

**THE IMPACT OF NON PERFORMING LOANS ON PROFITABILITY
OF ETHIOPIAN COMMERCIAL BANKS**

**A RESEARCH PAPER SUBMITTED TO THE DEPARTMENT OF
ACCOUNTING AND FINANCE FOR PARTIAL FULFILLMENT OF
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ACRONYMS

CAR = Capital Adequacy Ratio

CSA: =Center of Statistical Agency

CMWF = Construction Manufacturing Working Fund

CPI=Consumer Price Index

CPDD =Corporate Planning and Development Department

DMTS = Domestic Trade and Service

ETB = Ethiopian Birr

FDRE = Federal Democratic Republic of Ethiopia

GDP = Gross Domestic Product

GDPR= Gross domestic product growth rate

GMM= Generalized Method of the Moment

IMF: - International Monetary Fund

INFR = inflation rate

JV = Joint venture

LIR= lending interest rate

ME= management efficiency

NPL = Non-Performance Loan

NPLR= non-performing loan rate

ROA= Return on Asset

ROE= Return on Equity

S.C = share company

SME= Small to Medium Enterprise

SPSS =Statistical Package for Social Sciences

VIF = Variance Inflation Factor

Declaration

I, undersigned declare that this senior essay is my original work and has not been presented for a degree in any other university and that all sources of information used for this senior essay have been duly acknowledged.

Name: _____

Signature: _____

Date of submission: _____

This senior essay is submitted for examination with my approval as a university advisor.

Advisor Name: _____

Advisor's signature: _____

Date of submission: _____

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Abstract

This study focuses on the impact of non performing loan on profitability of Ethiopian commercial banks. Bank loans have a vital contribution towards development of economy by financing different type of sectors. However, nonperforming loans were leads to incidence of huge loss on banks profit in particular and country economy in general. Hence, this study was conducted to examine both internal factors factor of (nonperforming loan rate, management effviency,capital aduquacy and loan to deposit rate) and external factors (Ethiopian inflation and GDP rate) impact of NPL on bank profitability. To this end, the researcher has selected 7 banks of Ethiopia. This study used secondary sources of data, which was cover the period 2010- 2018.These data were collected from NBE directives and CSA. Furthermore, a descriptive statics and linear regression model was used to examine the impact of NPLs by using EVIEWS 8. This research was explanatory research designed that identifies the cause and effect relationships between the study variables and ROA. According to the findings, the result of bank variables, gorss domestic product (GDP), and capital aduquacy (CA) were found to have a major impact on ROA of EPCBs, with respect the other variables, inflation rate and management efficiency(ME),loan to deposit ratio(LTR) and non performing loan(NPL) were found to be statistically insignificant impact on ROA in EPCBs. In particular, capital aduquacy had a positive association with the levels of profitability. In addition, the effective exchange rate had also a negative association with NPLs of Ethiopian commercial banks. The finding of this study was significant since once identifying the impact of NPLs might enable management body to make appropriate lending policies that prevent the occurrence of NPLs. Furthermore, the study recommended the bank should emphasize the management of loans to reduce the level of nonperforming loans. Besides, it was better for the loan officers to provide financial counseling to the borrowers on the wise use of loan.

Key words: Nonperforming loans, internal factors, external factors, ROA

CHAPTER ONE

BACKGROUND OF THE STUDY

1. INTRODUCTION

This chapter examines and discusses the the general background of the study,first disclose the introduction,secondly present the statement of problem about the reaserch,thirdiy enterprete the objective of the research including the general and specific objective fourthly discussed the haypothesis development and the significant of the study finally discuss the scope of the study and the background of the study.

1.1. Background Of The Study

Economic growth in any country was not possible without a sound financial sector (Raja Raman and Visishtha, 2002). Good performance of these financial institutions was the symbol of prosperity and economic growth in any country or region and poor performance of these institutions not only hamper the economic growth and structure of the particular region but also affects the whole world (Khan and Senhadji, 2001). Commercial banks in most of the world economies are dominant type of financial institution that provide installment, facilitates the internal and external trade and the movement of money and capital when compared to any other financial institution (G &B, 2003; S &S, 2014).

Loan means any financial facets of a bank arising from a direct or indirect advance or commitment to advances funds by a bank to a person that are conditioned on the obligation of the person to repay the funds either on specified dates or on demand usually with interest. The lending function was considered by the banking industry as one of the most important function for the utilization of funds. Since, banks earn their highest gross profits from loans; the administration of loan portfolios seriously affects the profitability of banks. In the process of provided credit assistance to the investment activities and projects in the economy, financial institutions face inherent risks in the form of default risk which results in build-up of Non-Performing Loans (NPLs) that have a negative effect on the profitability of the financial institutions

There was no standard form to define non-performing loans globally. Variation may exist in terms of the classification system, the scope, and contents as per country. (Seema B 2014). According to the International Monetary Fund (IMF, 2009), a non-performing loan was any loan in which interest and principal payments were more than 90 days overdue; or more than 90 days worth of interest has been refinanced .

Under the Ethiopian banking business directive, non-performing loans were defined as “Loans or Advances whose credit quality has deteriorated such that full collection of principal and/or interest in accordance with the contractual repayment terms of the loan or advances in question National Bank of Ethiopia (NBE, 2008). The success of individual banks in credit risk management was largely reflected in the proportion of NPL’s loans to gross lending (Flamini, 2009). Non-performing loans were one of the main reasons that cause insolvency of the financial institutions and ultimately hurt the whole economy (Hou, 2007). Each non-performing loan in the financial sector was viewed as an obverse mirror image of an ailing unprofitable enterprise. From this point of view, the eradication of non-performing loans was a necessary condition to improve the economic status of the financial institution. Continuously rolling over nonperforming loans locks up resources that could otherwise be invested to profitable sectors of the economy.

Intuitively this hinders economic growth and impairs economic efficiency (Chikoko et al, 2012). In order to control the non-performing loans it was necessary to understand the root causes of these non-performing loans in the particular financial sector. The causes for loan default vary in different countries and have a multidimensional aspect both, in developing and developed nations. Theoretically there were so many reasons as to why loans fail to perform. Some of these include depressed economic conditions, high real interest rate, inflation, lenient terms of credit, credit orientation, high credit growth and risk appetite, and poor monitoring. NPLs can arise from factors specific to the bank or macroeconomic conditions (Emmanuel, 2014).

Generally, there was a robust association between banks NPLs and several bank specific variables along with macroeconomic variables. From bank specific variables some of them were management efficiency, capital adequacy, loan to deposit ratio, loan to deposit ratio etc. have significant influence on the NPLs. However, the uniqueness of banking sector, banking policies, efficiency maximization efforts and risk reduction policies also have significant impact on the quality of loans. From the external or macro level factors, real GDP growth rate, inflation rate,

etc. have a significant impact on the rate of NPLs. In our country the most important function of commercial banks in the area of financial intermediation were deposit mobilization and lending activities. This study would be examined the determinants of NPLs, in commercial bank of Ethiopia by using both macroeconomic (Growth domestic product, and annual inflation rate), and bank specific variables (loan to deposit ratio, Capital Adequacy Ratio, management efficiency and non performing loan) and also adopt a quantitative type of research approach.

1.2. STATEMENT OF THE PROBLEM

The Impact of Non-performing Loan on banks profitability been growing in indigenous banks. Different sources have revealed that most of the banks have been facing serious problem having a significant portion of their loans fall into the category of bad debts or what was technically termed as Non-Performing Loans (Ali S. & Iva S. (2013).

Lending activities require banks to make judgment related to the credit worthiness of a borrower. However, the judgment does not always prove to be accurate and the credit worthiness of a borrower may decline overtime due to various factors. Consequently, banks face credit risks that the borrower may fail to meet the terms of the underlining loan agreement. The growing trend of non-performing loans was becoming a concerning issue not only for the banking sector but also for the national economy, at large. It hinders financing capacity of the banks, where in effect it had an adverse impact on the non performing loan development of the our country. It had been believed that there were a number of factors contributing to the source and extent of this problem.

Among the various services provided by the bank, lending had been the primary activity for a decade. commercial had a better share in the financial market. Due to this commercial bank risk exposure was very high when it compared with Government commercial banks in Ethiopia. Out of these risks, Non-performing loans were take the major part as the borrower of the bank become large and large overtime. Although the bank had work for the better position of Non-performing loans, it still needs great attention for the reasons of a source of profit for banking and plays a great role in country economy. In this study, certain variables such as loan to deposit rate, inflation rate, real GDP growth rate, management efficiency, capital adequacy, non-performing loan rate would used, in order to explain the relationship that

exist between those factors with non-performing loans and its impact on profit, measured by ROA in the Ethiopian commercial bank..

Research in banking and finance have indicated that bank performance was related to internal and external factors. The internal factors relate to banks' characteristics and external factors were described. A similar study in finding determinants non performing loan of bank profitability, Sanusi & Mohamed (2007) found that banks characteristics and the financial structure of a country are significant variables affecting bank profitability.

The research expects the loan to deposit rate, capital adequacy, management efficiency and non-performing loan rate are high, it was an internal factor that have an impact on banks non-performing loan position. Whereas the (external) macro economics factor GDP growth rate was low and inflation rate will high, it may an external factor that had an impact on non-performing loan status of the Ethiopia commercial bank of abissinia, united bank, nib international bank, cooperative bank of oromia, lion international bank, zemen bank and oromia international bank). The study therefore seeks to answer the question; Does non-performing Loans have impacts on profitability of the above listed Ethiopian commercial banks

1.3. OBJECTIVES OF THE STUDY

1.3.1. GENERAL OBJECTIVE

The general objective of this study was to examine the impact of nonperforming loan on profitability of commercial banks in ethiopia.

1.3.2. SPECIFIC OBJECTIVES

The specific objectives of this study were:-

- ✓ To examine the effect of NPL on profitability.
- ✓ To examine the effect of inflation on profitability.
- ✓ To examine the impact of the bank loan to deposit rate on profitability.
- ✓ To examine the effect of GDP on profitability.
- ✓ To examine the effect of management efficiency on profitability
- ✓ To examine the effect of capiattal adequacy on profitability

1.4. RESEARCH HYPOTHESIS

In this section the researcher developed testable hypotheses to examine the impact of nonperforming loan on profitability of commercial banks in Ethiopia.

Thus, based on reviewed related literatures, the researcher developed the following null hypotheses to estimate the sign relationship of bank specific and macroeconomic determinants

With nonperforming loans of commercial banks on empirical evidence reviewed in the literature parts. Since, the null hypothesis was the statement or the statistical

Hypothesis that was actually being tested (Brooks, 2008 p. 52), the following hypotheses were null

Hypothesis. Accordingly, the following hypotheses were tested.

H1: profitability has significant negative effect with Nonperforming loans (NPLs) of banks.

H2: Loan to Deposit (LTD) has significant positive effect with profitability of banks.

H3: There was significant negative effect between profitability and real GDP growth rate.

H4: There was significant positive effect between inflation rate and profitability.

H5: there was significant positive effect between management efficiency and profitability

H6: There was significant positive effect between capital adequacy and profitability

1.5. SIGNIFICANCE OF THE STUDY

The researcher believes that the result of this research would have the following contributions.

- Enrich the reader knowledge on the impact of non-performing loan on organizational profitability and their relation between the customer.
- to provide solution to the impacts and help to achieve organization goals of the Ethiopian commercial banks about how to reduce the factor of the non performance loan.
- Enable the Bank and borrowers to develop and implement good credit worthiness system to minimize nonperforming loans the bank.

- Enable the managers to be aware of what was expected of them in managing loans of different firms and which factors were more impact on the non performance loan and how to control it.
- this paper enables used as source (areference) to understand how the research prepared and highlights for further student and researchers for more understanding.

