectives will not or cannot be met, or when the need for the project is no longer exists (Gatti,2008).

Project and project financing have been defined by different scholars in different ways.

Project finance is the raising of funds to finance an economically separable capital investment project in which the providers of the funds look primarily to cash flow from the project as the source of funds to service their loans and provide the return of and a return on the equity invested in the project (Finnery1996, p.2.) it also define as the financing of a particular economic unit in which a lender is satisfied to look initially to the cash flow and earnings of that economic unit as the source of funds from which a loan will be repaid and the assets of the economic unit as collateral for the loan (Nevitt. P. K. & Fabozzi, F. J. 2000,)

it also define as The creation of a largely independent project company financed with non-recourse debt (and equity from one or more sponsors) for the purpose of financing a single purpose, industrial asset.

2.2.2 Types of Projects

Basically project can be identified based on their nature. According to Chandra (2002) project are classified as follows:-

1. New project – the large type of project, it is designed to establish a new productive process independent of previous line of production. They often include a new organization financially independent of existing organization.
2. Expansion project-expansion projects that involve repeating or expanding as existing activities with the same output technology and organization.
3. Updating projects – these projects that involve replacing or changing some elements in an existing activity without a major change of output. Updating projects involve some change in technology but within the context of an existing through possibly reformulated organization.

Projects have some features that made distinct from other types of financing. The following are features of project financing given by Larry (1980, p.166).

1. Separate entity-The borrower is usually a Special Purpose Vehicle (SPV) that is financially and legally independent from the sponsors.
2. Long term-The tenor for project financings can easily reach 15-20 years.
3. Limited recourse/Non-recourse- Lenders usually have only limited recourse (or in rare cases, no recourse at all) to the sponsors.
4. Non-recourse or limited recourse financing-The project company is the borrower. Since these newly formed entities do not have their own credit or operating histories, it is necessary for lenders to focus on the specific.

Project's cash flows. That is, "the financing is not primarily dependent on the credit support of the sponsors or the value of the physical assets involved." Thus, it takes an entirely different credit evaluation or investment decision process to determine the potential risks and rewards of a project financing as opposed to corporate financing.

5. Capital intensive-The amount of finance required for most infrastructure projects may run into several million US dollars.
6. Controlled dividend policy-In more modern major corporate finance parlance, the project has a strictly controlled dividend policy, though there are exceptions because the dividends are subordinated to the loan payments.
7. Costly-Raising capital through project finance is generally more costly than through typical corporate finance avenues.

8. Higher Risk-Project by their very nature is risky financing types with related to their amount, long period of their payment period and the arrangement of payment of the loan.

Project finance has proven to be a useful financing technique throughout the world and across many industry sectors (Buljevich & Park, 1999; Esty, 2002, 2003; Fabozzi & Nevitt, 2000; Gatti, 2008). As argued before, project finance is an innovative model of financing projects. This leads to emphasize the unique attributes of project finance.

2.2.3 Stakeholders in a Project Finance Transaction

There are different participants who are involved in the project financing.

As Chandra (2001, p.35)

1. Government-is responsible for creating an enabling environment for project finance transactions through its legal system and other associated legislation (e.g. agreements, permits, property rights etc.).
2. Equity Funders- these are the owners of the project company and contribute the riskiest portion of the total funding of the project (equity).
3. Non -recourse Debt Funders-these are the providers of Long-Term loans to the transaction. They usually contribute about 60 to 70 percent of the total funding of the transaction.
4. Operator- this is usually the Engineering Firm that is in control of the construction and operations management of the project.
5. Construction/Engineering consultant- this is the company responsible for engineering, procurement and construction.
6. Equipment Suppliers-this is the selected manufacturer of the key equipment to be used during construction of the project.
7. Environmental Impact Assessment-this is the specialist who assess whether the project meets the minimum standards of both national and international environment related legislation and agreements.
8. Affected Communities- these are important stake holders who are directly or indirectly affected by the project.

Not all projects that start their life continue to grow and stay for long. Some may fail because of several reasons. According to Gatti (2008), when project analysis has failed to anticipate the outcome of a project investment, a common reason has been simply poor preparation of analysis. Practice, as the same author states, has shown that as a bitter consequence of poor project preparation. Many industrial projects suffer in terms of: low capacity utilization, heavy cost overruns, deteriorated financial profitability, overestimated returns, underestimated costs, omission of necessary component, optimistic projection (yield, date), failure to consider variability of climate and optimistic calendar for implementation.

2.2.4 Project Failure and Risks Related To Project Financing

The risks encountered in Project Financing can be traced to the unique characteristics mentioned above. Hence the challenge of Project Financing lies in identification of the Risk factors, their sources and the effective mitigates of these Risk factors. The first step in tackling this challenge is identification of the sources of risk

According to Gatti (2008) the following are source of risks:-

1. Big Funding Requirements: - it has a very big impact – positive or negative-on the Bank's Balance sheet, profit as well as on the Nation's Economy.
2. Long Gestation periods: - A long gestation period means that a project's effectiveness/profitability can be known only long after spending the resources. The deviation from projected Revenue from the project can be very large.
3. Cash flows over a long period of time: - Longer the duration, higher is the uncertainty associated with the cash flow. Some unforeseen risk parameter may have a significant impact on the cash flows in the far future.
4. Unique set of Risk characteristics specific to each project: - Some risk factors like Political Risk, Force Majeure Risk, Technology Risk, Business and Legal Institutional Risk are very significant in Project financing. Structure of each project is unique leading to different Risk characteristic.
5. Total Dependence on Cash flow generation from the project Success or failure of the project is dependent on its cash flows.

Identification of Risks

Based on Gatti (2008), The Risks, which can have an impact on the Credit quality of the project, are termed as “RISK DRIVERS”. It can be said that the „Sources of Risk“ give birth to the `Risk Drivers“. The Risk Drivers can be classified into four distinct areas.

1. Project Level Risks:-

i. Contractual Foundation

ii. Technology, Construction and Operations

iii. Competitive Market Exposure

iv. Legal Structure v. Counterparty Exposure

vi. Financial Strength

2. Political risk:- is the risk arising out of Government’s intervention in the project operations like expropriation, regulatory controls, etc.

3. Business and Legal Institutional Risk:-

Institutional Risk is the risk arising due to legal systems, lack of corporate governance, etc.

4. Force Majeure Risk Floods and Earthquakes, Civil disturbances, strikes, catastrophic mechanical failure etc. which can disrupt a project’s cash flow.

The Risk drivers disrupt the cash flow of the project and can lead to default.

Risk Mitigation: After identification of the risks, the risk of default has to be reduced by Credit Enhancements like Guarantees, Insurance, etc. so that the Project’s risk of default or the Credit Risk gets reduced.

2.2.5 Challenges of Project Financing

According to Ford (2006), No matter you are a new project manager, or an experienced leader, project management will continue to reveal itself as part art, part science , and part major

headache! The list below highlights some of the top project management challenges that can affect project financing in banks:

1. Unrealistic deadlines- some would argue that the majority of projects have “schedule slippage” as standard features rather than an irregularity

2. Scope changes- As most project managers know, an evil opponent “The scope Creep” is usually their number one enemy who continually tries to take control.
3. Communication deficit- Many project managers and team members do not provide enough information to enough people, along with the lack of an infrastructure or culture for good communication.
4. Resource competition- Projects usually compete for resources (people, money, time) against other projects and initiatives, putting the project manager in the position of being in competition.
5. Uncertain dependencies- As the project manager and the team determine project dependencies, assessing the risk or reliability behind these linkages usually involves trusting someone else’s assessment.
6. Failure to manage risk- A project plan has included in it some risks, simply listed, but no further review happens unless instigated by an event latter on.
7. Insufficient team skill- The team members for many projects are assigned based on their availability, and some people assigned may be too proud or simply not knowledgeable enough to tell the manager that they are not trained for all of their assigned work.
8. Lack of accountability- The project participants and related players are not held accountable for their results-or lack of achieving all of them.
9. Customers and end users are not engaged during the project-Project teams can get wound up in their own world of internal deliverables, deadlines and process.
10. Vision and goal not well defined- The goal of the project (the reasons for doing it), along with the sub-projects or major tasks involved, are not always clearly defined.

2.2.6 Mitigation Strategies and Risk of Project Financing

According Ford (2006) has also put some solution for the above ten stated challenges of project financing that arise from the side of project promoters.

1. Some solutions and ideas to thrash vagueness:-Determine which parts of a project are not understood by the team and other project participants. Ask them or note feedback and questions that come up.

2. Solution for scope changes- There is no anti-scope-creep spray in our Project Management utility belts. But as with many projects management challenges, document what is happening or anticipated to happen.
3. Communicate what is being requested, the challenges related to these changes, and alternative plans, if any, to the project participants (stakeholders, team, management and others).
4. Solution for communication deficit-Determine proper communication flows for project members and develop a checklist of what information (reports status, etc.) needs to be conveyed to project participants.
5. Solution for the challenge of resource competition- Portfolio management – ask upper level management to define and set the project priority across all projects
6. Solution failure to manage risk- Once the project team has assessed risks, they can either (1) act to reduce the chance of risk occurrence or (2) act or plan towards responding to the risk occurrence after it happens.
7. Solutions for challenges insufficient team skills- Starting with the project manager role, document the core set of skills needed to accomplish the expected workload, and honestly bounce each person’s skills against the list or matrix.
8. Solution for challenges of lack of accountability- Determine and use accountability as part of the projects risk profile. These accountability risks will be then be identified and managed in a more visible manner.
9. Solution for the challenge that customers and end-users are not engaged during the project: Discuss and provide status updates to all project participants- keep them informed! Invite (and encourage) stakeholders, customers, end-users, and others to periodic status briefings, and provide an update to those that did not attend.
10. Solution for the challenges that Vision and goals not well-defined: Manage the stress of “the immovable rock and the irresistible force” (i.e. the project deadline and the project issues) with creative planning, alternatives analysis, and communication of reality to the project participants.

2.2.7 The importance of project appraisal

One of the challenges before lenders of projects lies in evaluating the viability and bankability of a project by following proper appraisal process. The key to successful project appraisal is in ensuring that the project has passed through stringent appraisal process and risk evaluation and

that the lender should not feel that the decision to lend is merely based on “reduce to ashes” feeling. They have to be confident enough that the project they finance should be repaid.

The appraisal process also makes banks more efficient because it helps them in many aspects. Some of them are stated below (Collier, 2009).

1. It increases banks capacity of utilizing financial resources efficiency;
2. It helps them to make the best choice from many project alternatives;
3. It ensures them a low proportion of non-performing investments;
4. It helps them to achieve the best value from their investments;
5. Provides a high probability of recovering their investment; and
6. It ensures continued bank’s growth.

