



EFFECTS OF INTEREST FREE BANKING ON THE DEPOSIT
MOBILIZATION OF COMMERCIAL BANKS IN ETHIOPIA

CASE STUDY: - OF SELECTED COMMERCIAL BANKS

MSc Thesis

By: TALEMA KEBERE ABATE

WOLKITE UNIVERSITY

WOLKITE, ETHIOPIA

JULY, 2021

EFFECTS OF INTEREST FREE BANKING ON THE DEPOSIT
MOBILIZATION OF COMMERCIAL BANKS IN ETHIOPIA

CASE STUDY: - OF SELECTED COMMERCIAL BANKS

By: Talema Kebere Abate

Major advisor: Mekonnen Bersisa (PhD)

Co-advisor: Hayatu Mude (MSC)

A Thesis Submitted as a Partial Fulfillment of the Requirements for the Award of
MSc degree in Economics

(Specialized: Development Economics)

WOLKITE, ETHIOPIA

JULY, 2021

DECLARATION

I, the undersigned, declare that this thesis is my original work, prepared under the guidance of Mekonnen Bersisa (PhD) and Hayatu Mude (MSc). All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

Declared by:

Name: Talema Kebere

Signature: _____

Date: _____

ACKNOWLEDGMENT

First and foremost I would like to thank is the almighty God, that helps me in all direction and enables me to do all things. In short the happiness that I have on God does not express through word or I haven't a word that able to express him.

My deepest gratitude goes primarily to my advisor Mekonnen Bersisa (PhD) for his unlimited support throughout the whole process of learning and writing the thesis

I would like to acknowledge Wolkite University College of Business and Economics, Department of economics for letting me to have this opportunity and for Material support when needed. My Gratitude also extends for Hayatu Mude (MSc) for his help during class learning and co-advising. Finally, I would like to thank my friend's for their cooperative assistance in financial and psychological support up to end of my education.

TABLE OF CONTENTS

ACKNOWLEDGMENT.....	I
TABLE OF CONTENTS.....	II
LIST OF TABLES.....	IV
LIST OF FIGURES	V
LIST OF ABBREVIATIONS.....	VI
<i>ABSTRACT</i>	VIII
CHAPTER ONE	1
1. INTRODUCTION	1
1.1 Background of the Study	1
1.2 Statement of the Problem.....	4
1.3 Objective of the Study	6
1.3.1 General Objective	6
1.3.2 Specific Objectives	6
1.4 Research Questions.....	6
1.5 Significance of the Study	6
1.6 Scope of the Study	7
1.7 Limitation of the Study	7
1.8 Organization of the Paper	8
CHAPTER TWO	9
2. LITERATURE REVIEW	9
2.1 Theoretical Literature Review	9
2.1.1 The Definition and Functions of Commercial Banks	9
2.1.2 The Role of Commercial Banks in Developing Economy.....	11
2.1.3 Factors Affecting Deposit Growth of Commercial Banks.....	15
2.1.4 Islamic banking.....	17
2.2 Empirical Literature.....	20
2.2.2 Summary of Empirical Literature Review	27
2.3 Conceptual Framework.....	28

CHAPTER THREE	29
3. RESEARCH METHODOLOGY.....	29
3.3 Data Type and Source.....	30
3.4 Methods of Sampling.....	30
3.5 Data Collection	31
3.6 Method of Analysis.....	31
3.7 MODEL SPECIFICATION.....	32
3.8 Variables, Notations and Expected Signs of the Variables.....	33
CHAPTER FOUR.....	34
4. RESULT AND DECISION	34
4.1 Descriptive Analysis	34
4.2 Correlation Analysis	35
4.3 Panel Unit Root Test.....	37
4.4 Choosing Random Effect or Fixed Effect Models.....	39
4.5 Regression Analysis and Interpretation	40
4.5.1. Regression Analysis.....	40
4.5.2. Interpretation on Regression Result	42
4.5.3 The Result of Diagnostic Tests	44
CHAPTER FIVE	47
5. CONCLUSION AND RECOMMENDATION	47
5.1 Conclusion	47
5.2 Recommendations.....	48
<i>REFERENCE</i>	49
APPENDIXES	55