1.6. SCOPE OF THE STUDY

This study concentrated on commercial banks which have nine years' experience. Moreover the researcher wants to seen the impact of non-performing loans on profitability of Ethiopian commercial banks. though there were commercial banks in Ethiopia, the current study select only seven commercial banks in Ethiopia that have an available data from 2010 to 2018. namely bank of Abyssinia, oromia interational, Nib International bank, cooperative bank of Oromia, Lion international bank and zemen bank. These banks were selected since they were senior banks and are expected to have more experience on the lending activities. Hence, this study was limited to bank specific and the variables were dependent (ROA), independent (GDP, INF,ME,CA, LTD and NPL).

1.7. LIMITATIONS OF THE STUDY

The scope of the current study was limited to the secondary data obtained from financial statement of commercial bank in Ethiopia for the last ten (9) years. And the researcher faced a problem with accessing financial data from Ethiopian banks directly because of lengthy processes involved in obtaining the information and published financial statements and reports used to extract data.

1.8. ORGANIZATION OF THE STUDY

The study covers five chapters. The first chapter includes background of the study, background of the organization, statement of problems, objective of the study, basic research questions, significance of the study, scope of the study and limitation of the study. The second chapter deals with the review of literature and empirical studies of loan broadly non-performing loans in banking industry in general. Chapter three includes research design and methodology of the study. Chapter four contains analysis, discussion and results and the last chapter deals with the

conclusions drawn and recommendations that originates from the analysis. Finally, list of figures, graphs and tables attached as an appendix.

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

2.1. INTRODUCTION

The preceding chapter deals on the introductory part of the study i.e. the motive behind conducting this study. The purpose of this chapter is to review the existing literatures concerning on the area of NPLs(nonperforming loans) and factor that affect the level of NPLs i.e. internal (bank specific) as well as external (macroeconomic) factor in the banking industry. The current chapter has three sections and organized as follows. The first section (2.1) presents the theoretical reviews on NPLs; it includes nature and definition of NPLs, Classifications of Loans and advances and theories on bank loan and cause for loan default. Second section (2.2) similarly reviews different empirical results regarding the impact of various banks specific and macro

level factors on the growth of nonperforming loan rate. Finally, section three (2.3) deals with conclusion of the chapter and knowledge gap that inspire this study.

2.2. THEORETICAL LITERATURE

Loan means any financial assets of a development finance institution arising from a direct or indirect advance of funds (i.e. unplanned over drawings, participation in loan syndication, the purchase of loans from another lender, etc.) or commitment to advance funds by a development finance institution to a person that are conditioned on the obligation of the person to repay the funds, either on a specified date or dates or on demand, usually with interest. The term includes a contractual obligation of a development finance institution to advance funds to or on behalf of a person, claim evidenced by a lease financing transaction in which the development finance institution is the lesser, and line of credit to be funded by the development finance institutions on behalf of a person. (NBE Directives No. SBB/48/2010). A certain amount of money that is given by one party to the other party with the expectation of it being fully repaid is called a loan. The nature of this transaction is financial. All the specific terms and conditions that are a part of the transaction from either side are formally laid out in a promissory note. A lender granting temporary use of a sum of money to borrower, who must repay the money that, was borrowed over a fixed term, in addition to the interest on the loan or debt, that was incurred, defines loan. There is a stated due date to the borrower by the lender to repay the money back to the borrower, but if the borrower failed to repay the stated money back, the lender charges late fee from those persons who do not return the money on the due date.

Generally, a financial loan typically refers to monetary debt, although it is possible to lend any material possession, aside from sales, the lending of money is the most frequent type of commercial transaction that occurs in a modern economy.

2.2.1. OVERVIEW OF BANKING SYSTEM IN ETHIOPIA

Bank of Abyssinia was the first bank established in Ethiopia based on the agreement between Ethiopian government and National bank of Egypt in 1905 with a capital of 1 million shillings. However, bank of Abyssinia was closed at in 1932 by Ethiopian government under Emperor Haile Selassie and replaced by Bank of Ethiopia with a capital of pound sterling 750,000.

Following the Italian occupation between 1936-1941, the operation of bank of Ethiopia ceased whereas the departure of Italian and restoration of Emper Haile Selassie's government established the state bank of Ethiopia in 1943. However, State bank of Ethiopia was separated into National bank of Ethiopia and commercial bank of Ethiopia S.C. to separate the responsibility of national bank from commercial banks in 1963. Then, on December 16, 1963 as per proclamation No.207/1955 of October 1963 commercial bank of Ethiopia control all commercial banking activities (Fasil and Merhatbeb, 2009).

Following the declaration of socialism in 1974, the government extends the extent of its control over the whole economy and nationalized all large corporations. Accordingly, Addis bank and commercial bank of Ethiopia share company were merged by proclamation No.84 Of August 2, 1980 to form single commercial bank in the country until the establishment of private commercial banks in 1994. To this end, financial sector were left with three major banks namely; National bank of Ethiopia, commercial bank of Ethiopia and Agricultural and development bank during the socialist government. However, following the departure of Dergue regime, Monetary and Banking proclamation of 1994 established the National bank of Ethiopia as a legal entity.

Following this, Monetary and Banking proclamation No.84/1994 and the Licensing and supervision of banking business proclamation No.84/1994 laid down the legal basis for investment in banking sectors (Habtamu, 2012).

Currently, banking sectors in Ethiopia are showing progressive developments in terms of number of branches, total assets, human resource utilization and the like relative to other African developing countries. This indicates as Ethiopia categorized under banked country with limited outreach (Tseganesh, 2012). Thus, currently number of banking sectors in Ethiopia were reached nineteen as shown in the following table.

Table 2.1 Banking sectors in Ethiopia

No	Name of Banks	Year of Establishment
1,	Bank of Abyssinia	1996 E.C.
2,	United Bank	1998 E.C
3,	Nib International bank	1999 E.C.
4,	Cooperative Bank of Oromia	2004 G.C.
5,	Lion International Bank	2006 G.C.
6,	Zemen Bank	2008 G.C
7,	Oromia International Bank	2008 G.C

Source: www.nbe.et

2.2.2, CREDIT ACTIVITY

The word "Credit" is derived from Latin word *credidum*, which means to believe or trust. In economics, the term credit refers to a promise by one party to pay another for money borrowed or goods or services received. It is a medium of exchange to receive money or goods on demand at some future date. Credit is defined as the right to receive payments or the obligation to make payment on demand at some future time on account of the immediate transfer of goods" (M. L. Jhingon, 1965). The principal reason commercial banks are operating in their environment is to maximize their profit by extending credit facilities to their customers. Banks are expected to support their local business communities with an adequate supply of credit for all legitimate business and consumer financial needs and to price that credit reasonably in line with competitively determined interest rates. Indeed, it is the principal economic role of banks to provide loans to the business entities and individuals who are engaged in various economic activities (Agriculture, manufacturing and industry, import/ export, trade and services, housing etc...).

The bank's role in finding involves assisting prospective borrowers by availing working or investment capital from which it generates profit.

2.2.3. TYPES OF CREDIT IN BANK

According to IMF (www.imf.com), the great variety of credit line results from the widely Varying needs and activities of borrowers and lenders. Credit can be classified in different Ways, but usually in banking sector it can be classified based on two criteria:

- I. Based on the needs of customers and nature of their business Overdraft Facility: This is credit facility by which customer is allowed to withdraw cash in excess of their deposit up to the extent of an approved limit by the bank. The duration may be short up on one year or medium up to five years and long above five years. These loans are paid by equal monthly, Quarterly or semi-annually repayments. Short-term loans are usually used for working capital needs; medium term loan may be extended to purchasing of public transport vehicles, equipment, trucks and trailers ... etc. Long- term loan extended for new investment projects, manufacturing, building and constructions purpose. Merchandize Loan - When a loan is granted against the pledge of merchandise goods for a short period it is called merchandise loan.
- II. Letter of credit Facility - When importers are not in opposition to cover fully the value of the letter of credit to be opened for goods intended to be imported, the bank provide them advance to cover some part of the cost and deal with the exporters' bank on behalf of the importer.
- III. III. Based on Economic Sectors -Loans can be classified based on the purpose they involved in the economic sector. These economic sectors are Agricultural production, manufacturing production, Domestic trade and Service, Building and Construction and import - Export loan categories (Aklilu, p22-23).According to commercial banks loan category, loans are segregated among eight categories for the purpose of report and analysis. The categories are agriculture, manufacturing, DMTS, import, export, real estate, CMWF, and Ethiopian commercial banks, Annual Credit Report).

2.2.4. WHAT IS NON-PERFORMING LOAN?

There is no common definition of non-performing loans in the whole country since it is recognized that it is possible that what is appropriate in one country may not be so in another.

There is, however, some common opinion on this issue. (Gadise Gezu, 2014). According to Oxford Dictionary of Finance & Banking (3rd Edition), nonperforming loans is a loan on which the interest or payment are overdue. In the USA, non-performing loans defined by regulators as a category of loan which is more than 90 days". Based to Oxford Business English Dictionary, non-performing loans is a loan in which the borrower has not made a payment for a particular period of time. Therefore, the banks run into trouble with non-performing loans.

According to National Bank of Ethiopia directive number SBB/43/2008, "Nonperforming" means loans or advances whose credit quality has deteriorated such that full collection of principal and/or interest in accordance with the contractual repayment terms of the loan or advance is in question. A non-performing loan is a loan that is in default or close to being in default. Many loans become non-performing after being in default for three months but this can depend on the contract terms. A loan is non-performing when payments of interest and principal are past due by 90 days interest payments have been capitalized, refinanced or delayed by agreement or payments are more than 90 days overdue, but there are other good reasons to doubt that payments will be made in full" (IMF,2005)

According to NBE directives (2010) Loans or advances with pre-established repayment programs are nonperforming when principal and/or interest is due and uncollected for ninety consecutive days or more beyond the schedule payment date or maturity. Over draft and loans or advances that do not have a pre-established repayment program shall be considered non-performing when.

The debt remains outstanding for ninety consecutive days or more beyond the scheduled payment date or maturity. The debt exceeds the borrowers approved limit for ninety consecutive days or more. Interest is due and uncollectable for ninety days or more or the account has been in active for ninety consecutive days and /or deposit is insufficient to cover the interest capitalized during the period. Non-performing loan is a loan that is not earning interest income and:

- a. Full payment of principal and interest is no longer expected.
- b. Principal or interest is 90 days or more delinquent.

c. The maturity rate has passed and payment is full has not been made (www.workpedia.com).

According to NBEs directive SBB/48/2010, loans & advances are classified in to five. Those are:-

1. **Pass Loans** in this category are fully protected by the current financial and paying capacity of the borrower and are not subject to any criticism. Notwithstanding the generality of this statement, the following loans shall be classified pass: short term loans past due for less than 30 (thirty) days, medium and long-term loans past due for less than 90 (ninety) days; and any loan, or portion thereof, which is fully secured, both as to principal and interest, by cash or cash-substitutes, regardless of past due status or other adverse credit factors.
2. **Special Mention** The following loans at a minimum shall be classified special mention: short term loans past due for 30 (thirty) days or more, but less than 90 (ninety) days; medium and long-term loans past due 90 (ninety) days or more, but less than 180 (one hundred-eighty) days;
3. **Substandard** The following non-performing loans at a minimum shall be classified substandard: short term loans past due 90 (ninety) days or more, but less than 180 (one-hundred-eighty) days and medium and long-term loans past due 180 (one-hundred-eighty) days or more, but less than 360 (three-hundred sixty) days.
4. **Doubtful** The following non-performing loans at a minimum shall be classified doubtful: short term loans past due 180 (one-hundred-eighty) days or more, but less than 360 (three-hundred-sixty) days and medium and long-term loans past due 360 (three-hundred-sixty) days, but less than 3 (three) years.
5. **Loss** The following non-performing loans at a minimum shall be classified loss: short term loans past due 360 (three-hundred-sixty) days or more and medium and long-term loans past due 3 (three) years or more.