The methods and techniques to appraise proposals depend upon the nature of banks. But some general methods and mechanisms of appraisal for loan proposal are as follows:-

(1) Technical appraisal:

Technical appraisal is one of the methods and mechanisms for appraisals of loan proposal by the Bank. Under this loan approval process in bank, the following requirements should be appraised,

- Location of the project and infrastructure.
- Legal aspects – law banned or incentive given by the government.
- Technology – quality, availability, price, stability for project.
- Plant & equipment efficiency – suitability, price, efficiency, repairs & maintenance etc.
- Investment in research and development.
- Production process.

(2) Commercial appraisal:

Commercial appraisal is another methods and mechanisms appraisal of loan proposal by the bank. The capability of the borrower depends upon the sale of product at his estimated price. Under this

loan approval process in bank, so bank should consider the nature of products, style, desirability, quality, consumer's demand, substitutes, competition, advantages, market share, ability to expand, distribution system, advertising and promotional activities, socio-political factors, government regulations & economic conditions.

Under commercial feasibility the bank should consider the following elements:

- Sources and supply of raw materials
- Quality and types of customers
- Credit terms and policies
- Aging schedule
- Anticipated economic condition
- Market Risk □ Technical competence of the technicians.

(3) Managerial appraisal:

Managerial appraisal is one of the methods and mechanisms for appraisals of loan proposal by the bank. It is the appraisal of management which plays a deciding role to forge ahead of competitors.

Under this loan approval process in bank, bank evaluates the following:

- Quality of managers
- Performance: growth, consistency, flexibility, adaptability, judgment, outstanding
- Performance, relations with staff etc.
- Philosophy: aggressive, conservative, public minded, secretive etc.
- Capability: Managerial, technical, financial, planning, marketing etc.

2.2.8 Definitions and concepts of Risk

1. Identification of Risk

The first step in Measurement of Risk during Project Appraisal is Identification of Risk drivers. A risk driver is the factor which will have an impact on the cash flows of the project. There are several drivers of risk in a project. Some of the most important ones are listed below (Balu. 2002).

1. Project Specific Risk: The earnings and cash flows of the project may be lower than the expected because of estimation error or due to some other factors specific to the project like quality of management.

2. Competitive Risk: The earnings and cash flows of the project may be affected by the unanticipated actions of the competitors.

3. Industry Specific Risk: Unexpected technological developments and regulatory changes, that are specific to the industry to which the project belongs, will have the earnings and cash flows of the project as well.

4. Market Risk: Unanticipated changes in macroeconomic factors like the GDP, growth rate, interest rate and inflation have an impact on all projects, albeit in varying degrees.

5. Funding Risk: In the case of foreign projects, the earnings and cash flows may be different than expected due to the exchange rate risk or political risk. The research will essentially focus on project specific risks rather than Market risk.

6. Credit Risk

Credit Risk is defined by the losses to arise in the event of default of the borrower or in the event of deterioration of the borrower's credit quality (Orgeldinger, 2002). Credit risk can be divided into three parts, default risk, exposure risk and recovery risk

□ Default Risk

1. Default Risk, borrower fails to service debt obligation or borrower assets are not sufficient to pay off the due debt- Measurement of Default Probability.

2. Recovery Risk, uncertain recovery post default- Measurement of Loss Given Default.

3. Exposure Risk, amount at risk in the event of default - Measurement of Exposure at Default.

2. Measures of Risk

Regardless of the risk measure employed, there are different perspectives on risk. These are:

a) Standalone risk: This represents risk of a project, when it is viewed in isolation.

b) Firm risk: Also called corporate risk, this reflects the contribution of a project to the risk of the firm.

c) Systematic Risk: Risk of a project from the point of view of an investor. Such risk is called market risk

Risk is measured according to Chandra (2002) by the following six ways:

i) Standard deviation: Standard Deviation of a distribution is given by:

$$\sum [\text{Probability of value} * (\text{Value} - \text{Expected value})^2]^{1/2}$$

If a variable is normally distributed, its mean and standard deviation contains all the information about its probability distribution.

In some cases probability distribution can be defined with fairly high degree of objectivity based on past evidence. However, in real life situations, such objective evidence may not be available for defining probability distributions. Therefore in project appraisal by Banks, bankers with vast experience use their judgment to define probability distribution. These distributions are called as subjective probability distributions.

One problem with Standard deviation is that it is not adjusted for scale. Therefore sometimes coefficient of variation is used which may adjust standard deviation for scale: $CV = \text{Standard Deviation} / \text{Expected Value}$

ii) Sensitivity Analysis: It is an analysis to show the impact of the risk drivers identified earlier on risk variables like sales or investments and the resultant impact on the target variable of a project like Net Present Value (NPV), Internal Rate of Return (IRR) and Debt Service Coverage Ratio (DSCR). It is a “what if” analysis. To do sensitivity analysis only when variable is changed at a time and the rest of the variables are assumed to be constant, which is unlike what happens in the real world. It shows how robust or vulnerable a project is to changes in values of underlying variables.

iii) Scenario Analysis: In the real world when the variables are interrelated, as they are most likely to be, it is helpful to look at plausible scenarios, each scenario representing a consistent combination of variables. Usually in order to do scenario analysis, one risk driver is selected around which scenarios are built. The drivers chosen are the largest source of uncertainty for the success of the project. Value of each variable is then calculated depending on the chosen driver. Based on what happens under the most favorable or the most adverse configuration of key variables, Best case, Normal and Worst Case scenarios are created. However this analysis does not help if we assume that a continuum exists between these three states.

i) Simulation Analysis: Sensitivity Analysis indicates the sensitivity of criterion of merit (NPV, IRR or any other) to variations in basic factors. Though useful such information may not be adequate for decision making. The banker may like to know the likelihood of such occurrences.

This information is generated by simulation analysis which may be used for developing the probability profile of a criterion of merit by randomly combining values of variables that have a bearing on the chosen criterion.

v) Break Even Analysis: A banker is always interested in knowing how much should be produced and sold at a minimum to ensure that the project does not lose money. Such an exercise is called breakeven analysis and the minimum quantity at which loss is avoided the breakeven point. The breakeven point for a project is calculated with reference to the year when the project is expected to reach its target level of capacity utilization. So it is called as Breakeven Capacity Utilization (BEPCU).

It is given by $BEPCU (\%) = \frac{\text{Fixed Costs and semi fixed costs} * \text{Percentage Capacity Utilization}}{\text{Contribution}}$.

vi) Debt Service Coverage Ratio: The debt service coverage ratio

(DSCR) is defined as:

$$DSCR = \frac{\text{Profit after Tax} + \text{Depreciation and Amortization} + \text{Interest on Term Debt} + \text{Lease Rentals}}{\text{Repayment of term debt} + \text{Interest on term debt} + \text{Lease Rentals}}$$

The average DSCR is computed by taking the total of all values of the numerator and denominator for the entire period of the proposed term loan, commencing from the year in which the commercial production starts and not by taking DSCR for each year.

$$\text{Average DSCR} = \frac{\text{Total Cash Accrual over the ten year period}}{\text{Total debt service burden over the 10 year period}}$$
.

3. Measurement of Credit Risk: Credit Rating Mechanism according

Baghchi (2005):

i) Credit Scoring and Rating

Measurement of credit risk starts with the process of scoring and rating. CBE provides various products and services to its customers for achieving its strategic objectives. Among these products and services, credit is the essential one. Even though it is the crucial activity for the Bank, there are many factors that intrinsically lead to risk i.e., credit risk. Credit risk is the potential loss to the Bank when a borrower fails to meet its obligation in accordance with agreed terms and

conditions. The degree of this inherent risk can be measured and differentiated by credit risk rating/grading of the borrower.

ii) Methods of Credit Rating

1. through the cycle

In this method of credit rating, the condition of the obligor and/or position of exposure are assessed assuming the worst point in the business cycle. There may be a strong element of subjectivity on the evaluators' part while grading a particular case. It is also difficult to implement this method when the number of borrowers /exposures is large and varied.

2. Point in Time

A rating scheme based on current condition of the borrowers /exposure. The inputs are provided by financial statements, current market position of the trade /business, corporate governance, overall management expertise etc. Banks adopt a point in time approach because it is relatively simple to operate while at the same time providing a fair estimate of the risk grade of an obligor/exposure. It can be applied consistently and objectively. Periodic review and downgrading are possible depending on the position.

iii) Scores / Grades in Credit Rating

The main aim of the credit rating system is the measurement or quantification of credit risk so as to specifically identify the probability of default (PD), exposure at default (EAD) and loss given default (LGD). Hence it is a tool to implement the credit rating method (generally the point in time method). The agency also needs to design appropriate methods for various grades of credit at an individual level (a close analogy is the marks obtained by a student in various subjects and the final outcome in the form of ultimate grade achieved in an exam) or at a portfolio level. These may be in the following forms:

Alphabet: AAA, AA, BBB etc.

Number: I, II, III etc.

The fundamental reasons for various grades (as an outcome of aggregate score) are to signal default risk of an exposure, facilitating comparison of risk to aid decision making, to show compliance with regulatory requirements of asset classification and risks of exposure and

providing flexible means to ultimately measure the credit risk of an exposure Components of score

Scores are more numbers (1, 2 etc.) allotted for each quantitative and qualitative parameter - out of a maximum allowable for each parameter as may be fixed by any bank - of an exposure. The issue of identification on specific parameters, its overall marks and finally relating aggregate marks (for all quantitative and qualitative parameters) to various grades is a matter of management policy and discretion- there is no statutory or regulatory compulsion.

Table 1 Credit Rating mechanism

s.no	Total score of an exposure	Grade accorded	Implication of grade accorded
1	86 – 100	AA+	Excellent safety
2	71 – 85	AA	Very good safety
3	61 – 70	A	Good Safety
4	51 – 60	BB+	Ordinary safety
5	41 – 50	BB	Less ordinary safety
6	36 – 40	B	Low safety
7	31 – 35	C	Unsafe
8	0 – 30	D	Low category

Source: (Bank of international settlement).

Commercial Bank of Ethiopia has been using these parameters which are Financial Risk, Business/Industry Risk, Management Risk, Account Performance Risk, and Customer Relationship Risk. These parameters are then scored based on the specifically applicable objective/subjective parameter scales of measurement and a borrower’s actual score is determined. That is, each credit risk parameter is scored on Credit Risk Grading Score Sheet prepared for the purpose. The final overall Achieve Score gives the Bank measurable risk implication whether a borrower is bankable/non-bankable.