LIST OF TABLES

Table 3-1 Notations, measurement and expected sign of the variables.....	32
Table 4-1 Summary statistics of dependent and independent variables.....	35
Table 4-2 Correlation matrix of dependent and independent variables	36
Table 4-3 Correlation matrixes of explanatory variables	37
Table 4-4 Regression output fixed effect model.....	42

LIST OF FIGURES

Figure 2-1 Conceptual framework..... 29

LIST OF ABBREVIATIONS

- AB _____ Abay Bank
- AIB _____ Awash International Bank
- BREXP _____ Branch Expansion
- BIB _____ Buna International Bank
- BOA _____ Bank of Abyisinya
- BLUE _____ Best Linear Unbiased Estimation
- CB _____ Conventional Banks
- CBs _____ Commercial Banks
- CBE _____ Commercial Bank of Ethiopia
- CBO _____ Cooperative Bank of Oromiya
- CLRM _____ Classical Linear Regression Model
- DB _____ Dashen Bank
- GDP _____ Gross Domestic Product
- GNP _____ Gross National Product
- GTP _____ Ethiopia's Growth and Transformation Plan
- IFB _____ Interest Free Banking
- IFBD _____ Interest Free Banking Deposit
- IFBW _____ Interest Free Banking Window Based
- IIFS _____ Institutions of Islamic Financial Services
- Ms _____ Money Supply

NBE _____ National Bank of Ethiopia

NIB _____ Nib International Bank

OIB _____ Oromiya International Bank

OLS _____ Ordinary Least Square

ROE _____ Returns on Equity

UB _____ United Bank

UK _____ United Kingdom

US _____ United States

WB _____ World Bank

WB _____ Wegagen Bank

NGDP _____ Nominal Growth Domestic Product

R (INF) _____ Rate of Inflation

ABSTRACT

The study was attempted to investigate the effect of interest free banking on the deposit mobilization of commercial banks in Ethiopian using secondary data. The data were obtained from audited financial statements of eight sampled commercial banks for the period of 2016 to 2019 and National bank of Ethiopia report. The novel features of the study was the analysis of interest free banking which was missed by other researcher; branch networking, nominal GDP, inflation rate, money supply as explanatory variables. The study used banks deposit as dependent variable. Both descriptive statistics and econometrics model specifically fixed effects estimation were used to analyze the relationships of dependent variable with explanatory variables. Different diagnostic tests namely test for zero mean of error terms, homoscedasticity, no autocorrelation; no multicollinearity and normality were conducted to check the appropriateness of the model. The diagnostic results show that none of the classical linear regression model assumption is violated. The Fixed-effect model results show that interest free banking and branch networking were strongly positive and significantly related to bank's industry deposit performance, while inflation rate has a negative impact on deposits of bank specific drivers. Therefore, in order to aid the progress of Islamic banking in Ethiopia and reap the most benefit for the country, a legislative framework should be instituted to improve the segment's regulation and commercial banks should open more branches in order to increase their deposit. The government also should keep the inflation rate single by decreasing money supply in the economy.

Keywords: Effects, IFB, deposit, Commercial Banks, and Ethiopia

CHAPTER ONE

1. INTRODUCTION

1.1 Background of the Study

Bank deposits are one of the most important elements on which banks are based in general, whether Islamic or commercial. The deposit is an agreement between the client and the bank under which the customer to deposit a sum of money with the bank for the purpose of conservation or investment and the bank undertakes to refund the money to the client at a certain date upon request, according to terms agreed upon in advance (Jaber and Manasrah, 2017).