2.2.5. INFLATION

Inflation is a supported build in the normal cost of all merchandise and administrations processed in an economy. Money loses buying force throughout inflationary periods since every unit of money purchases dynamically fewer merchandise. Swelling is an ascent in the general value

level. There are two real reasons for expansion: Demand change, and supply change. Powerless and vacillating recuperation needs is a great solid dosage of swelling published ahead of time by the Fed/Treasury. The thinking behind that solution is that expansion and the desire of swelling might activate organizations sitting on crowds of money and families attempting to shore up their asset reports to begin using some of their money on ventures and shopper durables instead of watch the money devalue. Additionally, climbing costs, and the desire of climbing costs, might energize organizations, hesitant to grow yield and livelihood as a result of deficient interest, to do only that in the desire that costs might climb sufficiently to permit them to offer the included yield at a benefit. Inflation is defined as the percentage increases of a reference index, the Consumer Price Index (CPI), which is a representative of a common basket of goods and services (Mercurio, 2004).

The impact of inflation on an economy takes the form of restructuring of income. It harms savers as price increases, and purchasing power of savings depreciates. Saving account, insurance plans, annuities and other fixed value paper assets decrease in real value during inflation. Unexpected inflation profits borrowers at the expense of lenders. For the macro-economic managing, low levels of inflation are preconditions mostly in developing nations (Gill & Khan, 2010). Inflation can have a chain of negative significance for the economy. Initially, inflation wears down the purchasing power of the individuals and therefore, leads to a reduction in economic growth. It leads to rise in macro-economic unsteadiness as an inflationary atmosphere creates much ambiguity. Moreover, inflation has backsliding significance on the poverty of a country's citizens. The surge in general price level harms the poor more since their basket of goods and services becomes considerably concentrated in every inflationary spell.

Furthermore, inflation can hurt a nations effectiveness by leading towards the appreciation of the national currency and a resulting over estimated exchange rate, which has an adverse impact on exports (Gill & Khan, 2010).

According to, Fofack (2005) in a study shows that inflationary forces influence the high level of compromised loans in African countries with variable exchange rate systems. According to this author, inflation is accountable for the prompt destruction of the equity of commercial banks and therefore higher credit risk in the banking regions of these African countries.

In this study, the research intends to find out the impact of inflation with relation of loan default or non-performing loans on ROA of Ethiopian commercial banks.

2.2.6. GROSS DOMESTIC PRODUCT (GDP)

GDP is a monetary measure of the market value of all the final goods and services produced in a period of time often annually. GDP (nominal) per capita does not, however, reflect differences in the cost of living and the inflation rates of the countries; therefore using a basis of GDP per capital at purchasing power parity (PPP) is arguably more useful when comparing differences in living standards between nations. The OECD defines GDP as "an aggregate measure of production equal to the sum of the gross values added of all resident and institutional units engaged in production (plus any taxes, and minus any subsidies, on products not included in the value of their outputs)."

"GDP measures the monetary value of final goods and services that are bought by the final user produced in a country in a given period of time (say a quarter or a year)." (An IMF publication, 2013)

Total GDP can also be broken down into the contribution of each industry or sector of the economy. The ratio of GDP to the total population of the region is the per capita GDP and the same is called Mean Standard of Living. GDP is considered the "world's most powerful statistical indicator of national development and progress".

2.2.7. LOAN-TO-DEPOSIT (LTD) RATIO

The loan-to-deposit (LTD) ratio is used to assess a bank's liquidity by comparing a bank's total loans to its total deposits for the same period. The LDR is expressed as a percentage. If the ratio is too high, it means that the bank may not have enough liquidity to cover any unforeseen fund requirements. Conversely, if the ratio is too low, the bank may not be earning as much as it could be.

$$LTD = \frac{\text{Total Credit}}{\text{Deposit}}$$

To calculate the loan-to-deposit ratio, divide a bank's total amount of loans by the total amount of deposits for the same period. You can find the figures on a bank's balance sheet. Loans are listed as assets while deposits are listed as liabilities.

A loan-to-deposit ratio shows a bank's ability to cover loan losses and withdrawals by its customers. Investors monitor the LDR of banks to make sure there's adequate liquidity to cover loans in the event of an economic downturn resulting in loan default.

2.2.8. THE EFFECTS OF NON-PERFORMING LOANS ON ECONOMY

Non-performing loans can lead to efficiency problem for banking sector. It is found by a number of economists that failing banks tend to be located far from the most-efficient frontier (Berger and Humphrey (1992), Barr and Siems (1994), DeYoung and Whalen (1994), Wheelock and Wilson (1994)), because banks don't optimize their portfolio decisions by lending less than demanded.

What's more, there are evidences that even among banks that do not fail, there is a negative relationship between the non-performing loans and performance efficiency (Kwan and Eisenbeis (1994), Hughes and Moon (1995), Resti (1995)). The idea of credit crunch has drawn attention when the traditional view failed to satisfactorily explain the economy state for those countries that suffered from the South-East Asian financial crisis

During a crisis, in order to restore the credibility among creditors and depositors, failing financial institutions not only try to expand their equity bases, but also reduce their risky assets or change the composition of the asset's portfolio. As a result of such defensive action, the corporate debtors are always targeted, thus stalling the overall economic growth.

Specially, the reluctance of banks to lend can be caused by several reasons, such as the increased capital adequacy requirement imposed by Basel Accords; impaired debt-servicing capacity, especially small-to-medium enterprises (SMEs); risks of a further fall in collateral value, etc., which make the interest rate not to serve as the main determinant by banks in credit approval. Nonperforming loans have been viewed to constitute one of the most important factors causing reluctance for the banks to provide credit. In a high NPL condition, banks increasingly tend to carry out internal consolidation to improve the asset quality rather than distributing credit. Also, the high level of non-performing loans requires banks to raise provision

for loan loss that decreases the banks revenue and reduces the funds for new lending. The cutback of loans impairs the corporate sector as they have difficulties in expanding their working capital, blocking their chances of resuming normal operation or growing.

2.2.9. NON-PERFORMING LOANS

Nonperforming loans (NPLs) are loans that are outstanding both in its principal and interest for a long period of time contrary to the terms and conditions under the loan contract. Any loan facility that is not up to date in terms of payment of principal and interest contrary to the terms of the loan agreement is NPLs. Thus, the amount of nonperforming loan represents the quality of bank assets (Tseganesh, 2012). According to the Ethiopian banking regulation, “Nonperforming loan and advances are a loan whose credit quality has deteriorated and the full collection of principal and/or interest as per the contractual repayment terms of the loan and advances are in question” (NBE, 2008). NPL is a loan that delays for the payment of principal and interest for more than 90 days. Deterioration in asset quality is much more serious problem of bank unless the mechanism exists to ensure the timely recognition of the problem. It is a common cause of bank failure. Poor asset quality leads nonperforming loan that can seriously damage a banks’ financial position having an adverse effect on banks operation (Lafunte, 2012).It distresses the performance and survival of banks (Mileris, 2012).It is measured or indicated by the amount of NPLs to gross loans.

$$\text{NPL ratio} = \frac{\text{NPLs}}{\text{Gross Loan}}$$

2.2.2 PREVENTING NON-PERFORMING LOANS

Safety is the watch words n commercial bank lending activities. Bankers want to feelreasonablysure that the principals of their loans will be repaid, even though they may have To be satisfied with relatively low rates of interest because of their selection of only the Better risks. Banks deal with problem loans in a variety of ways. The eventual path to collect problem Loans depend on how early the problems are discovered. Problems that are discovered early enough can frequently be corrected by restructuring the borrower's operations and Repayment schedule. (Peter 1999, 243) there are useful warning signals of a weak loans and Poor bank lending policies. The signals of weak loans include irregular or delinquentloanRepayment frequent request for alternations in loan, rising debt to net worth and not filing Documents like financial statements. In addition, request for reappraisal of assets to

increase Net worth and applying for loan on poor quality collateral signal problem loans. The Customer may also rely on non-recurring sources of funds, such as selling of buildings and Equipment to meet loan repayments. On the other hand, poor selection of risks among borrowing customers, ending money on contingent future events, lending money because a customer promises a large deposit.

2.3. EMPIRICAL LITERATURE

Louzis et al. (2010) conduct study to examine the impacts of non-performing loans in the Greek financial sector using fixed effect model from 2003-2009 periods. The variables included were ROA, ROE, solvency ratio, loan to deposit ratio, inefficiency, credit growth, GDP growth rate, unemployment rate and lending rates. The finding reveals that loan to deposit ratio, solvency ratio and credit growth has no significant effect on non-performing loans. However, ROA and ROE has negative significant effect whereas inflation and lending rate has positive significant effect on non-performing loans. It justifies that performance and inefficiency measures may serve as proxies of management quality.

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

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

and net interest margin has positive significant relation with non-performing loans. The study justifies that an increase of the CAR will cause a reduction of the non-performing loans ratio.

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

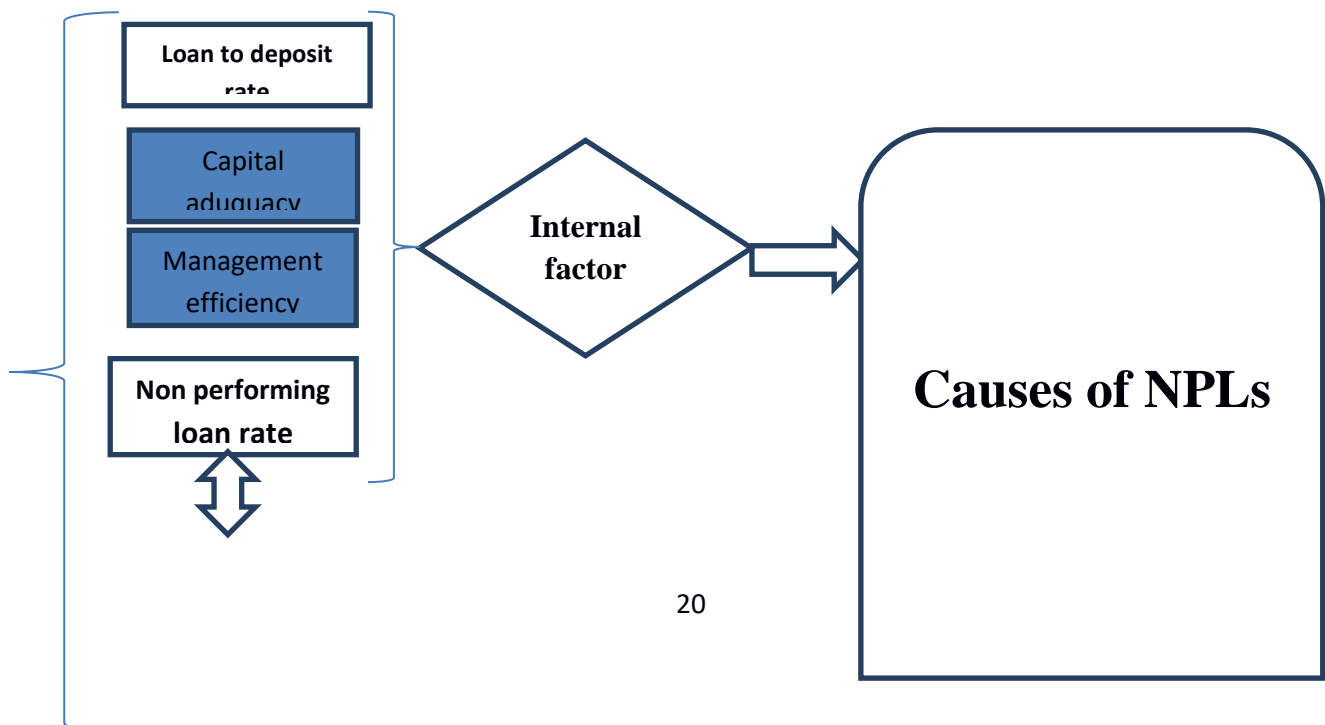
Similarly, Farhan et al.(2012) on the title of "Economic Determinants of Non-Performing Loans: Perception of Pakistani Bankers" utilized both primary and secondary data in 2006 years. The data was collected from 201 bankers who are involved in the lending decisions or handling nonperforming loans portfolio. Correlation and regression analysis was carried out to analyze the impact of selected independent variables. The variables included were interest rate, energy crisis, unemployment, inflation, GDP growth, and exchange rate. The study found that, interest rate, energy crisis, unemployment, inflation and exchange rate have a significant positive relationship whereas GDP growth has insignificant negative relationship with the non-performing loans. Researchers in banking and finance have indicated that bank performance is related to internal and external factors. The internal factors relate to banks' characteristics and external factors are described