Table 2 Credit Rating Mechanism Of CBE

Grade	Achieve Score	Risk implication
1	>= 85	Bankable
2	70 – 84	Bankable
3	60 – 69.9	Bankable
4	50 – 59.9	Exceptionally Bankable
5	40 – 49.9	Very exceptionally Bankable
6	30 – 39.9	Non- Bankable
7	25 – 29.9	Non- Bankable
8	< 25	Non- Bankable

Sources: (CBE, 2009)

2.2.10 Credit Risk Management in Project Finance

Due to its unique financial characteristic, the credit risk assessment in project finance lending is particularly complex than other ordinary credit. Basically, the credit risk of project finance loans is affected by the timing and uncertainty of project cash flows. The main components of credit risk (probability of default, loss given default, and exposure at default) are closely connected with the nature and characteristics of the project, the economic sector of the project, the guarantees afforded to creditors, the potential alternative use of the assets that belong to the special purpose vehicle. Project finance loans are structured in such a way that repayment of the loan depends principally on the cash flow generated by the asset rather than the credit quality of the borrower (Basle Committee on Banking Supervision, 2001). For this reason loans possess unique loss distribution and risk characteristics. Such credit exposures are treated separately from the corporate exposure. Basle Committee on Banking Supervision has proposed a specific regulatory treatment for these exposures (specialized lending). In contrast with corporate and other working capital loan exposures, there is no common industry standard for the estimation of credit risk in project finance lending. Every project has unique characteristics, unique financing schemes and different risk sharing mechanisms that allocate risks among different parties involved (Esty, 2004). In addition, to calculate rigorous probability of defaults is necessary to base such

calculations on valuable databases. Nevertheless, historical loan performance data for project finance exposures are scarce. Furthermore, defaults in project finance are quite rare because the failure of the project company generally involves a debt restructuring or a takeover by a new project company. Project finance exposures are characterized by few time series of defaults and losses. So, it is unlikely that a bank may rely on historic estimates of probability of defaults (PD) and loss given defaults (LGD) for the portfolio of project finance loans. Project finance operations usually have a complex structure. It implies that project finance rating is primarily based on future cash flows expectations rather than on historical data. The project finance has two sources of funds: debt and equity. Debt capital is usually provided by commercial banks and international investment banks. Equity capital is usually provided by project promoters or sponsors and outside equity investors, such as commercial banks, investment funds specializing in project finance equity, venture capital and private equity vehicles. Banks are the largest providers of debt capital in project finance and the financial structure of the project (leverage ratio) is very important in convincing bankers to provide capital. It implies that banks must pay particular attention to the evaluation of the credit risk of the project. The failure of the project, and the subsequent borrowers' insolvency, may damage lenders heavily.

Project finance is characterized by high leverage financing scheme. It is possible to achieve much higher leverage ratios than promoters could sustain on their own balance sheets. In addition, project finance loans on average have a longer term than corporate loans. The traditional debt-based financing model is the bank loan. It is the traditional way to raise long term funding for long-term projects. A new debt-based financing model is the issue of project bonds (Scannella, 2012). Using financial techniques and financial market conventions for project appraisal, design, and financial structure, project bonds might represent an innovative way to perform the function of financial intermediation instrument and long-term project financing instrument. The assessment of economic and financial feasibility of the project made by the banks should primarily evaluate the expected economic return of the project on medium and long term, rather than focusing on collaterals provided by sponsors or third parties. To assess the "bankability" of a project is necessary to carry out a feasibility study. A bank, before starting the assessment process, has to evaluate the existence of key (base) elements to participate in a project finance. Banks have to differentiate bankable projects from not bankable ones. Preliminary test of project practicability (viability test) is the first step for banks. The project should be technically feasible and economically viable (Esty, 2003; Fabozzi & Nevitt, 2000; Yescombe, 2002). A "static"

analysis of the project focuses on assets characteristics, tangibility and marketability of corporate assets, as well as firm's solvency ratios. In the standard corporate lending the lender has security over tangible assets. A "dynamic" analysis is necessary in funding project finance because lender's primary security is the future revenue stream of the project. It is a different type of analysis that focuses on the expected economic and financial returns associated with the project. In particular, a lender should deeply evaluate the degree of innovation of the project, the professional skills of people who will execute and manage the project, the capabilities, competences, and knowledge of firms involved in the project, the reaction of the target market to the introduction of new services and products. The implementation of a dynamic perspective of analysis of projects to be finance implies a "paradigm shift" in the bank lending assessment process (standard corporate lending vs. project finance lending).

2.2.11 Credit Risk Management Techniques

Risk Transfer

According to the International Association of Insurance Supervisors (2003), Financial Services authority (2002), and Rule (2001b) who examined credit risk transfer between banks and nonbank financial sectors, including the insurance sector argue that banks are shifting credit risks from their balance sheets to insurance companies, amongst others, and insurance companies are issuing catastrophe bonds that are being sold to institutional investors such as investment funds and other end- investors. Although risk transfer markets have the potential to enhance financial stability by diffusing exposures, there are concerns that they may equally lead to more concentrated and non-transparent risks, Andersen, (2001). This was supported by Häusler, (2004) who discusses how the blurring of boundaries between insurance and other financial institutions implies heightened importance of insurers for financial stability. It is also in line with the work of Podpiera, (2003) who explored the potential for the insurance sector to affect the vulnerability of the financial system, focusing on the banking-type activities that life insurance companies have increasingly taken on, as well as risks stemming from the possible failure of a large reinsurer. To achieve the risk transfer, use of derivatives has gained significant importance in the financial sector as Standard and Poor's (2003b) and Fitch Ratings, (2004) provide a review of the factors underlying banks' use of credit derivatives. Rule, (2001) pointed out that that banks and insurance companies are exposed to various credit, market and insurance risks in the course of their business, and they can manage these risks in three ways: Arrange for another entity to take on the risk at the outset. For example, a bank might arrange a bond issue for a corporate customer rather than lending

itself; or an insurance company might arrange for a customer to 'self-insure' by establishing a captive insurance company rather than buy insurance cover. They can also retain risks on their balance sheets and seek to control them through careful monitoring, pricing and diversification and hold the risk only temporarily before selling it into a secondary market, hedging it with another offsetting transaction or repackaging it in order to sell/hedge it. In principle, firms can use risk-transfer methods to disperse risks making them less vulnerable to particular regional, sectorial or market shocks Banks have tended to take on a bundle of risks attached to term lending but more crucial among them all is the credit risk since it affects borrower's willingness and ability to pay.

Risk Diversification

Brannan, (2000), argued that diversification is the primary tool for lenders to control borrower risk, and highlighted the fact that risks arise well before default occurs and warned against the construction of "bullet-proof" portfolios that can under perform. Jose Lopez, (2000), supported this by discussing that there was value in diversification of credit portfolios and pointed out how this value can be measured. However, there are several factors that contribute to the degree of diversification for a credit portfolio and because these factors vary over time, the measurement of credit diversification is particularly challenging. Wilson, (1998), brought out the benefits of diversification in credit portfolios. The finding indicate that there is a significant difference in performance of portfolios concentrated in one region from that diversified to different economies. Therefore, Wilson's argument focuses on advocating for diversification of loan

portfolios across nations where the benefits are much stronger than they are when diversification occurs across sectors in a given economy. However, the above argument is criticized by Campbell *et al.* (2001), who discussed that the degree of diversification for a credit portfolio will depend on several other factors like; Size of the portfolio, and issues of maturity variation.

Risk Retention

According to Sanderson, (1991), today's business environment demands lean, cost efficient operations with no waste. As an important part of this process, risk managers seek to reduce the economic impact of risk on their organizations through opting for greater levels of risk retention. Risk retention analysis will help you decide how much risk you are able to retain which could be accomplished through risk rating models Amato et al, (2004). Gordy's, (2003) work shows that, knowing the right amount of risk to retain promotes financial efficiency. Risk retention analysis

provides you with answers to the following question; how much risk is there in my current loan structure? This provides you with a risk retention capacity for your organization or financial institution. Consideration is given to a number of factors in order to derive an estimate of the ability to retain risk. These include; Historical financial information from reports & accounts, future financial projections for the organization, market conditions and economic trends. As a result of this, the rate of interest charged should be adjusted to reflect the level of risk being retained. It should be noted that risk retention review should be a never-ending process for the risk management professional. It should be noted that the decision to retain risk is a function of the materiality of the risk, its predictability, and the transfer costs avoided. The measure of a successful risk financing program is its responsiveness to a substantial occurrence. In a publicly traded organization, the reason for retaining added risk is to increase earnings, and earnings are a substantial factor in determining the price of the equity shares of the company and the company's overall value.

2.12 Causes of Project Failure and Mitigation

In any project, risks are unavoidable. Project participants are exposed to various kinds of risks. One of the causes that lead to project failure is the inappropriate allocation of risks to the parties in the project. Understanding the causes for failure and the description of the various risks is to prerequisite for an efficient risk identification, allocation and mitigation.

Only about 20 percent of the projects that are seriously considered are successfully completed. Some of the causes for this failure are the following (Nevitt, 1998)

- Delay in completion, with consequential increase in the cost
- Financing and delay in the contemplated revenue flow
- Capital cost overrun
- Technical failure
- Financial failure of the contractor
- Government interference
- Un-secured casualty losses
- Increased price or shortage of raw materials
- Technical obsolescence of the plant
- Loss of competitive position in the market place
- Poor management

- Overly optimistic appraisal of the value of pledged securities
- financial insolvency of the borrowing bank

For a project financing to be successfully achieved, these causes must be properly considered, monitored and avoided throughout the life of the project. The following is checklist that should be considered in order to achieve a successful financing package, as suggested by (Nevitt, 1998).

- A credit risk rather than equity risk is involved
- The cost of product or raw material to be used by the project is assured
- A supply of basic raw materials and inputs are assured
- The contractor for building part is reliable
- A stable political environment exists, licenses and permits are available
- Currency and foreign exchange risk have been addressed
- The promoter have made an adequate equity contribution
- Adequate insurance coverage is contemplated
- Force majeure risk has been addressed
- Cost overrun risk has been addressed
- the project will have an adequate ROE, ROI, and ROA for the investors the above successful financing packages are discussed detailed by Levitt (1998) as follows:

1. Credit Risk An objective of many projects is high leverage of the debt to equity ratios. However, more than a lending risk is involved when the borrower approaches the lender. A spread in excess of about 30 points over labor is generally considered by most projects lenders as excessive lending risk is involved. Low credit risk makes it easier to raise equity capital and loans for projects.

2. Cost of product or raw material Supply source and contracts for feed stocks or raw materials to be used by a project must be assured at a cost consistent with the financial projections.