Unquestionably, deposits are the heart of financial institutions like banks. Financial systems have been recognized to play an imperative role in economic development. One of such important factors in financial systems that account for growth in a country's economy is bank deposits (Boadi, Li and Lartey, 2015). Commercial bank deposits are main liabilities for commercial banks. According Kelvin (2001) deposits of commercial banks account for about 75% of commercial bank liabilities. Commercial banks are using this liability to lend it and gain return on it. Thus, their deposits enable them to do their businesses. Commercial banks accept deposit from the customer and provide loan to customer, through in this way commercials banks mobilize the resource. As a result, banks will be better if they are mobilizing more customer deposits in different deposit type (Mamo, 2017).

Deposit may be important for both developed and developing countries such that it helps depositors to earn on their funds which they have no immediate use for. It also creates a platform for banks to channel such funds to businesses and individuals who have urgent use of such funds (Boadi, Li and Lartey, 2015). Commercial banks in Ethiopia are expected to play a critical role in the economy. According to NBE (National Bank of Ethiopia), there are eighteen commercial banks (CBs) operating throughout the country.

Thus, in order to finance the country's investment needs CBs are expected to mobilized adequate fund in the first place. However, mobilizing sufficient deposit is not a simple undertaking for commercial banks rather it needs to know what factors can affect their deposit growth firstly.

Jaber and Manasrah (2017), Boadi, Li and Lartey (2015), Ostadi and Sarlak (2014), Sanayei, Shahin and Amirosadt (2012), Ngula (2012) and Katalai (2008) are researchers who conducted studies on factors affecting deposit growth of CBs in foreign countries.

The objective of this study was to determine factors affecting deposit growth of CBs in Ethiopia by taking CBE and seven purposively selected private CBs as a sample. Different researchers including Mamo; Fisseha and Ketema (2017), Behredin; Kibebe; Andinet; Yannet; Nafkot and Ephrem (2016), Shemsu and Hibret (2015), Getahun (2014), Sisay (2013) and Wubitu (2012) carried out researches to determine factors affecting CBs' deposit growth in Ethiopia. Their results were inconsistent towards the effect of inflation, branch expansion, nominal GDP and money supply. In addition to interest free banking this study tested the effect of those variables on CBs' deposit growth again in order to alleviate the ambiguity towards their effects on CBs' deposit growth. Furthermore, unlike former researches this study tested the effect of advertising and publicity on CBs deposit growth in econometric way for the first time.

Islamic finance came in the international business platform as early as 1950s, increased drive in the 1970s, following the oil crisis in 1973 and the beginning of Islamic movement, and increased rapidly in 1990s. Varying in scope from corporate finance to asset management, Islamic finance has detonated worldwide, and expected to give attention to derivatives liquidity management fundamentally determined by the oil industry (Walker, 2017). Islamic finance, entails offering financial products as well as services by institutions offering Islamic financial services (IIFS) for Sharia accepted basic transactions as well as economic activities. Finance is anchored on sharia in order to conform to the religious obligations of Muslims according to their "aqidah" an element that differentiates Islamic finance from typical finance. Sharia compliant financial products as well as services ought to add value towards economic growth. Financial organization across the globe attempting to match the rising need for sharia compliant products as well as services (Islamic banking and finance center (UK, 2018)). Al-Jarhi (2016) argue that guideline is able to increase the performance of typical banks till it reaches the limit, however cannot remove inadequacies as a result utilization of the typical loan agreement. Islamic finance involves complex as well as expensive likened to typical finance. However, it has substantial macroeconomic gains, which cannot be adopted by single banks. As a result, Islamic bankers

have a tendency to copy a typical finance so as to reduce costs as well as increase short-term profits.