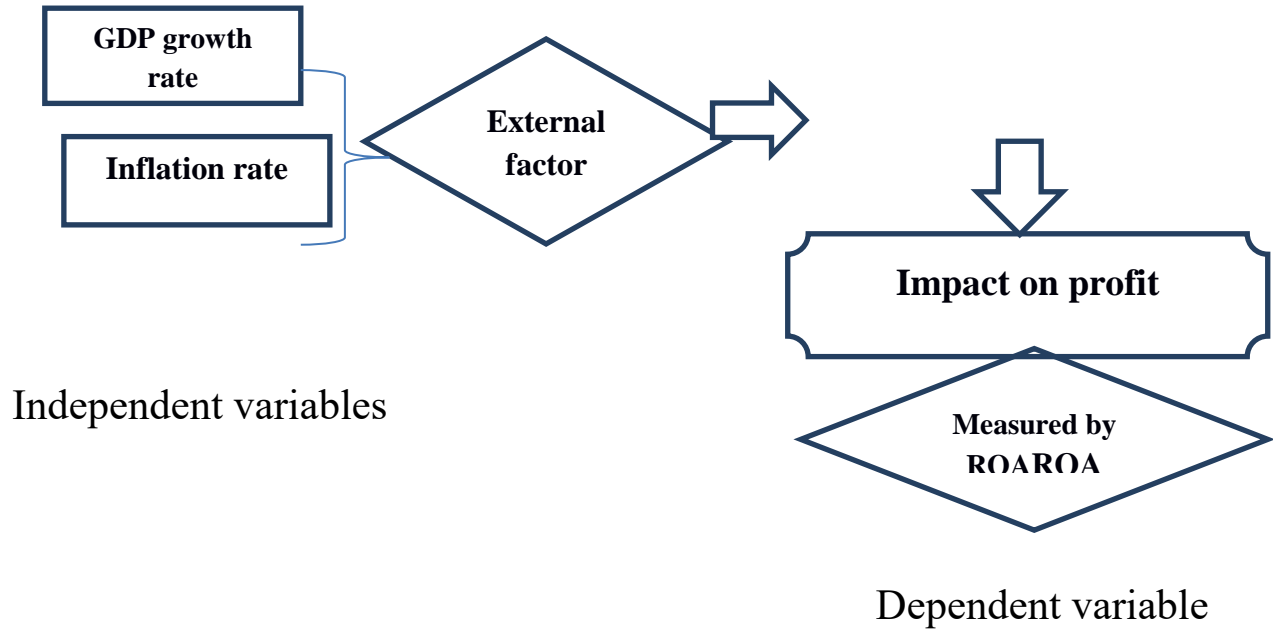
A similar study in finding determinants of bank profitability, Sanusi& Mohamed (2007) found that banks characteristics and the financial structure of a country are significant variables affecting bank profitability. They also compared the results of fixed effects and random effects on the proposed model and observed low adjusted R² values, indicating a low proportion of variation in profitability explained by the significant independent variables. Cited in Nor Mazlina Abu Bakar and IzahMohdTahir (International Business Research journal no.2 Vol.4 October, 2009)

Therefore, this research would contribute towards filling the gap by identifying and analyzing the impact of non-performing loans on the profitability of Ethiopian commercial banks. That affects the level of non-performing loans in Ethiopian commercial banks by combining the specific factor and the macroeconomic factor and using the recently secondary data collected from the NBE.

2.4. CONCEPTUAL FRAMEWORK MODEL

The main objective of this study is to examine the determinants of NPLs in commercial banks of Ethiopia. Based on the previous literature review parts, non-performing loans are affected by bank-specific and macroeconomic factors. Bank-specific factors are profitability, loan to deposit ratio, management efficiency, capital adequacy, and non-performing loan; whereas macroeconomic factors, GDP and inflation rate. The main objective of this conceptual framework would be to clear for the user or any other reader easily to understand the research idea. Generally, this conceptual framework model summarizes the main focus and scope of this study in terms of variables.





Source: extracted by the researcher (2021)

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.1, INTRODUCTION

This chapter examines and discusses the research design and methodology procedure that was used to carry out this study. Secondly the researcher discussed the research design and approach followed by the sampling design and data collection tools and methods. The subsequent section presents and discusses method of data process and analysis. Finally, study variables with their model specifications presented.

3.2. DESCRIPTION OF THE STUDY AREA

The study subjects were Commercial banks of Ethiopia. Among the entire commercial banks the study area mainly focused on seven commercial banks in Ethiopia based on the available data. Those were bank of abissinia, united bank, nib international bank, cooperative bank of oromiya, lion international bank, zemen bank and oromiya international bank.

3.3. RESEARCH DESIGN AND APPROACH

Research design was a master plan specifying the methods and procedures for collecting and analyzing the required data. The choice of research design depends on objectives that the researchers want to achieve (John, 2000) cited in Gadise Gezu, 2014. research design was defined as the plan and structure of investigation and the way in which studied were put together. (Kotzar et al., 2005), research design was the process of focused on the researcher's perspective for the purpose of a particular study. (Cooper et al. (2003) Leedy and Ormrod (2005) define a research methodology as a means to extracted the meaning of data, Since this study was designed to

examine the impact of non-performing loans in relation with profitability. The researcher used quantitative data in respect with research variables of non-performing loan rate (non-performing loan to total loan ratio), inflation rate, suspend interest income rate, loan to deposit rate, and real GDP growth rate. Since it tries to describe the problem and attempts to explain the phenomenon with quantitative research approach.

3.4. POPULATION AND SAMPLING DESIGN

Sample design deals with sample frame, sample size and sampling technique. Sampling is a technique of selected a suitable sample for the purpose determining parameters of the whole population. Population was the list of elements from which the sample might be drawn (John, 2007). since the primary aim of this study was to determine the impact of non-performing loans on profitability of Ethiopian commercial banks, For the purpose this study on an efficient and effective manner in line with the researcher time and resource, the researcher conducted used secondary data in line with 9 years audited financial statement (2010-2018) namely bank of Abyssinia, Wegagen bank, Nib International bank, cooperative bank of Oromia, Lion international bank and Dashen bank..

3.5. DATA TYPE AND SOURCES

The data types were secondary data and analyses by explanatory designed that were the financial statements of the banks that comes from the National banks of Ethiopia and this study was use panel data. The researcher prefers to use panel data since panel data could taken heterogeneity among different units into account over time by allowed for individual-specific variables. Besides, by combined panel data and cross-section observations, it gives more informative data. Furthermore, panel data can better detect and measure effects that simply couldn't been observe in pure cross-section or pure panel data. The researcher would used secondary sources of data that was panel in nature. A secondary source of data was preferred by the researcher since it was less expensive in terms of time and money while collected. And also, it affords an opportunity to collect high quality data. Secondary data might either be published or unpublished data. Those secondary data could obtained from the audited annual financial statements of the concern commercial banks in Ethiopia (NBE). These data includes both bank specific and macroeconomics factors.

3.6. DATA COLLECTION TOOLS AND TECHNIQUES

The methodologies used in collected and organized the data used secondary data. In addition to this, such data's were published as well as done by national bank of Ethiopia authorized auditor used to check the validity and reliability of information gathered from secondary data's. Quantitative data collection methods were entered on the quantification of relationships between variables. The current study would been used secondary data. In this study the researcher use both bank specific and macroeconomics data for commercial banks that operate during the 2010 to 2018 period. The data set also includes macroeconomics variables such as the annual inflation, GDP and bank specific variables management efficiency, capital aduquacy, non performing noan. loan to deposit ratio, inflation rate, and GDP .The bank specific data were obtaining from the audited financial statement of selected commercial Banks while the macroeconomics variables were obtaining from National Bank of Ethiopia and from MOFED. Besides, related books, journals, articles and various manuals also use as sources of Secondary data.

3.7. METHODS OF DATA ANALYSIS

In order to acquired meaningful facts, the researcher used several analysis methods for this research to achieved the objectives and answer the basic research questions. To this end, inferential statics also used. The researcher employed regression analysis and a time series dataset covering 9 years (2010-2018) to examined the impact of nonperforming loans and other key internal and external variables along with the relationships on profitability. To do this quantitative research designed certain statistical methods used. Therefore, the researcher used multiple linear regression analysis.

According to Nor Mazlina Abu Bakar and IzahMohdTahir (International Business Research journal no.2 Vol.4 October, 2009) multiple linear regression analysis was a technique for modeling the linear relationship between two or more variables. It was one of the most widely used of all statistical methods. In banking and finance literature, regression analysis was a very common method used to find the determinants of bank performance.

3.8. METHOD OF DATA ANALYSIS AND PRESENTATION

The researcher used profitability (dependent variable) as a measured by Return On Asset , and four independent variables chosen to been analyzed such as, loan to deposit rate, banks non-performing loan, inflation and Gross domestic product growth.

3.8.1 DEPENDENT VARIABLE

3.8.1.1 BANK PROFITABILITY

Bank profitability may reflect the risk taking behavior of bank managements. Banks with high profitability were less over stressed for revenue creation and thus less forced to engage risk credit offering. However, inefficient banks were more likely to experienced high level of problem loans since they are tempted to grant and to engage in more uncertain credits to defend their profitability and meet the prudential rules imposed by monetary authorities (Boudriga et al. 2009). Poor management could imply weak monitoring for both operating cost and credit quality of customers, which would include high levels of capital losses (Haneef et al. 2012). Thus, ROA is considered as profitability indicator in this study.

3.8.1.2. RETURN ON ASSET (ROA)

ROA represents efficiency in asset utilization and shows how much net income was generated out of assets. It indicates the ability of bank management to generate profits by utilizing the available assets of the bank. Thus, if the ratio of ROA was high, it indicates that it was better performance in order to generate profit. Strong bank profitability measured in terms of ROA might result from high lending rate, fees and commission that lead bank growth in size and profitability. Thus, ROA gives an idea as to how efficient management was at used its assets to generate earnings. Different researchers found different results regarding the relationship between ROA and NPLs.

For instance: - Ahmed and Bashir (2013) and Makri et al. (2014,) were examined positive significant relationships between ROA and NPLs. However, Boudriga et a., (2009) and Selma and Jouini (2013) found negative association between NPLs and ROA by supported the arguments that states deterioration of profitability ratio measured in terms of ROA leads to riskier activities of banks and then raised the level of NPLs. They justified that since ROA represents efficiency in asset utilization, poor utilization of assets leads higher NPLs for the

banks. Thus, this ratio was expected to have negative relationships with NPLs in this study. It was measured by the ratio of net profit to total asset as follows;

$$ROA = \frac{Net\ Profit}{Total\ Asset}$$

3.8.2. INDEPENDENT VARIABLES

Independent variables are explanatory variables that explain the dependent variables. In case, independent variable included in this study was NPL, loan to deposit ratio (LTD), inflation rate(INFR), and GDP . Majority of these variables were modified and adopted from previously done studies based on the extent of their effect on nonperforming loan.

3.8.2.1. NONPERFORMING LOAN

Nonperforming loans (NPLs) were loans that are outstanding both in its principal and interest for a long period of time contrary to the terms and conditions under the loan contract. Any loan facility that was not up to date in terms of payment of principal and interest contrary to the terms of the loan agreement is NPLs. Thus, the amount of nonperforming loan represents the quality of bank assets (Tseganesh, 2012). According to the Ethiopian banking regulation, “Nonperforming loan and advances are a loan whose credit quality has deteriorated and the full collection of principal and/or interest as per the contractual repayment terms of the loan and advances are in question” (NBE, 2008). NPL was a loan that delays for the payment of principal and interest for more than 90 days. Deterioration in asset quality was much more serious problem of bank unless the mechanism exists to ensure the timely recognition of the problem. It was a common cause of bank failure.

$$NPL\ ratio = \frac{NPLs}{Gross\ Loan}$$

3.8.2.2. LOAN TO DEPOSIT (LTD) RATIO

Loan to deposit (LTD) ratio examines bank liquidity by measuring the funds that a banks has utilized into loans from the collected deposits. It demonstrates the association between loans and deposits. Besides, it provides a measure of income source and also measures the liquidity of bank asset tied to loan (Makri et al.2014)).