3. Availability of basic materials the actual cost of basic materials should be consistent with the estimated cost.

4. Experience and reliability of management personnel Good management personal as well as experienced operating personnel are needed to operate a project. The general management of a project company makes the basic policy decisions, arranges the financing and is responsible for monitoring the project company.

5. Contractual agreement among joint venture partners, if any. If the project is a joint venture, the agreements between the partners are of considerable concern to lenders, who want assure as the identity of the companies and entities which will own and operate throughout the life of the loan.
6. Stable political environment the need for a stable political environment is a necessary for a successful project financing.
7. Currency and foreign exchange risk Availability of foreign currency and the incidental foreign current exchange devaluation or appreciation should be mitigated through different techniques.
8. Adequate equity contribution by the key promoters the key project promoters must make equity contributions consistent with their capabilities and risk of the project. Lenders will require promoters of the project to have sufficient financial interest in the project so that it will difficult the promoter to abandon or ignore the project. Usually lenders require an equity contribution of 30% on average as an indication of sponsors' commitment of the project.
9. Adequate insurance coverage an insurance coverage is important during construction and operation of the project. This provides protection against risk. 1
10. Force Majeure risk Force majeure risks results from events beyond the control of the parties in the project. These events may include fir, flood, war, expropriation and political interference.
11. Cost over-run and construction delay risks Cost over-run risk occurs when the cost of construction or completion of project facility in larger than the original estimation. This creates a serious problem because the ability of the expected revenues to cover operating costs and amortize debt is dependent upon the assumed cost of the project. Overrun risk can be covered in a variety of ways: additional capital by sponsors, standby credit facility, fixed price contracts, and sponsor's escrow funds for completion.
12. Adequate ROE, ROI, and ROA for the investor the return on equity, return on investment, and return on assets are useful measures used by lenders and investors in estimating the return in a project.

Although it is difficult to alter the risk of a project, the allocation of the various risks to the parties best able to handle them reduces the project risk. (Nevitt, 1998)

2.2.13. Project Finance in Developed Countries

In the past two decades there has been a new wave of global interest in project finance as tool for economic investment. Project finance helps finance new investment by structuring the financing

around the project's own operating cash flow and assets, without additional sponsor guarantees. Thus the technique is able to alleviate investment risk and raise finance at a relatively low cost, to the benefit of sponsor and investor alike. Though project finance has been in use for hundreds of years, primarily in mining and natural resource projects, its other possible applications- especially for financing large Greenfield projects (new projects without any prior track record or operating history); has only recently received serious attention. This is particularly so in developing markets, but here its application is also broadening, as illustrated in the following examples of International Financial Corporation (IFC)-supported projects: IFC (2009)

- **In Argentina, in 2003**, project finance structuring helped raise US\$ 329 million to finance investment in the rehabilitation and expansion of Buenos Aires' water and sewerage services based on a new 30-year concession awarded to Agues Argentina. The investment, financed with ICF support, has helped improve water quality and service to a city of more than 6 million people. At that time, private sector participation in a water concession in a developing country was an untested idea, and there was virtually no precedent for a private company operating in such an environment raising substantial resources in international capital markets.
- **In Hungary, in 1994**, project finance structuring helped finance a 15 year concession to develop, install, and operate a nationwide digital cellular network. The \$ 185 million joint venture project was an important part of the government's privatization and liberalization program. Because of difficulty attracting commercial financing at that time, the project relied on \$109 million in debt and equity financing from IFC and the U.S. Overseas Private Investment Corporation.
- **In China, in 2007**, Plantation Timber Products (Hubei) Ltd. Launched a \$57 million greenfield project is install modern medium density fiberboard plants in interior China, using timber plantations developed over the past decades, to support , Chinas fast growing construction industry. As part of a limited-recourse financing for the project, IFC helped arrange \$26 million in syndicated loans at time when foreign commercial banks remained cautious about project financing in China's interior provinces. In Mozambique, in 1998, project finance structuring helped establish a \$1.3 billion Greenfield aluminum smelter. Mozal, the largest private sector project in the country to date, is expected to generate significant benefits in employment, export earnings, and infrastructure development. IFC fostered the project by serving as legal coordinator and

preparing an independent detailed analysis of economic results and environmental and developmental impacts. IFC also supported the project with \$120 million in senior and subordinated loans for its own account.

2.2.14 Project Risks in Developing Countries

According to Wang (2002) risks must be identified in rational and systematic manner. Otherwise some risks may be overlooked and it is these unidentified risks that tend to be most disastrous and catastrophic. Typical methods adopted by the private and public sectors to identify risks include experience, checklists, databases, risk matrices, site visits and intuition. As project promoters and sponsors are becoming more experienced in the procurement of projects, they are finding this process of identifying risks increasingly easier.

The success of a contracting firm looking to invest in projects in developing countries depends upon its ability to select those investment options of most benefit, whether these benefits are purely financial or a combination of financial and non-financial gains-such as increased market share. Therefore, once the risks have identified, it is vital that their potential impacts on the projects overall viability is assessed and evaluated so that all possible financial outcomes must be predicted and associated with the various investment parameters.

To facilitate such a comparison, numerous attempts have been made to develop Decision Support System to assist in this process: the practical aspects of it still remain unstructured and lack strong foundation. According to Wang (2002) employing a Decision Support System could deliver benefits including:

1. A set of economic performance measures that would satisfy the needs of various stakeholders involved (financial, government, developers)
2. A streamlined project rating system, which takes into account the combined effect of finances, risks on the overall project attractiveness.
3. Time and resource efficiencies due to the streamlined approach.
4. Increased confidence that predictions are realistic.
5. The facilitation of Go/No-go decision through quantitative results.
6. The clear identification of project risk (non-financial) factors that may have otherwise been overlooked.

7. The identification of critical risk factors for input into the project's risk management plan via sensitivity analysis.

8. Analysis output values can be used in contractual negotiations between various project parties.

2.3. Empirical Evidence

2.3.1. Studies in other countries

So far, the researcher found one relevant article worked by Mubila et.al (2000) on Africa Development Bank. Due to shortage of research studied on evaluating the performance of project financing, the researcher is compelled to consider similar studies conducted on different projects related issues. With this understanding, the project failure surveys on IT projects done by two organizations (The Bull Survey (1998) and The Chaos Report (1995) were reviewed. The Bull Survey (1998) In 1998, the French computer manufacturer and system integrator, Bull, requested on independent research company, Spike Cavell, to conduct a survey carried out on IT projects were identified missed deadlines (75%), exceeded budget (55%) and inability to meet project requirements (37%) as causes of project failure. The key findings of the survey reveals that the major causes of project failure during the lifecycle of the project are a breakdown in communications (57%) a lack of planning (39%) and poor quality control (35%). The Chaos Report (1995) The scope and approach of this landmark survey had been conducted among 365 IT managers from companies of various sizes and in various economic sectors. The project evaluation criteria had considered cost overruns, time overruns and content deficiencies. The key findings of the opinion survey indicated that incomplete requirements 13.1%, lack of user involvement 12.4%, lack of resources 10.6%, unrealistic expectations 9.9%, lack of executive support 9.3%, changing requirements and specifications 8.7%, lack of planning 8.1%, didn't need it any longer 7.5%, lack of IT management 6.2%, technology illiteracy 4.3% and other 9.9% were the project impair factor. Mubila and et.al (2000) had worked more or less the same study on African Development Bank. They used project size, implementation delay, investment cost overrun, economic rate of return of the project and human development index as measure project specific success or failure determinant in their study. In this model, they have used projects specific explanatory variables such as total project cost (to proxy project size), cost overrun in percent, time overrun in percent and dummies for economic sector. Moreover, they considered macroeconomics performance of the country, such as increases in energy prices, GDP, inflation rate, and domestic and regional politics as important influencing determinant in the study. Variables to capture the domestic economic environment-the average growth rate of the economy,

the size of population as well as dummies for regional distribution of customers included for the implementation period 1974 to 1994 to find if these variables have any relation to project success. The result of their analysis regarding project internal cause have shown that large projects are less likely to fail, and cost and time overruns had negative impacts on project success. As far as sectorial factor, projects in agriculture, industry and transport sector have a higher probability for success, whereas those in the social sector shown a probability of failure.

Christodoulou (2008) “Factors of success for the effective implementation of lean manufacturing projects with Banking sector in South Africa”. The problem was lack of understanding the concept and dynamics behind lean manufacturing. The objective was to identify success factors in implementation. The researcher used qualitative research method using questionnaire and interview for 20 prominent bank officials and finds top five success factors. These are executive support, skills and expertise of project resources, clear shared understanding of project objectives, buy-in from staff, and a cultural readiness for the change required. Finally the researcher recommended knowledge based customer service excellence, operation, process efficiency and quality management should be given due attention in implementation.

2.3.2. Studies in Ethiopia

Legesse (2013): investigated the major determinant of failure for projects financed by DBE assuming that the causes of project failures emanates from project specific, credit management system of the bank, macro-economic and sociopolitical factors. In this study both descriptive and explanatory analysis using econometrics regression model is employed to analyze cause-effect relation between determinants of failure of the projects. The findings are the country's traditional market system inefficiency and marketing knowledge gap of our local entrepreneurs, manpower below required knowledge; skill and number, investment cost overrun which largely caused by change in exchange rate have positive relation with the failure of the project. However, the attention of the bank about its projects planning capacity: because the model result for correction measures used for solving problems esteem from project planning (loan rescheduling, weaving and fund reallocation) found significant with negative effect to project failure. This means that DBE's project planning lack to consider the unique nature of the projects during disbursement and repayment scheduling, fund allocation etc. Finally the researcher proposes some of the corrective measures that should be considered by concerned stake holders in order to reduce project failure regarding financed projects with regard to the market problem the bank need to be involved in

finding of market destination for the output of projects and advising the promoter and DBE has to recruit professionals from different profession and train about project appraisal technique.

Tsegaye (2015): examined the impact of monitoring and follow- up activities, government policy and performance measurement criteria on performance of Project Rehabilitation and Loan recovery Process at head office level in DBE during the year 2009 to 2014. In this research analysis, descriptive and inferential statistics were applied for the result obtained. The findings are performance measurement criteria, monitoring and follow-up and government policy had positive statistically significant relationship with the performance of PRLRP at 1% level. The researcher recommended that qualification of staffs to be employed in the project should be considered on the credit policy of the bank as a basic requirement for loan provision and as well minimizing the entrance of new default projects.