This ratio also measures customer friendliness of banks implies that relatively more customer friendly bank was most likely faced lower defaults as the borrower will have the expectation of

turning to bank for the financial requirements (Ranjan and Chandra, 2003). Thus, it represents a bank's preference for credit. It is credit culture that represents a bank's preference for credit. It was measured in terms of loan to deposit ratio. There was empirical evidence that shows as LTD ratio has significant effect on the level of NPLs of banking sectors in different aspects. In this study, this ratio is expected to have positive relation with NPLs.

$$LTD = \frac{Total\ Credit}{Deposit}$$

3.8.2.3. INFLATION RATE

It is a situation in which the economies overall price level is rising. It represents sustained and pervasive increment in aggregate price of goods and services resulting decline in purchasing power of money. Accordingly, when inflation is high and unexpected, it can be very costly to an economy. At the same time, inflation generally transfers resources from lender and savers to borrowers since borrowers can repay their loans with birr that are worthless. It is determined as the general consumer price index. This indicates that, as inflation increase, the cost of borrowing gets more expensive and deteriorates the quality of loan portfolio. There are ambiguous results regarding the relationship between NPLs and inflation rate. According to Farhan et al.(2012), Skarica(2013), Klein(2013) and Tomak(2013) found as there is a positive relationship between NPLs and Inflation rate. Theoretically, inflation should reduce the real value of debt and hence make lending easier. However, high inflation may pass through to nominal interest rates, reducing borrowers' capacity to repay their debt. Through its attraction with the tax system, it can increase tax burden by artificially increasing income and profits. Besides, inflation cause firms to increase their costs of changing prices. Finally, it made individuals to hold less cash and make more trips to banks since inflation lowers the real value of money holdings

3.8.2.4. GROSS DOMESTIC PRODUCT (GDP)

GDP is a monetary measure of the market value of all the final goods and services produced in a period of time, often annually. GDP measures the monetary value of final goods and services that are bought by the final user produced in a country in a given period of time (say a quarter or a year. (An IMF publication, 2013)

Total GDP can also be broken down into the contribution of each industry or sector of the economy. The ratio of GDP to the total population of the region is the per capita GDP and the

same is called Mean Standard of Living. GDP is considered the "world's most powerful statistical indicator of national development and progress".

3.8.2.5.MANAGEMENT EFFICIENCY

Management Efficiency is one of the key internal factors that determine the bank profitability. It is represented by different financial ratios like total asset growth, loan growth rate and earnings growth rate. Yet, it is one of the complexes subject to capture with financial ratios. Moreover, operational efficiency in managing the operating expenses is another dimension for management quality. The performance of management is often expressed qualitatively through subjective evaluation of management systems, organizational discipline, control systems, quality of staff, and others. Yet, some financial ratios of the financial statements act as a proxy for management efficiency. The capability of the management to deploy its resources efficiently, income maximization, reducing operating costs can be measured by financial ratios. One of this ratios used to measure management quality is operating profit to income ratio (Rahman et al. in Ilhomovich, 2009; Sangmi and Nazir, 2010). The higher the operating profits to total income (revenue) the more the efficient management is in terms of operational efficiency and income generation. The other important ratio is that proxy management quality is expense to asset ratio. The ratio of operating expenses to total asset is expected to be negatively associated with profitability. Management quality in this regard, determines the level of operating expenses and in turn affects profitability (Athanasoglou et al. 2005).

3.8.2.6.CAPITAL ADUQUACY

Capital is one of the bank specific factors that influence the level of bank profitability. Capital is the amount of own fund available to support the bank's business and act as a buffer in case of adverse situation (Athanasoglou et al. 2005). Banks capital creates liquidity for the bank due to the fact that deposits are most fragile and prone to bank runs. Moreover, greater bank capital reduces the chance of distress (Diamond, 2000). However, it is not without drawbacks that it induce weak demand for liability, the cheapest sources of fund Capital adequacy is the level of capital required by the banks to enable them withstand the risks such as credit, market and operational risks they are exposed to in order to absorb the potential loses and protect the bank's debtors. According to Dang (2011), the adequacy of capital is judged on the basis of capital adequacy ratio (CAR). Capital adequacy ratio shows the internal strength of the bank to

withstand losses during crisis. Capital adequacy ratio is directly proportional to the resilience of the bank to crisis situations. It has also a direct effect on the profitability of banks by determining its expansion to risky but profitable ventures or areas (Sangmi and Nazir, 2010).

3.9. MODEL SPECIFICATION

The researcher used (dependent variable) Return On Asset as a measure of bank profitability performance and four predictor variables chosen to be analyzed such as Non-performing loan, lending interest rate, inflation and Gross domestic product growth.

Research model expressed

$$ROA_{it} = \alpha_0 + \beta_1 NPL + \beta_2 LTD + \beta_3 INR + \beta_4 GDPR + \beta_5 ME + \beta_6 CA + e$$

Where ROA (Return on Asset) = Net income / Total Asset

α_0 = constant parameter/constant term,

β_1 - β_4 = coefficient of independent variables

ROA = return on asset

LTD = loan to deposit rate,

INFR = represents the Ethiopian inflation rate,

NPL = Non-performing loan

GDPR = real Ethiopian Gross domestic product growth rate and e is the error term.

ME = Management efficiency

In the research model equation, ROA is a dependent variable because profitability is measured by using return on asset. Whereas, loan to deposit rate, Non-performing loan, inflation rate and GDP are independent variables of this study.

CHAPTER FOUR

4.RESULTS AND DISCUSSIONS

4.1. INTRODUCTION

In this chapter of the study, the panel's data, which is collected from the financial statements, are analyzed through E-view software.

The results from the regression and correlation analysis are presented in table and discussed one by one. The regression model is used to analyze the panel data collected and to test the effect of the independent variables on the dependent variable. So that, the research hypothesis are fully tested. Multiple regression analysis is employed to test whether one or more independent variables (predicators) influence the dependent variable (outcome variable) and to identify whether the effect is positive or negative.

Generally the purpose of this chapter is to present results and analysis of data obtained from different methods involved in this study.

4.2. DATA ANALYSIS AND RESULTS

The research used deductive reasoning to examine the cause and effect relationships between non-performing loans and in relation with profit because Deductive reasoning starts from laws or principles and generalizes to Particular mean that the researcher generalized the position of non-performing loan depend on NBE directives. As noted by Kothari (2004), explanatory research design examines the cause and effect relationships between dependent and independent variables. Therefore, since this study will examine the impact of non-performing loans and profitability. It is an explanatory research design whereas quantitative explanations are quantitative research approach.

The researcher used EVIEWS software version 7 used to compute the descriptive statics (mean, standard deviation, maximum and minimum) of the study variable and multiple linear regression analysis used to explore the impact of non-performing loan and profitability performance (ROA).

4.2.1. DESCRIPTIVE STATISTICS

This section presents the descriptive statistics of dependent and explanatory variables used in this study. The dependent variable was ROA that used to measure profit performance of the bank while explanatory variables are GDP, inflation rate, loan to deposit and NPL.

Accordingly, the following table 4.1 reports mean, maximum, minimum, standard deviation and number of observation for each variables used in this study.

Table 4.1 summary of descriptive statistics

	ROA	NPL	MGE	LTDR	INFR	GDP	CA
Mean	4.301941	7.819473	29.31202	46.31576	15.87460	1330.947	8.024004
Median	3.403827	9.223194	33.00000	55.34361	10.45000	85.34361	1.000000
Maximum	16.65000	18.89172	55.24131	73.80083	46.10000	78300.52	40.80000
Minimum	0.020000	0.148714	2.706865	0.400000	7.300000	0.202600	0.589253
Std. Dev.	2.833460	4.391256	11.57577	24.56832	10.66445	9853.883	13.56901
Skewness	1.890580	-0.638528	-0.763704	-1.037320	1.224765	7.746470	1.500519
Kurtosis	7.422807	2.889199	2.812657	2.429029	3.362063	61.01066	3.467724
Jarque-Bera	88.87827	4.313267	6.216195	12.15412	16.09464	9463.828	24.21560
Probability	0.000000	0.115714	0.044686	0.002295	0.000320	0.000000	0.000006
Sum	271.0223	492.6268	1846.657	2917.893	1000.100	83849.68	505.5123
Sum Sq. Dev.	497.7668	1195.554	8307.900	37423.34	7051.284	6.02E+09	11415.31
Observations	63	63	63	63	63	63	63

Source; Secondary data (2010-2018) and own computation

In the descriptive analysis, the researcher computes the variables minimum, maximum, mean and standard deviation. The above descriptive analysis “N” indicates that the researcher used 9 years

data of respective variables. From these data percentage of 0.02 , 0.148, 2.70, 0.40,7.30,0.20 and 0.58 are the minimum rates for ROA, Non-performing loan rate,management efficiency, loan to deposit rate, Ethiopian inflation rate, Ethiopian GDP rate and capital aduquacyof Ethiopian commercial banks respectively.

Whereas percentage of 16.65,18.89,55.24,73.80,46.10,78300.52and 40.80 are the maximum rates for ROA, Non-performing loan rate, ,management efficiency, loan to deposit rate, Ethiopian inflation rate, Ethiopian GDP rate and capital aduquacy of Ethiopian commercial banks respectively.

NPLs ratio measured by Nonperforming loans divided by total loan ranges from 14.8 – 18.89 percent and it has a mean of 7.18 shows greater than the standard deviation by 4.39.This indicates that Ethiopian commercial banks incurred 7.18 of NPLs on averages from its total loan from the year 2010 up to 2018 fiscal year. According to Ethiopian context, the banking sectors are required to maintain the ratio of NPLs at least a maximum of 5% (NBE, 2008).

As measured in the above table 4.1, the mean value of ROA, a measure of profitability (dependent variable) which is measured by dividing Net Income by Total Asset of the institution has a mean value of 4.30. This result revealed that on average for every birr investment in bank asset would earn a 430 percent return. The other measure, median which is not affected by extreme values similarly shows that banks have a returns of 340.4 percent financed through their Asset. The higher ROA shows that the company is more efficient in using its resources and reflects the ability of management to generate profits from the banks asset. The maximum ROA was 16.65 and the minimum value was 0.02. This means the most profitable banks earns 16.65 cents income and the list profitable MFI earns 0.02 cents income for a single birr investment in the firm's asset. The standard deviation 2.83 reflects the presence of variation in earned profit among across the sampled banks.The independent variable, NPL, which is measured or indicated by the amount of NPLs to gross loans.

Of banks have a mean and median value of 7.82 percent and 9.22 percent respectively, that means during the study period the sampled banks finance their assets by using 7.82 percent of npl. In addition the maximum and minimum values are 18.89 and 0.15 respectively. The values of NPL ratio deviate from its mean to both side by 4.39 percent. In general, the mean value of

7.82 percent in NPL ratio indicates that, banks are one of highly levered institutions in the country.

The management efficiency (ME) has mean value of 29.31% with standard deviation of 11.58%.management efficiency of the current capital and the minimum value and the maximum value is 2.71% and 55.24% respectively.

Loan to deposit ratio (LDR) ratio with the minimum and maximum value of 40% and 73.80% respectively, with an average value of 56.9%: which indicated that a relatively large deviation from the mean by 24.57 among the bank specific independent variables. On the other hand, the standard deviation was recorded in funding cost which was 24.57 and shows the existence variations among the banks in the sample under the study period.

The ratio of equity to total assets (CA) was a proxy measure of bank capital adequacy with a mean value of 8.02%. This implies that, the sampled banks in this particular study 1.00% of their fund needs satisfied through equity capital. The standard deviation ratio was 13.57% with 58.93% and 408.00% as minimum and maximum values respectively. Capital adequacy ratio is directly proportional to the resilience of the bank to crisis situations.

On the macro economic variables, the average growth rate of real GDP of Ethiopia for the last consecutive nine years was approximately 13.31% with a minimum economic growth of 20.26% and a maximum growth of reaching 78.30%. The standard deviation registered in the period was 98.54%; it means that economic growth in Ethiopia during the period of 2010 to 2018 relatively stable.

Inflation mean is 15.87%, with maximum rise in price recorded 46.10% and minimum 7.30%. Standard deviation was 10.66%.The positive values imply that the variables under the model are significant in determining the financial performance of banks Ethiopia Exchange rate.

4.2.2. TEST FOR THE CLASSICAL LINEAR REGRESSION MODEL (CLRM) ASSUMPTIONS

This section provided test for the classical linear regression model (CLRM) assumptions such as Normality, Heteroscedasticity, Auto correlation and Multicollinearity tests.

The objective of the model is to predict the strength and direction of association among the dependent and independent variables. Before applying the model for testing the significance of the slopes and analyzing the regressed result, Normality, Multicollinearity, Auto correlation and Heteroscedasticity tests are made for identifying misspecification of data if any so as to fulfill research quality.

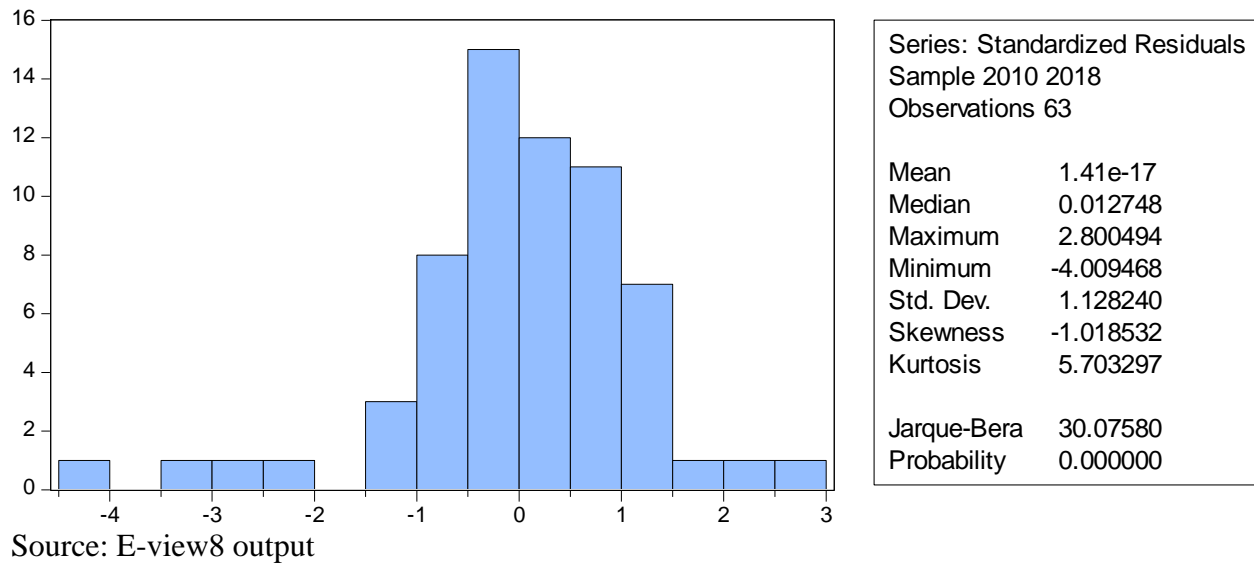
4.2.2.1. NORMALITY

If this curve is like bell shaped distribution it can be concluded that the disturbance term is normally distributed with mean zero and constant variance one (i.e. $N \sim (0, 1)$).

To get the residuals normally distributed first we have to make sure that each variables employed are found to be normally distributed. In this case, most of the variables are found to be normally distributed; a normal distribution is not skewed and is defined to have a coefficient of kurtosis 3. Skewness measures the extent to which a distribution is not symmetric about its mean value and kurtosis measures how far the tails of the distribution are.

If the residuals are normally distributed, the histogram should be bell shaped. The residuals scatter plots allow us to check whether the residuals should be normally distributed about the predicted dependent variable scores. As we can understand from the histogram and p-p plot depicted below, the residuals seem normally distributed and the residuals are distributed with a mean of 0 and standard deviation of 0.0077. Thus, the model fulfills the assumption of being normally distributed.

Figure 4.1 Normality test

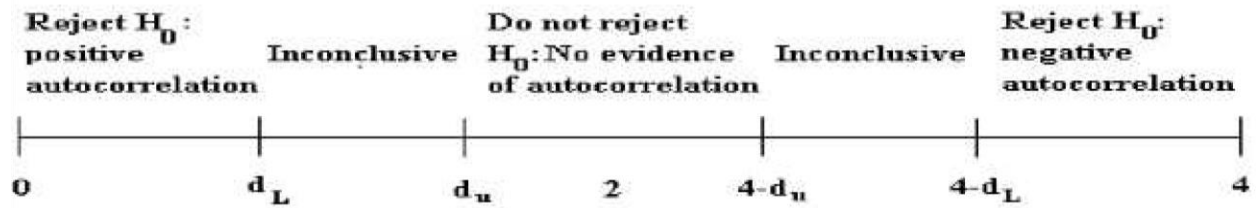


4.2.2.2. AUTO CORRELATION

This assumption states that the covariance between the errors term overtime or cross-sectionally is zero or simply errors are uncorrelated with one another. But if the errors are not uncorrelated with one another, they are said to be auto correlated or that they are “serially correlated”. (Brooks 2008)

To test the presence of autocorrelation, the Durbin-Watson test is used. As noted in Brooks (2008), Durbin Watson is a test for first order autocorrelation (it is a test for a relationship between an error and its immediate previous value). The null hypothesis for the DW test is no autocorrelation between the error term and its lag. According to Brooks (2008), DW has two critical values: an upper critical value (dU) and a lower critical value (dL), and there is also an intermediate region where the null hypothesis of no autocorrelation cannot be rejected. The rejection, non-rejection, and inconclusive regions are shown on the number line in figure 4.1 below.

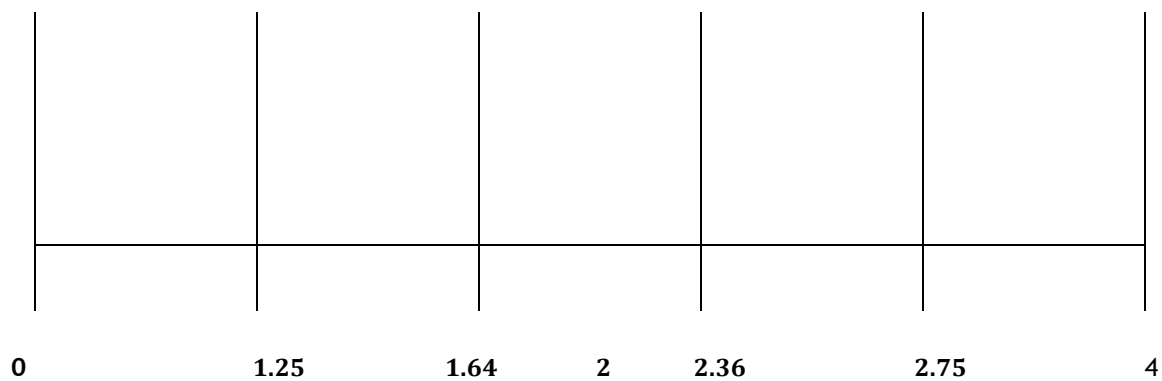
Figure 4.1 Rejection and Non-Rejection Regions for DW Test



The study used the dL and dU values for 63 observations.

As per the Durbin-Watson test (DW) table for 63 observations with 6 explanatory variables at 1% level of significance, the dL and dU values are 1.25 and 1.64, respectively. The DW values for model and for 63 observations were 1.25. The relevant critical values for the test are $d_L = 1.25$, $d_U = 1.64$, and $4 - d_U = 4 - 1.64 = 2.36$; $4 - d_L = 4 - 1.25 = 2.75$. Accordingly, Durbin-Watson test value is not clearly between 1.25 and 1.64 which is 1.8136 and the DW value is lies in the rejection region, where as the null hypothesis do reject. The Durbin Watson test is an indication of problem in the model.

Figure 4.2. DW test result



4.2.2.3.MULTICOLLINEARITY

As indicated earlier we say there is Multicollinearity problem when there is correlation between variables employed in the regression model (when the assumption that $cov(x_1, x_2) = 0$ is violated). That is the existence of a ``perfect`` or exact linear relationship among some or all explanatory variables of a regression model (Gujarati, 1995). The multicollinearity makes significant variables insignificant by increasing p-value since increased p-value lowers the t statistics value. Thus, the panel regression results with multicollinearity will shows significant variables as insignificant variables. The multicollinearity problem is solved by dropping highly correlated variables (Ahmad and Bashir, 2013).Then, the result provide more significant variables than before.

The Intercorrelation between the two variables can be measured by the partial correlation coefficient between one variable with another variable. As a rule of thumb, if the correlation coefficient between the two variables is greater than 0.8, one can conclude that there is a series problem of Multicollinearity. Accordingly the test result shows that the correlation coefficient between all variables under consideration is less than 0.8 implying that the explanatory variables can separately contribute to the variation in the dependent variable.

Table 4.2 Correlation Matrixes Of Independent Variables

	NPL	MGE	LTDR	INFR	GDP	CA
NPL	1					
MGE	0.629294875 9220709	1				
LTDR	0.879363840 6267683	0.628578506 5300596	1			
INFR	- 0.397010895 6222022	- 0.144877481 5866664	- 0.459047187 3834699	1		
GDP	0.327163137 8597184	0.020662264 97207583	0.071057125 01273831	- 0.065041313	1	

				02322144		
CA	-	-	-	0.383360170	-	1
	0.892373216	0.632374753	0.927654604	8425406	0.065593911	
	7626034	556329	7382709		18902946	

Source: E-view output

4.2.2.4. HETEROSCEDASTICITY TEST

In the classical linear regression model, one of the basic assumptions is Homoskedasticity assumption that states as the probability distribution of the disturbance term remains same for all observations. That is the variance of each u_i is the same for all values of the explanatory variable.

However, if the disturbance terms do not have the same variance, this condition of non-constant variance or non-homogeneity of variance is known as heteroscedasticity (Bedru and Seid, 2005). Accordingly, in order to detect the heteroscedasticity problems, Breusch-Pagan or Cook Weisberg test was utilized in this study. This test states that if the p-value is significant at 83 confidence interval, the data has heteroscedasticity problem, whereas if the value is insignificant (greater than 0.05), the data has no heteroscedasticity problem. there is no heteroscedasticity problem for this study hence the p value is 5.85% showing insignificant value.

TABLE 4.3 HETEROSKEDASTICITY TEST: WHITE

Heteroskedasticity Test: White

F-statistic	2.161121	Prob. F(27,35)	0.0164
Obs*R-squared	39.37929	Prob. Chi-Square(27)	0.0585
Scaled explained SS	73.17037	Prob. Chi-Square(27)	0.0000

Source: E-view8 output

4.3. Model Selection; Fixed Effect versus Random Effect Models

As noted in Brooks (2008), there are two panel data estimator approaches that can be employed in financial research: fixed effects model and random effects model. For choosing the best way for data analysis running the Housman test distinguishes the appropriate model. The Hausman

test checks a more efficient model against a less efficient but consistent model to make sure that the more efficient model also gives consistent results (Li Yuqi, 2007).

According to Brooks (2008), if the p-value for Hausman test is less than 5%, this shows the fixed effects model is appropriate than random effects model. Otherwise the random effect model is selected. According to Table 4.6 below, the Housman specification tests shows that the model has a p value of (0.0066)This indicates that the random effect model is preferred. Therefore, in this study random effect model was used to test the impact of capital structure on MFIs profitability.