Shimelis Tesfaye (2015): Manufacturing Project Financing by Commercial Bank of Ethiopia: Challenges and Prospects: The study investigates the problem of manufacturing project financing by Commercial Bank of Ethiopia. The sampling technique that used in the study is non-probabilistic purposive sampling in representing sample members from the target population. The non-probabilistic sampling method is suitable for handling descriptive research with qualitative data. With the respect to the customers, poor credit culture, quality of project proposal submitted and lacks required skills and knowledge were among the major problems. The share of manufacturing project financing loan advanced from the total loan portfolio of the Bank covers 13.4 %, 28.8%, 35 %, 48.4% and 45 % for the periods 2009/10-2013/14 fiscal year for five years under study respectively. The findings reveals that of the total loan disbursed, the share of public manufacturing project financing loan approved increase yearly on average by 74 % while the private sector was 26 % during the study period. The major challenges faced while appraising manufacturing project financing by CBE are basically related to customers, employees, Bank and the County. Even though the customers are not included in the questionnaires, the related challenges and prospects had been reviewed through the document review. In addition to this the absence of adequate data and information in CBE credit processing, lack of research unit to support credit process of the bank; less availability of data and up to date information with regard to the appraising process; lack of skilled employees to properly evaluate and appraise manufacturing project financing requests are also among the major one. The prospects of manufacturing project financing are many among these the major one are: increase in income and profit for the bank, benefit for the country in import substitution, foreign currency generation by

exporting manufactured goods, employment opportunity, technological transfer, foreign direct investment and finally facilitates the countries development plan towards industrialization.

2.3.3 Summary to empirical evidences.

To conclude the empirical evidences, the Bull survey and the Chaos report used the data collection and analysis method is survey methods and descriptive statistics which are appropriate for qualitative data collection and analysis. In statistical analysis of project success determinant, Mubila et.al, (2000) and the rest local researches applied the Ordinary Least Square (OLS) regression model to correlate economic rates of return at appraisal (AERR) with economic rate of return at completion (CERR) in a scatter diagram since they considered projects completed the project cycle for their study. Evaluating the performance of project financing in commercial bank of Ethiopia consider to the Credit appraisal and risk management technique of the bank..

To assure that and to evaluate the performance level of project financing in commercial bank of Ethiopia must be studied. It is needed to make bank's credit department well aware about their position and its impact towards profitability of their business. Further it is also very much important for policy makers. It is well known that bank in our country are profitable for the time being, however to sustain its' profit in the future and even to make more profitable than before, the performance level of their project financing must be evaluated and corrective action must be taken in advance. When the researcher says corrective action, it's referring appropriate project financing mechanisms to the banks. This study, therefore, will fill the research study gap in the area of evaluating project financing in general.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research design and Approach

The research qualitative and quantitative research a method was used. Primary and secondary data sources. And Descriptive research design was used because its ability to explore both quantitative and qualitative research methods. And the researcher has opportunity to use a wide variety technique that aids the research process.

3.2 Population and Sampling

The credit process of the CBE has two wings the corporate Credit management and business Credit management. The total population is 83.Both have Credit appraisal officers there are 31 employees, 13 experts and 18 officers. Whereas in the Credit Management 50 relationship managers who are directly related to the subject Matter. For simplicity the researcher assumes the results are representative of most populations with every "nth" data sample for credit relation manager. Using systematic random sampling technique $kth = N/n$ where N= total population and n= sample size kth = interval size but for credit experts and credit officers uses consensus method of sampling technique.

Table 3 Types of respondents, population size, Sample size , Sampling technique and Tools of Data Collection

s.no	Respondents	Populati on size	Sample Size	Sampling technique	Tools of data collection
1	Corporate and business appraisal Team (experts & officer)	31	31	Census	Questionnaire
2	Customer relationship managers	50	25	Systematic random	Questionnaire
	total	81	56		

3.3 Data collection

The types of primary data that was used in the research involve both open-ended and close-ended questionnaire to credit experts, credit officers and credit relationship managers.

The credit experts and credit officer though they have different ranks/grades they were doing the same tasks with different level of exposures and risks. Therefore, whole population credit experts and officers from the Credit Appraisal team and 25 relationship managers from Credit Management team considered in the questionnaire. In addition to the secondary data was used from resources of books, journals, credit appraisal reports, written publications and the bank credit procedure.

3.4 Data analysis

The data analyzed is descriptive method of analysis which used percentages; ratios which analysis the relationship between the variables hence, the result are presented in tables and graphs .

3.5. Validity and Reliability Tests

Validity test

Content validity test index (C.V.I) was used to test for validity of questionnaire. A four point scale of relevant, highly relevant, quite relevant, somehow relevant and not relevant was used by two experts to rate the relevancy of questions on the questionnaire on the study variables. The questionnaire was also used by the experts in the financial industries, mainly in the banking sector and academia.

Reliability

Reliability analysis is used to test how well the items in a set are positively correlated to one another. Cornbrash alpha is used to determine the consistency of scales used to measure study variables. The internal consistency reliability is higher if the Cronbanch's alpha is closer to 1. (Sekaran, 2003). The Cronbanch's alpha value is used to measure the reliability of the instrument which well exceeded the recommended criteria point of 0.7.(Sekaran,2003). In order to analyze the performance of project financing of the banks' under consideration, secondary data was used solely. The variables that were used in this research are Performance of project financing was dependent variable and Credit appraisal, and Risk management technique was independent variable.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

The study is describing the performance of Project Financing in Commercial Bank of Ethiopia. This chapter presents the data gathered from MIS of the CBE; questionnaire response from Credit experts/analysts and Credit relationship Managers concerning the questionnaire, out of 56 job performers to whom the questionnaires were distributed 43(0.77%) of them successfully completed the questionnaire and returned. Among these 22 of them are from credit appraisal team (experts and analysts) and 21 of them from credit management team (relationship managers). The data obtained through the questionnaire and document analysis were organized, in tables, analyzed and interpreted in order to get meaningful result.

4.2 General information on project financing by the CBE

This section deals with analysis and interpretation of the primary data collected through questionnaire. After the completion of relevant data collection, descriptive analytical tools such as percentages, tables and ratios, ranking of the variables as means of measuring. As mentioned in the methodology of the study structured questionnaire based of the work flow of the credit process has been designed. In this section the appraisal. Financial and technical viability, the risk grading system and of credit risk management the bank will be analyzed based of the questionnaire.

4.2.1 Gender of Respondents

Frequency tables 4 were used to study the status of respondents' distribution by gender. The frequency distribution presented illustrates that there is a huge gap in the distribution of male and female professional staffs in the credit work areas under consideration.

The following frequency table demonstrates the fact.

Table 4 Frequency Distribution of Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid male	36	83.7	83.7	83.7
Valid female	7	16.3	16.3	100.0
Total	43	100.0	100.0	

Source: - SPSS output from – 2020

4.2.2 Educational Qualification of Respondents

The status of respondents with respect to the highest qualification attained was obtained using frequency distribution table and the findings are indicated in the table 5 below.

Table 5 Frequency Distribution Education Qualification of respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid degree	8	18.6	18.6	18.6
Valid master degree	35	81.4	81.4	100.0
Total	43	100.0	100.0	

Source: - SPSS output from – 2020

As clearly show in table 5 above, majority of the respondents were having master's degree (about 81.4%). On the other hand, 8 (18.6%) of the respondents had first degree qualification. The fact all staffs are holding master's degree. And clearly signifies the qualification required for these positions are relatively high. It indicated credit is very risk area and it requires more professional skills

4.2.3 Working Experience in the Bank

Frequency distribution was used to obtain the working experiences of respondents in bank as indicated in the table 6 below.

Table 6 Frequency distribution of work experience in bank

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid one- three years	3	7.0	7.0	7.0
four-six years	7	16.3	16.3	23.3
greeter than six years	33	76.7	76.7	100.0
Total	43	100.0	100.0	

Source: - SPSS output from – 2020

Regarding the work experience of respondents, as depicted in table 6 above, about 93% of the respondents have more than four years of banking experience, implying that most of the respondents are senior staffs. On the other hand, the figure can demonstrate that the positions. Selected are staffed with those who have more experience compared to other positions in the bank.

4.2.4 Position of Respondents in Bank

From table 7 current position respondents of credit appraisal/analysts department, 22 respondents (51.2%) and 21 respondents (48.8%) are from customer relationship managers (CRM).

Table 7 Frequency distribution of position of the respondent

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid appraisal officer	22	51.2	51.2	51.2
credit relationship manager	21	48.8	48.8	100.0
Total	43	100.0	100.0	

4.2.5 Work Experience in Position of respondents

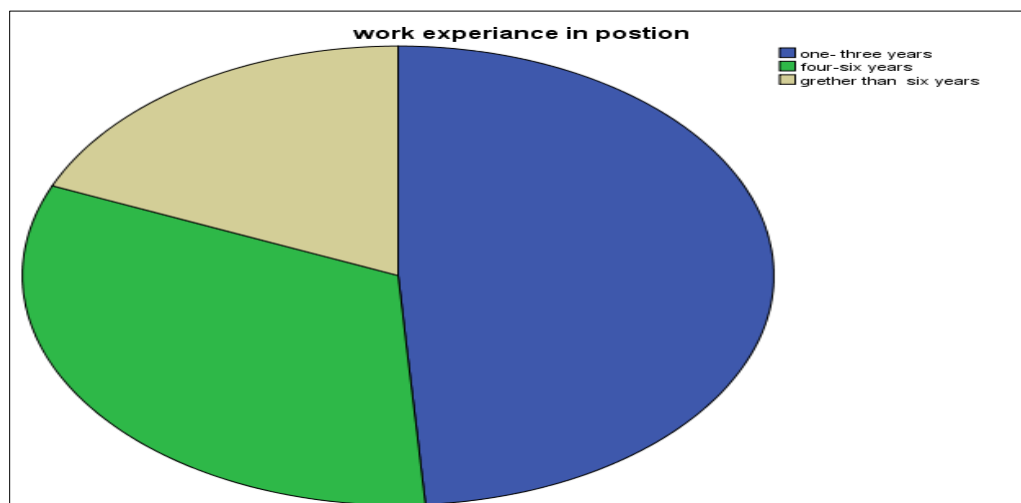
Table 8 Frequency distribution work experience in position

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid one- three years	21	48.8	48.8	48.8
four-six years	14	32.6	32.6	81.4
greater than six years	8	18.6	18.6	100.0
Total	43	100.0	100.0	

Source: - SPSS output from survey Data- 2020.

As shown in table 8 (48.8%) of the member of employees in the commercial bank of Ethiopia has work experience in position between (1-3) years. The others have worked for (4-6 years) that accounted for 32.6% of the total respondents. Only 18.6 % of the sample employees have experience of gather than six years. From 43 respondents 21 have 1-3 years’ work experience and with the nature and complexity of projects appraisal employees lack required experience in project financing.