The result from Housman test in table allow as to not reject the null hypothesis that random model is bitter in this regression analysis. This implies that a random effect model is more appropriate than fixed effect model to undertake the panel regression estimation for this study.

Table 4.7 Hausman test

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	17.843998	6	0.0066

Source: E-view8 output

4.3.1. RESULT OF REGRESSION ANALYSIS

TABLE 4.4 FIRST (GENERAL) REGRESSION RESULTS

Dependent Variable: ROA 2

Method: Panel Least Squares

Date: 01/04/21 Time: 03:04

Sample: 2010 2018

Periods included: 9

Cross-sections included: 7

Total panel (balanced) observations: 63

Variable	Coefficient	Std. Error	t-Statistic	Prob.
NPL	-0.428362	0.182851	-2.342688	0.0232
MGE	0.021991	0.015684	1.402105	0.1671
LTDR	0.050198	0.028468	1.763310	0.0840
INFR	-0.026639	0.016237	-1.640683	0.1071
GDP	0.000208	2.02E-05	10.27053	0.0000
CA	0.081311	0.032417	2.508268	0.0154
C	4.829418	1.306913	3.695286	0.0005

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.883150	Mean dependent var	4.301941
Adjusted R-squared	0.855106	S.D. dependent var	2.833460
S.E. of regression	1.078554	Akaike info criterion	3.170706
Sum squared resid	58.16391	Schwarz criterion	3.612940
Log likelihood	-86.87724	Hannan-Quinn criter.	3.344639
F-statistic	31.49167	Durbin-Watson stat	1.813628
Prob(F-statistic)	0.000000		

Source: E-view 8 output,

Table 4.5 shows the second step multiple regression results in which the insignificant variables (GDP and INF) were dropout. Comparing the results of the two regression analysis, major differences were not found but the significance level is goes up from 5% to 1%. As shown in table 4.4, the R2 (88.32%) and the adjusted- R2 (85.51%) statistics in the second step regression were much closer to the R2 (88.32%) and the adjusted- R2 (85.51%) results obtained in the first step regression. Similarly, the results of Durbin-Watson statistics were 1.81.

from Financial statements of banks, MOFEC reports and own computation Furthermore, the study examined the impact of NPL on Ethiopian Commercial Banks Profitability regression result of fixed Effect Model in Table 4.4 in terms of examination of coefficients of explanatory variables and significance level.

Through the examination of coefficients, NPLs had negative and statistically significant impact on ROA having a coefficient of -0.43. This indicates that one unit change (increase/decrease) in NPLs can result a change on ROA by -0.43, GDP and CA had positive and statistically significant impact on ROA having a coefficients were 0.0002 and 0.0813 respectively, MGE and LTDR had positive and statistically insignificant impact on ROA by having coefficients were 0.0220 and 0.0502 respectively and INFR had negative and statistically insignificant impact on ROA having a coefficients of -0.0266.

As shown in Table 4.4 GDP, CA and NPL were statistically significant factors affecting ROA of commercial banks in Ethiopia. NPL, GDP and CA have statistically significant impact on ROA at 1% level. Whereas, MGE, ME and LTDR were statistically insignificant.

As mentioned earlier, only the significant variables (NPL, GDP & CA) that were found in the first step regression analysis were regressed once again in order to ensure the reliability and the consistency of the first step regression results (both in terms of the coefficient estimates and the level of significance).

On another hand according to Brook, the dummy variables are used in the same way as other explanatory variables and the coefficients on the dummy variables can be interpreted as the average differences in the values of the dependent variable for each category, given all of the other factors in the model. In line to this to improve the chances of error normality the research used 3 dummy variable and the Dummy variables remove observations corresponding to „one-off“ or extreme events that are considered highly unlikely to be repeated, and the information content of which is deemed of no relevance for the data as a whole. The study also adds lags i.e. considering the effect of data one year later, this also used to remove the non-normality distribution.

4.4 . CHOOSING RANDOM EFFECT (RE) VERSUS FIXED EFFECT (FE) MODELS

According to Gujarati (2004), if T (the number cross sectional unit) is large and N (the number of independent variable) is small, there is likely to be little difference in the values of the parameters estimated by fixed effect model/FEM and random effect model/REM. Hence the choice here is based on computational convenience. According to Brooks (2008); Verbeek (2004) and Wooldridge (2004), it is often said that the REM is more appropriate when the entities in the sample can be thought of as having been randomly selected from the population, but a FEM is more plausible when the entities in the sample effectively constitute the entire population/sample frame.

On the other hand random effect is used when the number of entities is greater than the independent variable, if independent variable is less than or equal to with entities the researcher is obliged to use fixed effect models.

Accordingly, the Hausman Specification Test used to decide the best model for this study. The decision rule, for Hausman Specification test is rejecting the null hypothesis when the p-value is significant. The Hausman specification test for this study has a p-value of 0.0066 for the regression models. This indicates that p-value is significant and then the null hypothesis is rejected justifying as fixed effect model is appropriate for the given data set in this study.

4.5 DISCUSSION ON THE FINDINGS

The purpose of this section is to discuss the results obtained from the secondary data using document review. This section deeply discuss the relationship between ROA and such factors as NPL, inflation rate, loan to deposit ratio and GDP. The subsequent discussions present the analysis of results in respect of those factors in an orderly manner.

1. CAPITAL ADUQUACY(CA) AND RETURN ON ASSET (ROA)

As discussed in the literature review most of the earlier researcher suggested that CA have a positive correlation with ROA, but there argument was on the significance of its effect the growth of ROA's.

This research result indicated that CAs has a strong positive coefficient and it is statistically significant at 1% significant level (0.0154). The coefficient value of the variable (i.e 0.0813.) indicated a percentage rise/decline in banks CAs, resulted in 1 times rise/decline in the ROA of commercial banks of Ethiopia on the same direction. As per fofack (2005) the coefficient value may suggest that from all determinants of ROA the most important one is capital aduquacy and also ROA highly influenced by CA. Based on the result the hypothesis is inconsistent with the hypothesis developed in this study.

2. LOAN TO DEPOSIT RATIO (LTD) AND RETURN ON ASSET (ROA)

It examines bank liquidity by measuring the fund that a bank has utilized in to loan from collected deposit. The coefficient sign of loan to deposit ratio shows that there is a insignificant relationship between banks nonperforming loan and ROA. Loan to deposit ratio had positive and statistically significant (p-value =0.8232) at 82.32% significant level.

The result is in line with the research hypothesis is accepted, which is based on the argument that when banks lending increase as compared to the deposits the level of ROA also increase significantly. Because at the time of low loans to deposits ratio in order to earn more banks start lending even to the low quality borrowers and do not follow the standard loan allocation practices, which leads to the growth in ROA. Therefore, the result implies that every one percent change (increase or decrease) in bank's loan to deposit ratio keeping the other thing constant has a resultant change of 82.32% on the ROA in the same direction.

3.GROSS DOMESTIC PRODUCT (GDP) AND RETURN ON ASSET (ROA)

In this study the GDP is a monetary measure of the market value of all the final goods and services produced in a period of time, often annually. as shown earlier the implication of exchange is positive effect on the ROA growth.

The finding of the result implies that there is an positive relation relationship between GDP rate and the growth rate of ROA. Moreover, the coefficient (0.0002) estimate of GDP was statistically significant. This implies that, an increase in GDP (i.e., a depreciation of Ethiopian domestic products in terms of birr); lead to a increase in ROA of EPCBs. So, the hypothesis accepte.

4. INFLATION RATE (INFR) AND RETURN ON ASSET (ROA)

According to the theories produce positive and negative effect on economy, in our case the effect of inflation is sever in banking service, due to an increase in inflation the profit of the sector had been worsening. The surge in price of wide range of row material and in line with this the cost of production is goes up. However the domestic birr ability to pay is eroded by the inflation, based on this the profit of the sector had been decline and the paying ability of the business is eroded. On the other hand the decline of inflation has opposite effect on the above assumption. On the other hand, since market frictions lead to the rationing of credit, credit rationing becomes more severe as inflation rises. As a result, the financial sector makes fewer loans; resource allocation is less efficient, and intermediary activity diminishes with adverse implications for capital/long term investment. Nevertheless, in this study the coefficient estimate of inflation was negative and statistically insignificant at (P- value of 0.1071). The negative coefficient estimate of inflation (-0.026639) indicates a positive association with ROA. That means an increase in inflation rate; lead increase in ROA. This result also asserts that the hypothesis is not rejected.

5.MANAGEMENT EFFICIENCY

As expected, Management efficiency has a positive and statistically insignificant impact on bank profitability. The result shows that, a positive coefficient of 0.021991 and insignificant greter than at 5% insignificance level (p-value =0.1671). The outcomes imply that, an increase (decrease) in the expenses results, decrease (increases) the profits of banks. The positive relationship also in line with the results of prior studies Habtamu (2012), and Bourke (1989). The empirical finding of this study is also contrary to the results of Birehanu (2012) who analysed the determinants of non performance loan commercial bank profitability in Ethiopia and find out that the management efficiency has a positive insignificant impact on profitability. Furthermore, the finding of Samuel (2015), revealed that the management efficiency has a positive and insignificant association with profitability. Thus the hypothesis that stated earlier, there is no significant relationship between management efficiency and profitability rejected.

6.CAPITAL ADEQUACY

Surprisingly, capital adequacy statistically significant at the significance level (pvalue=0.0154) and have directly relationship with profit. The result is in line with Weersainghe & Perera

(2013), determinants of profitability of commercial banks in Sri Lanka. Similarly, Tesfaye (2014), Hence, regulatory measures that insist on holding a high level of capital seems to strengthen the risk bearing capacity of banks than improving their profit performance. The results appear in contradiction with the study of (Gemechu, 2016; Melaku, 2016; Birehanu, 2012; Amdemichael, 2012; Samuel, 2015; Habtamu, 2012; Ermias, 2016 and Athanasoglou et al. 2008) that argues that capital has positive and significant impact on bank profitability. Moreover, the finding is in line with the Risk Return Theory argues that capital and bank profitability are negatively associated (Saona, 2011, Ommeren, 2011). The theory suggests that increasing risks by increasing leverage of the bank leads to higher expected returns. This suggests that if a bank intends to increase its profits by increasing leverage, the equity to asset ratio (capital) has to be reduced. In contrary, Bankruptcy Cost Theory explains that the positive link between capital adequacy and profitability.

TABLE 4.6: SUMMARY OF REGRESSION RESULTS

NO	Independent variables	Expected relationship with dependent variables	Actual result	Status	Decision on hypothesis
H1	Non-Performing Loan	Negative	Negetively	significant	reject
H2	Loan To Deposit ratio	Positive	Positive	Insignificant	Reject3
H3	Gross Domestic Product	Negative	Positive	significant	Reject
H4	Inflation Rate	Positive	Positive	insignificant	Reject

H5	Mnagement efficiency	Positive	Negetively	insignificant	reject
H6	Capital aduquacy	Positive	positive	Significant	accept

CHAPTER FIVE

5. CONCLUSIONS AND RECOMMENDATIONS

5.1. INTRODUCTION

The previous chapter presented the analysis of the findings obtained from different data sources that regressed by E-view and personal computations. The purpose of this chapter is to discuss the conclusions and recommendations based on the findings. Accordingly, the chapter is organized in two sections, the first section, 5.1 presents the conclusions of the study. And, the second section, 5.2 presents the recommendations that provided based on the findings of the study and finally section.

5.2. CONCLUSIONS

The broad objective of this research was to investigate the impact of NPL on profitability of Ethiopian commercial bank. To achieve this broad objective, quantitative research approach along with survey design (structured review of documents) was dominantly used.

In addition, to have a better insight and to gain a richer understanding about the research problem, the quantitative method was supplemented. To this end, the collected data from a sample size of seven Ethiopian commercial banks over the period of 2010 to 2018 were analyzed using descriptive statistics, correlation matrix and multiple linear regression analysis. The analyses were made in line with the stated hypotheses and specific research questions formulated in the study. In doing so, previous studies on impact of bank's NPL on banks profitability, have been reviewed and as per the literature ROA of banks" usually expressed as a function of internal and external variables.

Accordingly, in this study, four bank specific variables (i.e., GDP rate, management efficiency, capital Aduquacy, Loan to deposit ratio, inflation rate and NPLs) were included. Consequently, the empirical findings of this particular study suggested the following conclusions. According to the result of bank variables, gross domestic product(GDP), non performing loan(NPL) and capital aduquacy were found to have a major impact on ROA of EPCBs with 1% significance level.

First, given the adverse effect of NPLs on the broad economy and also in view of the significant contribution of internal factors to ROA, there is merit to strengthen supervision to prevent a sharp buildup of NPLs in the future, including by ensuring that banks avoid excessive lending interest rate, maintaining high credit standards, and limiting rescheduling and restructuring lending before assessing the risk.. Beyond this, high levels of NPLs continue to be a burden on the country economy. Generally, the six predictor variable (lending interest rate,management efficiency,capital adequacy, GDP growth rate, inflation rate and NPL rate) and ROA used as a dependent variable for this study.

Second, with respect the other variables, inflation rate,management efficiency(ME) and loan to deposit ratio(LTDR) were found to be statistically insignificant impact on ROA in EPCBs. In particular, inflation rate had a positive association with the levels of profitability. The findings also suggested a significant the positive relationship among CA and GDP with the ROA of EPCBS which indicates whenever there was an increase in CA rate, the bank need additional income loan to cover the cost paid to deposit, due to this the ROA is goes up.

5.3. RECOMMENDATIONS

Based on the findings of the study the following possible recommendations were forwarded:

- ❖ CA and GDP were the significant drivers of profitability in Ethiopian commercials banks. Hence, focusing and reengineering the institutions alongside these indicators could reduce the probability of nonperforming loans for the Ethiopian commercial banks.
- ❖ Thus, Ethiopian commercial Banks that were considered in this study should put in place energetic credit process that would encompass issues of proper customer selection, monitoring and follow up and clear recovery strategies for sick loans enhance the performance loan.
- ❖ In order to improve asset quality,best management efficiency and available capital aduquacy specifically loans, it is strongly recommended that bank management and loan officers should always give a serious attention to the health of asset quality of banks specifically loan performance for prevention of loans loss. Besides, loan officers should provide financial counseling to the borrowers on the wise use of loan and should make

decision on timely fashion to meet their needs. The banks management on asset utilization is improved and then reduces the level of Ethiopian Commercial Bank's NPLs.

- ❖ Loan to Deposit has an insignificant impact on the level of NPLs the ability of borrower or results willingness to pay. Therefore, to minimize such problems, every loan officer and area bank manager should properly inform to the borrower about the situation of changing loan to deposit (by answering when and how) questions. The degree of increasing and decreasing the level of lending rate has its own limit as per the regulatory authorities of the country set by the NBE. Besides, it is strongly recommendable for the loan officers to communicate with the borrowers on timely basis regarding their duties and obligations to ensure their loan repayment ability.
- ❖ Inflation rate does not provide a significant impact on the banking profitability/ROA/ in the study, but the management and credit analysts should give attention to the two external factors (inflation rate) which cannot be controlled.
- ❖ Create staff incentives: - Incentives are established to motivate staffs to direct their considerable talents to obtaining desired results. In addition to improving the effectiveness of collections, incentives may also promote a workplace environment of healthy competition. The incentives could be defined based on results of collections activities, according to changes in percentages of past-due amounts at each different stages of performance. This incentive includes the area bank managers at organizational level; depend on area bank NPL level. Incentives could be monetary or in-kind, depending on what form best suits the environment.
- ❖ The credit analysts should aware about the national inflation and GDP rate in addition to evaluate the loan performance through ratio analysis. And be revised depending on the situation and economic condition of the country.
- ❖ Lastly, the researcher recommended that, the bank should stand to Designing and Implement loan recovery strategies and policies. Because like huge projects finance, if the bank stands directly to sold the collateral that affect country economy.

REFERENCES

- Ali S. & Iva S. (2013). Impact of Bank Specific Variables on the Non-performing loans ratio in Albanian Banking System, *Journal of Finance and Accounting*: Vol.4, No.7.
- AmalenduBhunia, Sri Somnath Mukhuti and Sri Gautam Roy , *Current Research Journal of Social Sciences* (2011).Financial performance analysis case study 3(3): 269-275
- Andy Field (2005), *Discovering Statistics using SPSS*, 2nd Edition, New Delhi, India
- Bernardo Maggiand & Marco Guida (2009), Modeling nonperforming loans probability in the commercial banking system: efficiency and effectiveness related to credit risk in Italy, University of DI Roma department of Economics working papers No.1, May 10.
- Dashen Bank S.C (2017), Risk Management & Compliance Office Annual Report, Addis Ababa, Ethiopia, July 2017/18.
- Dashen Bank S.C. (2018), Credit policy and procedure module, Addis Ababa, Ethiopia.
- Espinoza, R. A. and A. Prasad (2010), Non-performing Loans in the GCC Banking System and their Macroeconomic Effects, Working Paper Series, No. WP/10/224, Monetary Fund, 24 pages.
- European Banking Coordination “Vienna” Initiative (2012), Working Group on NPLs in Central, Eastern and Southeastern Europe, Vienna March 2012.
- Fofack, H. L. (2005), Non-performing Loans in Sub-Saharan Africa: Causal Analysis and Macroeconomic Implications, Policy Research Working Paper Series, No. 3769, World Bank, 36 pages.
- Gujarati (2004): *Basic Econometrics*, the McGraw–Hill Companies; 4th edition
- Nor Mazlina Abu Bakar and MohdTahir (2009),Applying Multiple Linear Regression and Neural Network to Predict Bank Performance, Faculty of Business Management and Accountancy University of Darullman, Malaysia, *International Business Research Journal* Vol. 2 No.4 October,
- PetrJakubík, Thomas Reininger (2013), Determinants of Nonperforming Loans in Central, Eastern and Southeastern Europe, *Focus on European Economic Integration*Q3/13.
- Savin, N. E., and K. J. White (1977), “The Durbin-Watson Test for Serial Correlation with Extreme Sample Sizes or Many Regressors,” *Econometric* 45, 1989–1996.

ShahbazHaneef , TabassumRiaz, Muhammad Ramzan , Mansoor Ali Rana, Hafiz Muhammad Ishaq, YasirKarim (2012), Impact of Risk Management on Non-Performing Loans and Profitability of Banking Sector of Pakistan, *InternationalJournal of Business and Social Science* Vol. 3 No. 7.

Statistical department of IMF (Eighteenth meeting of the IMF committee on balance of payments statistics Washington)(2005), The Treatment Nonperforming Loans, D.C, June 27- July 01, 2005

Statistical department of IMF (Fifteenth meeting of the IMF committee on balance of payments statistics Canberra) (2002), Nonperforming Loans, Australia, October 21-25, 2002

Thomas B. Fomby, R. Carter Hill, and Stanley R. Johnson (1984), Advanced Econometric Methods, Springer-Verlag, New York, p. 37

APPENDIX

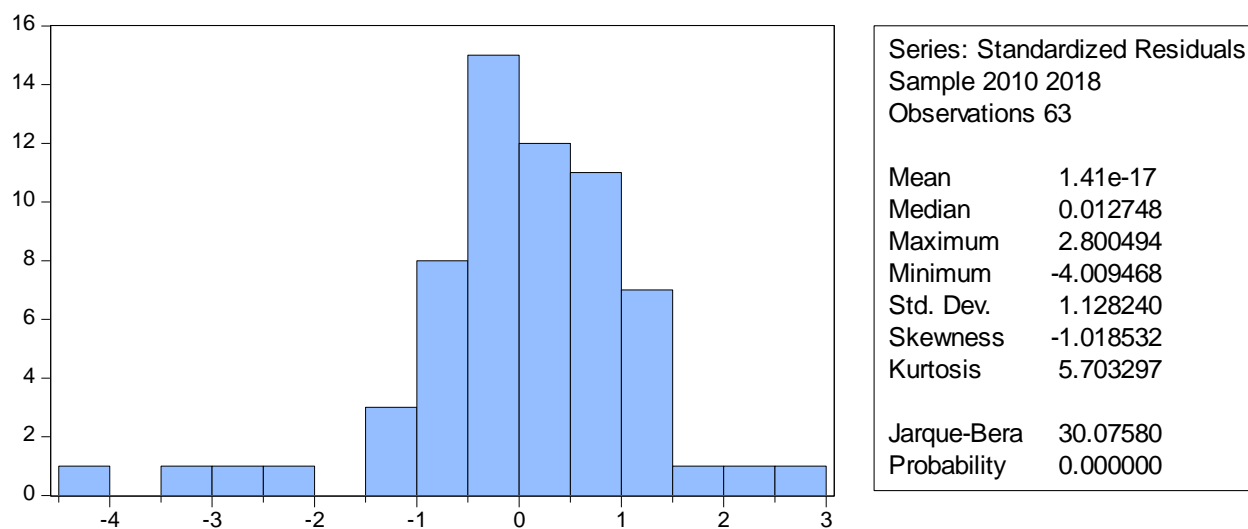
summary of descriptive statistics

	ROA	NPL	MGE	LTDR	INFR	GDP	CA
Mean	4.301941	7.819473	29.31202	46.31576	15.87460	1330.947	8.024004
Median	3.403827	9.223194	33.00000	55.34361	10.45000	85.34361	1.000000
Maximum	16.65000	18.89172	55.24131	73.80083	46.10000	78300.52	40.80000
Minimum	0.020000	0.148714	2.706865	0.400000	7.300000	0.202600	0.589253
Std. Dev.	2.833460	4.391256	11.57577	24.56832	10.66445	9853.883	13.56901
Skewness	1.890580	-0.638528	-0.763704	-1.037320	1.224765	7.746470	1.500519
Kurtosis	7.422807	2.889199	2.812657	2.429029	3.362063	61.01066	3.467724
Jarque-Bera	88.87827	4.313267	6.216195	12.15412	16.09464	9463.828	24.21560
Probability	0.000000	0.115714	0.044686	0.002295	0.000320	0.000000	0.000006

Sum	271.0223	492.6268	1846.657	2917.893	1000.100	83849.68	505.5123
Sum Sq. Dev.	497.7668	1195.554	8307.900	37423.34	7051.284	6.02E+09	11415.31
Observations	63	63	63	63	63	63	63

Source: Secondary data (2010-2018) and own computation

NORMALITY TEST



Heteroskedasticity Test: White

F-statistic	2.161121	Prob. F(27,35)	0.0164
Obs*R-squared	39.37929	Prob. Chi-Square(27)	0.0585
Scaled explained SS	73.17037	Prob. Chi-Square(27)	0.0000

Source: E-view8 output

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	17.843998	6	0.0066

Source: E-view8 output

First (General) Regression Results

Dependent Variable: ROA

Method: Panel Least Squares

Date: 01/04/21 Time: 03:04

Sample: 2010 2018

Periods included: 9

Cross-sections included: 7

Total panel (balanced) observations: 63

Variable	Coefficient	Std. Error	t-Statistic	Prob.
NPL	-0.428362	0.182851	-2.342688	0.0232
MGE	0.021991	0.015684	1.402105	0.1671
LTDR	0.050198	0.028468	1.763310	0.0840
INFR	-0.026639	0.016237	-1.640683	0.1071
GDP	0.000208	2.02E-05	10.27053	0.0000
CA	0.081311	0.032417	2.508268	0.0154
C	4.829418	1.306913	3.695286	0.0005

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.883150	Mean dependent var	4.301941
Adjusted R-squared	0.855106	S.D. dependent var	2.833460
S.E. of regression	1.078554	Akaike info criterion	3.170706
Sum squared resid	58.16391	Schwarz criterion	3.612940
Log likelihood	-86.87724	Hannan-Quinn criter.	3.344639
F-statistic	31.49167	Durbin-Watson stat	1.813628

Prob(F-statistic) 0.000000

Source: E-view 8 output,