Figure 1 Employees work experience in position



4.3 Assessment of the Factors

4.3.1 Appraisal Analysis of project financing

Basic Appraisals reveals that the mean value for the category on average is 3.92 Among the variables under the appraisal category, collection of all the necessary documents from client

before credit process, proper analysis of the feasibility study to identify risk exposure, consider professionalism in the respective projects, looking at relevant experience of the loan applicants, consideration of cash flow projections of a given project before financing, critically analyze and comment on assumptions employed for cash flow projection, consider capacity of the loan applicants, look at the long term planning horizon of every loan applicant, look at the conditions i.e. economic, political, and environmental and others, before finance a project. Looking at collateral security as last way-out for the project loan, consider the past track record of repayment, if any, look at the character of loan applicants, look at the credit trustworthiness of loan applicants. Consider the leadership quality or capacity of managers has got relatively higher rates as described by a mean score of above 4.0. On the other hand, from the 20 items in the category of basic appraisals, availability of separate credit procedure for project financing, .the bank has separate credit policy for project financing .the bank has separate division for project financing in the structure have got mean of less than average. Their scores are 2.79, 2.77 and 1.98 respectively. Implying that commercial bank of Ethiopian are not yet fully taking separate concern for the project financing as a different kind of financing from the ordinary working capital financing. Much of the operational procedures undertaken to finance the **project loan request is more or less similar to the previously used procedures and with same technical professional staffs in the credit department.**

Table 9 Descriptive analysis for appraisal for project financing

APPRAISAL	N	Mean	Std. Deviation	Variance
1. the bank has separate credit policy for project financing	43	2.79	1.424	2.027
2. the bank has separate credit procedure for project financing	43	2.77	1.493	2.230
3. the bank has separate division for project financing in the structure	43	1.98	1.012	1.023
4. we collect all the necessary document from client before credit process	43	4.56	.590	.348
5. we demand for certified feasibly study from all project clients/borrowers	43	3.84	1.396	1.949

6. We properly analyze the feasibility study to identify risk exposure	43	4.53	.550	.302
7. We consider professionalism in the respective projects	43	4.37	.817	.668
8. We look at relevant experience of the loan applicants	43	4.37	.578	.334
9. We primarily consider cash flow projections of a given project before we finance it	43	4.44	.629	.395
10. We critically analyze and comment on assumptions employed for cash flow projection	43	4.56	.590	.348
11. We consider capacity of the loan applicants	43	4.51	.592	.351
12. We look at the long term planning horizon of every loan applicant	43	4.23	.812	.659
13. We look at the conditions i.e. economic, political, environmental and others, before we finance a project	43	4.44	.590	.348
14. We look at collateral security as last way-out for the project loan	43	4.26	.848	.719
15. We consider the past track record of repayment, if any	43	4.51	.506	.256
16. We look at the character of loan applicants	43	4.53	.505	.255
17. We look at the credit trustworthiness of loan applicants	43	4.56	.502	.252
18. We consider the leadership quality or capacity of managers.	43	4.37	.655	.430
19. The bank charge higher interest rate for project loan compared to other loans	43	2.21	1.283	1.646
20. Loan delivery time for project financing is longer than a month	43	2.63	1.235	1.525
		3.92		
Valid N (listwise)				

Table 10 Descriptive analysis for financial appraisal

Descriptive analysis for financial appraisal	N	Mean	Std. Deviation	Variance
1. We request for past financial reports from all clients for project finance, if any	42	4.21	.871	.758
2. We look the quality of financial feasibility study presented	43	4.53	.505	.255
3. We analyze projected financial reports	43	4.49	.592	.351
4. We calculate ratio analysis for profitability, efficiency, leverage	43	4.49	.592	.351
5. We analyze projected growth in sales of our clients/ borrowers	43	4.51	.668	.446
6. Interest coverage ratio is important before we finance	42	4.12	.832	.693
7. We look for sound financial management policies of our borrowers	43	4.28	.666	.444
8. We only finance projects with sound financial management policies	43	4.05	.754	.569
9. Financial analysis determines credit strength of a client	43	4.30	.803	.645
10. We invite technical experts if the project type is new for the bank	43	3.88	1.005	1.010
11. We consider the projected net worth of the business	43	4.33	.566	.320
Valid N (list wise)	41	4.29		

Source: - SPSS output – 2020

4.3.2 Financial appraisal analysis for project financing

Respondents were also given a chance to reflect their opinion on overall consideration of the financial viability of the project while financing. Financial viability has got a mean score of 4.29 which is above the average score. Under this category, items of request for past financial reports from all clients for project finance, if any looking at the quality of financial feasibility study presented, analyzing projected financial reports, calculation of ratio analysis for profitability,

efficiency, leverage and analysis of projected growth in sales of the banks borrowers, Interest coverage ratio is important before finance, look for sound financial management policies of our borrowers, only finance projects with sound financial management policies, Financial analysis determines credit Strength of a client, consider the projected net worth of the business got higher scores of more than 4.0 The actual mean scores are 4.21, 4.53, 4.49, 4.49, 4.51, 4.12, 4.28, 4.05, 4.30 and 4.33 respectively; Its implying good concern is being given in the analysis of financial feasibility as far as the mentioned items are concerned. Contrary to this fact, however, it has been noted from the response that invitation or involvement of appropriate technical experts to the bank for new or unfamiliar project request is being ranked less average, as compare to the other items the average score of 3.88 implying that, unlike commercial bank of Ethiopia are not involved in bringing the technical inadequacy gap observed in project financing by inviting appropriate experts in the area. According to E.R yescombe the role of external technical expertise for any project financing is very crucial during the project development because they play available role in undertaking project since they have a great experience in variety of project implementation, execution and closeout but CBE has lack this technical expertise.

4.3.3 Technical appraisal

Technical appraisal is vital in maintaining quality of project loans. Meanwhile, responses obtained from the CBE at the mean value of the items stated under the factor are 3.94 which average value. Nine of the ten items in this category have scored mean value of above 4.0. Namely, finance projects with potential market/ trade, looking at consumption behaviors of the market, looking at the marketing strategy of loan applicants, finance projects that use appropriate technology, looking at access to infrastructure, consider availability of raw material before finance a project, looking at the implementation plan of all projects, consider if the project has specialized manpower, looking at the location of the project scored mean value of 4.58,4.37,4.44,4.30,4.33,4.49,4.37,4.44,4.42 and 4.45, respectively. This response implies that commercial bank of Ethiopia is more concerned technical appraisal for project financing. Despite the above facts, the item which states qualified staff to assess the level of technology has got the lowest mean that is 3.70 according to Chimendo for UNECA model 3 every project must be technically feasible which provides a compressive review of all technical aspect of the project one of the cheek list for technical appraisal is to fit with the existing technology .but, CBE has lack such qualified expertise to cope with the new technology.

Table 11 Descriptive analysis i for technical appraisal

Descriptive analysis i for technical appraisal	N	Mean	Std. Deviation	Variance
1. We finance projects with potential market/ trade	43	4.58	.499	.249
2. We look at consumption behaviors of the market	43	4.37	.691	.477
3. We look at the marketing strategy of loan applicants	43	4.44	.548	.300
4. We finance projects that use appropriate technology	43	4.30	.741	.549
5. We have qualified staff to assess the level of technology	43	3.70	1.145	1.311
6. We look at access to infrastructure	43	4.33	.644	.415
7. We consider availability of raw material before we finance a project	43	4.49	.551	.303
8. We look at the implementation plan of all projects	43	4.37	.578	.334
9. We consider if the project has specialized manpower	43	4.44	1.007	1.014
10. We look at the location of the project	43	4.42	.587	.344
Valid N (list wise)	43	3.94		

Source: - - SPSS output Data- 2020

4.3.4 Credit Rating

According to Getachew, 2016 the study shows that the credit risk rating is an important factor for the performance of project loan and establishing an internal credit rating system is very important to minimize risk of losses inherent in project financing. also based on kabeja , 2016 the result indicate that while doing financial appraisal in the bank ,it is important to apply credit rating for the client. Credit rating is significant to financial appraisal of the project as stated. Therefore this study conducts to examine commercial bank of Ethiopia credit rating system in project financing. as a result Credit rating was assessed using 20 categories of questions. The factors mean score was 3.89, which is above average; implies Commercial bank of Ethiopia credit officer has goods awareness of the credit risk grading factors.. From the respondents, The bank has an internal credit rating system, quantifies risk through credit rating, rate the management capacity of loan applicants, rating system predicts debt serving capacity of loan applicants, The rate used can determine deteriorating / non-performing loans, know how to use rating system, The format and instructions of credit risk grading are easy and clear to use for credit performers/analyst, Training should be given for credit analysts before he/she carried out the risk grading, Performers experience related to credit analysis have its own impact to evaluate the customers? Credit risk grading, lack of industry average influences the rating system of the bank are scored higher mean

which is above 4.0 implies that commercial bank of Ethiopia credit performer have good concept and concern about credit rating system.

But under the variables of credit risk grading the bank do credit rating on all projects, use public and private information in rating, The parameters of credit risk grading used by the bank are enough to grade customers, Credit risk grading should be done in collaboration with the relationship, It is easy to rate the business outlook and growth of a company, Convincing enough to grade customers ‘management experience and qualification based on the documents presented by the customer, It is fair to assume all PLC’s have succession. It is easy to know whether the company has succession plan or not and It is easy to know the level of integrity and honesty variables which is lowest than the total average. It implies that most of the variable which has lower score the measurements of customer management risks The study further investigate the bank credit risk grading system shows under the management risk factors the measurement of parameter is subjective and no defined and customer relation risk and business/industry risk are also has problem.

Table 12 Descriptive analysis for credit rating

descriptive analysis for credit rating	N	Mean	Std. Deviation	Variance
1. The bank has an internal credit rating system.	43	4.56	.548	.300
2. We do credit rating on all projects	43	3.74	1.115	1.243
3. The bank quantifies risk through credit rating	43	4.21	.742	.550
4. We rate the management capacity of loan applicants	43	4.16	.871	.759
5. Our rating system predicts debt serving capacity of loan applicants	43	4.40	.660	.435
6. The rating used can determine deteriorating / non-performing loans	43	4.14	.804	.647
7. We use public and private information in rating	43	3.79	1.059	1.122
8. I know how to use rating system.	43	4.35	.613	.375
9. The format and instructions of credit risk grading are easy and clear to use for credit performers/analyst	43	4.16	.814	.663
10. The parameters of credit risk grading used by the bank are enough to grade customers	43	3.65	.997	.994
11. The weights assigned for each parameters are reasonable and fair	43	3.98	.707	.499
12. Training should be given for credit analysts before he/she carried out the risk grading	43	4.14	.833	.694

13. Performers experience related to credit analysis have its own impact to evaluate the customers? credit risk grading.	43	4.23	.782	.611
14. Credit risk grading should be done in collaboration with the relationship	43	3.88	1.028	1.058
15. lack of industry average influences the rating system of the bank	42	4.38	.764	.583
16. It is easy to rate the business outlook and growth of a company	43	3.28	1.141	1.301
17. Convincing enough to grade customers' management experience and qualification based on the documents presented by the customer	43	3.60	1.094	1.197
18. It is fair assume all PLC's have succession	43	3.16	1.153	1.330
19. it is easy to know whether the company has succession plan or not	43	3.09	1.171	1.372
20. It is easy to know the level of integrity and honesty	42	2.95	1.209	1.461
Valid N (list wise)	41	3.89		

Source: - SPSS output -- 2020

4.3.5 Credit Risk Management Techniques

The overall mean score of credit risk Management technique is 3.67 the study reveals, implying that it is above average. From the variables included under risk Management technique in the study, almost all items in the category scored above average of 3.0. Three items in the category scored high rate of more than 4.0. These are the bank has a risk management policy, consider equity contribution of the borrower both in kind or investment progress in cash and Cost overrun, if any, on project cost is covered by the borrower with their respective score of 4.21, 4.37 and 4.35 Indicating that risk management techniques of diversification, transfer and retention is implemented in project finance in the bank. However, there is a gap to have a separate credit risk management policy for project finance.

Table 13 Descriptive analysis for credit risk management techniques

Descriptive analysis for credit risk management techniques	N	Mean	Std. Deviation	Variance
1. The bank has a risk management policy	42	4.21	.842	.709
2. The bank has a separate credit risk management policy for project finance	42	3.10	1.165	1.357
3. The bank has pre-set concentration limits in every sector	43	3.56	.950	.902
4. The bank has pre-set portfolio limits	42	3.67	1.028	1.057

5. The bank quickly responds to market changes	42	3.33	1.074	1.154
6. We use risk based pricing in our loan portfolio	43	3.23	1.212	1.468
7. We periodically assess credit quality of our loan portfolio	42	3.88	.832	.693
8. Our project loan portfolio is fully insured	42	3.64	.850	.723
9. Clients are requested to provide financial guarantees	43	3.39	1.093	1.194
10. Risk transfer improves loan recovery	43	3.91	.947	.896
11. The loan portfolio is invested in different sectors of the economy	43	3.84	.924	.854
12. We do not concentrate our loan portfolio in particular sectors of the economy	43	3.40	1.170	1.369
13. Diversification has reduced risk exposure in this institution	43	3.72	.854	.730
14. Default level have reduced due to diversification	43	3.44	.776	.602
15. We have widely used risk retention to know how much that exist in our loan portfolio	43	3.41	.741	.549
16. We consider equity contribution of the borrower both in kind or investment progress and in cash	43	4.37	.691	.477
17. Cost overrun, if any, on project cost is covered by the borrower	43	4.35	.752	.566
Valid N (listwise)	43	3.67		

Source: - SPSS output -- 2020

4.4 The share of project financing by CBE's credit portfolio

This section of the chapter deals with presentation, analysis and interpretation of the secondary data collected from CBE various sources. The tables and graphs presenting the secondary data are constructed primarily to examine to what extent CBE is involved in project financing. In order to identify to what extent the bank is supporting the economic growth of the country by different economics Sectors of projects, namely Agriculture, industries, Domestic trade and service, foreign trade, building and construction CBE started project financing before 2008 but massively engaged starting from 2012 in line with GTP of the country by prioritizing agriculture, manufacturing, export and specifically infrastructure project in tripartite agreement where the bank did not assess the projects

4.1 Project loan approval

Table 14 Project loan approval in CBE '000 birr

years	Industries project	Domestic trade and service	agriculture	Building and cons.service	Intern. Trade/export	total project loan approved of the year
2015	21,132,411	2,306,414,	638,737	239,129	1,100	24,317,793
2016	13,480,564	3,462,532	243,120	795,946	54,909	18,037,074
2017	11,687,867	11,280,001	95,028	9,792,150	10,171	32,865,219
2018	16,019,833	1,363,822	159,060	269,687	523,140	18,335,543
2019	17,131,214	8,467,587	148,809	6,000,000	18,639	31,766,250
Total	79,451,891	26,880,358	1,284,756	11,096,914	607,961	119,321,880

Source: Management Information System of CBE

The project loan approved of the above table indicates the five year study period huge amount financial supports to the national agenda of growth and transformation held by government of Ethiopia. The total share of the loan of 0.67%, 0.23%, 0.01%, 0.09% and 0.01% industries, domestic's trade and service, agriculture, building and construction, international trade respectively from 2015 up to 2019 years. The financing capacity of the bank also increases from time to time due to the growth and expansion of the deposit mobilization strategy in the bank.

4.4.2 Project loan outstanding balance

It has been observed that from table 14, the total yearly sectorial breakdown of outstanding of industries, agriculture, domestic trade and service, building and construction service, international trade /export projects takes the share 0.75%, 0.09%,0.01%,0.14%. And 0.004% from 2015 up to June, 2019 of five years of study period respectively. On the other hand, the total project outstanding loan of each sector in commercial bank of Ethiopia under the study has been increasing as indicated in the table. A high proportion of loans to total assets and rapid growth of the loan portfolio are potential early warning signals of loan quality problems which indicate potential failure (Sinkey1998,).

Table 15 Project financing outstanding balance in CBE in 000 birr

	industries	domestic trade and service	Agriculture.	Building and const.	Inter. trade	total outstanding loan projects
2,015	19,106,349	1,118,136	634,382	151,989	524	21,011,380
2,016	12,382,238	2,854,119	216,138	452,456	21,827	15,926,780
2,017	10,465,536	694,706	109,022	9,844,115	21,459	21,134,838
2,018	15,411,683	647,665	107,276	180,382	386,869	16,733,875
2,019	11,356,778	2,989,438	107,455	years	16,825	16,512,190
Total	68,722,584	8,304,064	1,174,273	12,670,636	447,504	91,319,063

Source: Management Information System of CBE and own computation

4.4.3 NPLs of the project loan Performance.

The quality of loans disbursed is measured, among others, by the level of loan arrears accumulated after the repayment schedule. National Bank of Ethiopia for this purpose, classified the loans in to five categories, namely “pass”, “Special mention”, “substandard”, “doubtful” and “loss”. The last three classifications are termed as Non-Performing Loans based on the extent of the arrears day of more than 90 days. The following table presents the NPLs amount for the economic sectors projects of the commercial banks of Ethiopia for the financial years starting from 2015 up to 2019. These figures are not present the short term or working capital loans.

Table 16 NPLs for project finance ‘000 birr

years	Industries	domestic trade and service	agriculture	building and const.	internatio nal trade	total NPL amount project loan
2015	128,062	109,889	96	118,640	-	356,689
2016	9,110	799,848	-	259,581	-	1,068,540
2017	185,554	256,341	37,904	146,754	2,266	626,554
2018	529,576	162,794				692,371

2019	216,575	4,558				221,133
total	1,068,879	1,333,432	38,001	524,975	2,266,	2,965,288

Source: Management Information System of CBE and own computation

The table shows the NPLs in commercial bank of Ethiopia project loan take the lion share of sectors are industries and domestics trade and services by 0.36% and 0.45% Agriculture, building and construction, international trade sectors 0.013%, 0.18% and 0.001% of the study periods 2015 up to 2019 respectively.

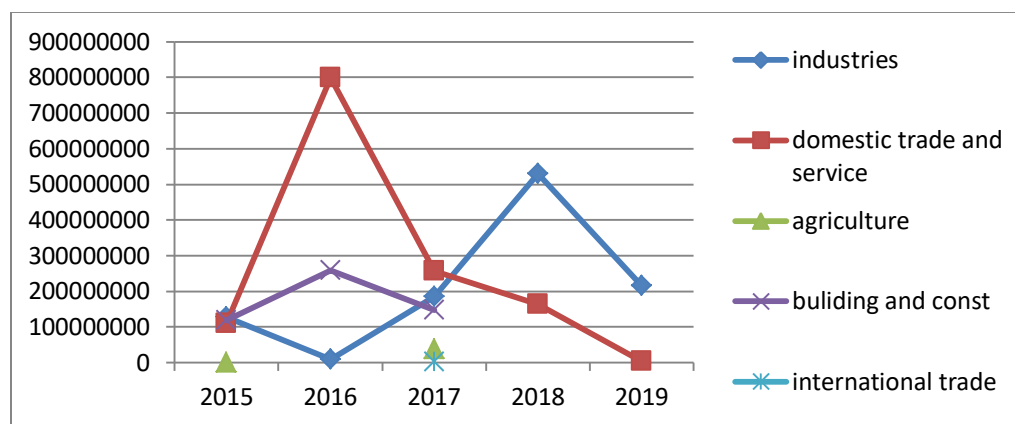


Figure 2 Project finance NPLs trend in CBE

From the above line chart, it can be inferred that the NPLs ratio of commercial bank of Ethiopia under considerations are reducing from year to year. This improvement is observed principally due to learning curve effect and the continuous pressure by the governor. According to the National Bank of Ethiopia, (NBE directive number SBB/43/2006) ratio of 5% is accepted to be non-performing and the higher the ratio from the specified threshold, the worse the loan performance. The total share of NPLs of project loan of the sectors is 3.24% (2,965,288/91,319,063) it indicate that contribution of only project loan product for NPLs is higher so that it can be predict the overall non-performing loan of the bank has greater than the minimum requirement of NBE. Performance of loan portfolio may be measured using proxies for credit risk and measures of loan quality such as provision for loan losses, net losses or charge offs, non-performing assets, return on net assets and return on equity among others. And e the bank it requires continuous monitoring and follows up their status because project has long term loan in nature and has high probability of default.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 CONCLUSION

The objective of this research was to assess the performance of project financing in case of commercial bank of Ethiopia, for this intention the study was intended to answer the specific questions which were derived from this broader objective. And hence, the study focused to assess the capacity of project financing in commercial bank of Ethiopia credit portfolio and to examine CBE project financing appraisal technique, to examine credit risk management and credit grading technique of CBE and to assess CBE has sufficient professionals staff to financing projects.

Mixed research approach was used to answer the specific questions of this research and achieve the principal objective of the study. Based on the research analysis and interpretation, the findings revealed the following conclusions.

- The study indicates the capacity of project financing in commercial bank of Ethiopia credit portfolio total amount approved is 119.3 billion birr from the study period 2015 up to 2019. From the total loan approved 0.67%, .23%, 0.01 %, 0.09% and 0.01% share are for industries, domestics' trade and service, agriculture, building and construction, international trade projects respectively. The total outstanding project loan is 91.3 billion birr from 2015 up to 2019 years. This huge amount shows that CBE give financial supports to the national agenda of growth and transformation held by government of Ethiopia. And it indicates the financial capacity for project financing is very high due to the growth and expansion of deposit mobilization strategy in the bank. The non-performing loan in project the total share is 3.24% from the outstanding balance.
- The appraisal process of CBE has not yet fully taking separate project financing policy, procedure and division or department and CBE inadequacy gap observed if the project type is new the bank not inviting appropriate expert in the area. And the bank has lack of qualified staff with the level of technology.
- The majority of respondent has one up to two years' work experience in credit area but the nature and complexity of project financing the bank performer has insufficient work experience.

- The bank has no separate project financing risk management at department level and the credit risk grading system in the customer relation risk, business/industry and management risk the parameters are not well defined and subjective.

5.2 RECOMMENDATION

Based on the finding and conclusion the following recommendation forwarded:-

- The total approval of project financing in commercial bank of Ethiopia credit portfolio is huge and it is one of financing mega project in the country and also depend on the complicity of project financing analyses should increase the capacity of the professionals/ experts in the credit area in order to analyze the financial worthiness of the project to be more strong and healthy.
- Commercial bank of Ethiopia should formulate an appraisal process or procedures for project financing that would encompass matters with basic identification of credit worthy customers, comprehensive credit analysis and authentic sanctioning process. And bank should also make use of approved and certified feasibility report of the proposed project which was suggested by appropriate technical professionals before financing. Technical experts should be invited in the case of new and unusual project loan requests.
- CBE should consider the technology and production process of a given project both in the short and in the long term before financing. Proper Technical appraisal is mandatory in this regard both for the technological competency and locations of a project. In some instances, commercial bank of Ethiopia should avoid financing complex projects until such time that their capacity warrants to do so. CBE shall either employ qualified staffs to assess the level of technology in each project or invite external assessors to assure the technical feasibility of the project.
- Commercial bank of Ethiopia should also increase use of risk transfers through insurance to minimize loss in case of default. Diversification of loan portfolio should be part and parcel of banks policy in an intention to spread risk. Loan portfolio should be invested in different sectors; regions for the Smooth operation of such follow up, a separate report of projects financed by the Bank and progress of each project should be maintained. It is also recommended that, depend on risk of project loan at least a separate division for project risk management should be established.
- It better to develop and implement internal rating systems to the customer management risk, customer relation risk and customer business or industry risk as well.

Appendix



ST.MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

Dear respondents

This questionnaire is designed to collect data for the research to be conducted on the topic;

“Assessment of the Performance of Project financing in case Commercial bank of Ethiopia
“which will be used as an input for the research in partial fulfillment of Masters in Project management (MSc).

To arrive at appropriate conclusion, you are kindly requested to provide with accurate, complete and genuine data to the best of your knowledge.

I would like to assure you that all the information, written or otherwise, collected from you will remain confidential and be used for the intended purpose only.

General Direction

- There is no need of writing your name.
- To make the research more valid and reliable, your genuine responses are highly vital.

Thank you in advance for your cooperation and sacrifice of your precious time.

Note: For any enquiry please contact through this number 09 13 25 62 54

General Instructions: Please put (√) Mark in the box provided next to each choice.

I. General Information

1. Name of Your Bank _____

2. Respondent's sex

A. Male

B) Female

3. Respondent's Level of Education?

A. Diploma

D. PH.D

B. First Degree

E. Any other, specify _____

C. Master Degree

4. Work Experience in the Bank _____ years

5. Current position;

A. Analyst (Appraisal officer)

C. Credit Relationship manager

B. Credit Follow-up Officer

D. Any other (please specify) _____

C. Risk Officer

6. Work Experience in this position _____ years

II. Project Financing Related Questions

SECTION I: CREDIT PROCESS AND APPRAISAL

Please respond to the following statements by indicating the extent to which you agree or disagree as per the given choices. Please circle on the number.

		5	4	3	2	1
	Variables	Strongly Agree	Agree	Uncertain	Disagree	Strongly Disagree
	APPRAISAL	5	4	3	2	1
1	The bank has separate credit policy for project financing	5	4	3	2	1
2	The bank has separate credit procedure for project financing	5	4	3	2	1
3	The bank has separate division for project financing in the	5	4	3	2	1

Assessment of the Performance of Project Financing in case of commercial Bank of Ethiopia

	structure					
4	We collect all the necessary documents from client before credit process	5	4	3	2	1
5	We demand for certified feasibility study from all project clients/ borrowers	5	4	3	2	1
6	We properly analyze the feasibility study to identify risk exposure	5	4	3	2	1
7	We consider professionalism in the respective projects	5	4	3	2	1
8	We look at relevant experience of the loan applicants	5	4	3	2	1
9	We primarily consider cash flow projections of a given project before we finance it	5	4	3	2	1
10	We critically analyze and comment on assumptions employed for cash flow projection	5	4	3	2	1
11	We consider capacity of the loan applicants	5	4	3	2	1
12	We look at the long term planning horizon of every loan applicant	5	4	3	2	1
13	We look at the conditions i.e. economic, political, environmental and others, before we finance a project	5	4	3	2	1
14	We look at collateral security as last way-out for the project loan	5	4	3	2	1
15	We consider the past track record of repayment, if any	5	4	3	2	1
16	We look at the character of loan applicants	5	4	3	2	1
17	We look at the credit trustworthiness of loan applicants	5	4	3	2	1
18	We consider the leadership quality or capacity of managers.	5	4	3	2	1
19	The bank charge higher interest rate for project loan compared to other loans	5	4	3	2	1
20	Loan delivery time for project financing is longer than a	5	4	3	2	1

month					
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FINANCIAL FEASIBILITY

1	We request for past financial reports from all clients for project finance, if any	5	4	3	2	1
2	We look the quality of financial feasibility study presented	5	4	3	2	1
3	We analyze projected financial reports	5	4	3	2	1
4	We calculate ratio analysis for profitability, efficiency, leverage	5	4	3	2	1
5	We analyze projected growth in sales of our clients/ borrowers	5	4	3	2	1
6	Interest coverage ratio is important before we finance	5	4	3	2	1
7	We look for sound financial management policies of our borrowers	5	4	3	2	1
8	We only finance projects with sound financial management policies	5	4	3	2	1
9	Financial analysis determines credit strength of a client	5	4	3	2	1
10	We invite technical experts if the project type is new for the bank	5	4	3	2	1
11	We consider the projected net worth of the business	5	4	3	2	1

TECHNICAL FEASIBILITY

1	We finance projects with potential market/ trade	5	4	3	2	1
2	We look at consumption behaviors of the market	5	4	3	2	1
3	We look at the marketing strategy of loan applicants	5	4	3	2	1
4	We finance projects that use appropriate technology	5	4	3	2	1
5	We have qualified staff to assess the level of	5	4	3	2	1

	technology					
6	We look at access to infrastructure	5	4	3	2	1
7	We consider availability of raw material before we finance a project	5	4	3	2	1
8	We look at the implementation plan of all projects	5	4	3	2	1
9	We consider if the project has specialized manpower	5	4	3	2	1
10	We look at the location of the project	5	4	3	2	1

CREDIT RATING

1	The bank has an internal credit rating system.	5	4	3	2	1
2	We do credit rating on all projects	5	4	3	2	1
3	The bank quantifies risk through credit rating	5	4	3	2	1
4	We rate the management capacity of loan applicants	5	4	3	2	1
5	Our rating system predicts debt serving capacity of loan applicants	5	4	3	2	1
6	The rating used can determine deteriorating / non-performing loans	5	4	3	2	1
7	We use public and private information in rating	5	4	3	2	1
8	I know how to use rating system.	5	4	3	2	1
9	The format and instructions of credit risk grading are easy and clear to use for credit performers/analyst	5	4	3	2	1
10	The parameters of credit risk grading used by the bank are enough to grade customers	5	4	3	2	1
11	The weights assigned for each parameters are	5	4	3	2	1

	reasonable and fair					
12	Training should be given for credit analysts before he/she carried out the risk grading	5	4	3	2	1
13	Performers experience related to credit analysis have its own impact to evaluate the customers' credit risk grading.	5	4	3	2	1
14	Credit risk grading should be done in collaboration with the relationship	5	4	3	2	1
15	lack of industry average influences the rating system of the bank	5	4	3	2	1
16	It is easy to rate the business outlook and growth of a company	5	4	3	2	1
17	Convincing enough to grade customers' management experience and qualification based on the documents presented by the customer	5	4	3	2	1
18	It is fair assume all PLC's have succession	5	4	3	2	1
19	It is easy to know whether the company has succession plan or not	5	4	3	2	1
20	It is easy to know the level of integrity and honesty	5	4	3	2	1

SECTION II: CREDIT RISK MANAGEMENT

Please respond to the following statements by indicating the extent to which you agree or disagree as per the given choices. Please circle on the number

1	The bank has a risk management policy	5	4	3	2	1
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Assessment of the Performance of Project Financing in case of commercial Bank of Ethiopia

2	The bank has a separate credit risk management policy for project finance	5	4	3	2	1
3	The bank has pre-set concentration limits in every sector	5	4	3	2	1
4	The bank has pre-set portfolio limits	5	4	3	2	1
5	The bank quickly responds to market changes	5	4	3	2	1
6	We use risk based pricing in our loan portfolio	5	4	3	2	1
7	We periodically assess credit quality of our loan portfolio	5	4	3	2	1
8	Our project loan portfolio is fully insured	5	4	3	2	1
9	Clients are requested to provide financial guarantees	5	4	3	2	1
10	Risk transfer improves loan recovery	5	4	3	2	1
11	The loan portfolio is invested in different sectors of the economy	5	4	3	2	1
12	We do not concentrate our loan portfolio in particular sectors of the economy	5	4	3	2	1
13	Diversification has reduced risk exposure in this institution	5	4	3	2	1
	Default level have reduced due to diversification	5	4	3	2	1
14	We have widely used risk retention to know how much that exist in our loan portfolio	5	4	3	2	1
15	We have widely used risk retention to know how much that exist in our loan portfolio	5	4	3	2	1
16	We consider equity contribution of the borrower both in kind or investment progress and in cash	5	4	3	2	1

17	Cost overrun, if any, on project cost is covered by the borrower	5	4	3	2	1
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Thanks for your time and cooperation!

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