Ethiopia's Growth and Transformation Plan (GTP) is the guiding document for all rounded development effort including transformation of the banking industry in a way that addresses strategic interests of the business community, as the case may be, to achieve the commitments of the Millennium Development Goals. One of these instruments is authorization of Interest-free Banking convention in the country primarily to satisfy economic reasons and other reasons in the process. Accordingly, the government of Ethiopia through the NBE has taken constructive step, which was of course after continuous pushing and pulling forces from notational and international stakeholders in authorizing and issuing a regulatory provision for Interest-free Banking under the umbrella of the conventional banking, on October 1, 2011 through the NBE. It is regarded as a constructive action in facilitating access to both convenient and or alternative banking convention based on religious, social, economic and cultural motives of the community in recent years. As per this provision, all commercial banks that are licensed to engage in the CB are privileged to engage in IFBW business through CB branch offices only after securing independent license for the convention, which is subject to fulfillment of terms and conditions set out thereof. The IFB business as per the provision refers to banking business in which mobilizing or advancing funds is undertaken in a manner consistent with Islamic finance principles and mode of operation that avoids receiving or paying interest and the IFBW refers to a unit or window within a conventional bank exclusively offering interest free banking services.

Subsequent to the issuance of the working directive, the NBE granted the IFB service license to the Oromia International Bank S.C (OIB) on September 16, 2013 enabling the bank to pioneer the Islamic Banking in Ethiopia Meraf (2013). Same license is granted to the Commercial Bank of Ethiopia (CBE) on September 17, 2013. Accordingly OIB launched the IFB operation on December 16, 2013 as a pioneer at its 24 branch offices and currently evened out to its other branches and the CBE does so sooner.

Based on the proclamation NBE issued a directive of SBB/51/2011 which allows window based 'Interest Free Banking business.'

NBE replaced directive SBB/51/2011 by SBB/72/2019, which further broaden the mode of operation from window based to full-fledged;

Following the issuance of NBE Directive SBB 51/2011 out of 18 commercial banks 11 are giving IFB service;

In over-all, despite the fact that the IFB is newly embarking in Ethiopia with peculiar features that have repercussions unless otherwise, the overall awareness level of the stakeholders (commercial banks and customers) as to compliance with the governing principles, operating philosophy and practice in one hand and the supervisory platform on the other are believed among the key limiting factors and it is at an infant stage with potential gap. These gaps are observed on the day-to-day activities and interactions between the banks and their IFB customers.

1.2 Statement of the Problem

The concept of Islamic Finance is important as it has developed instrument for financing development globally, comprising non-Muslim nations. Key financial markets are solidly ascertaining that Islamic financing has by this time been conventionalized in the universal financial structure and that it bears the likelihood to aid in dealing with the challenge of finishing extreme poverty as well as enhancing mutual prosperity. The study has considered the context because Ethiopia has started to develop Islamic finance industry in the region, boosting institutions and products in banking industry.

Deposit is the main component of bank's fund. The existence of Commercial banks is totally impossible in the absence of deposits. Thus, every bank expects that deposits will be sufficient, safe and the flow of deposit will remain smooth. Changes and different mixtures in economic and commercial activities make deposit management challenging to the bank managers (Parvin, Rumana and Afsana, 2014). Mobilization of deposits is one of the main functions of banking business. It is an essential source of working fund for the bank. Deposit mobilization is key factor to increase the sources of the banks to serve effectively. Mobilization of deposit plays an important role in providing satisfactory service to different sectors of the economy. The CBs must tap deposits from urban and rural areas (Shettar, 2014). Since deposits are normally considered as a cost effective source of working fund, the bank's ability to lend more as well as

its success greatly lies on its deposit mobilization. However the bank's ability to mobilize enough funds from the public through its current, savings, fixed, recurring accounts and other specialized schemes will depend on the systems employed in this highly competitive industry (As Digaria, 2011 cited by Viswanadham, Yirgalem, and Medanit 2014). The survival of the fittest" has made applicable for the banks. To enhance profitability, banks take steps to minimize the expenditure and are forced to mobilize low cost deposits (Shettar, 2014). Therefore, banks should grow their deposits in order to survive firstly and then to play their expected role in the economy. On the other hand, growing deposit is not an easy task for CBs whereas, banks should understand what factors can affect their deposit growth initially. Also, they should know to what level those factors can affect their deposit growth. Numbers of researches were conducted to determine the factors affecting CBs' deposit growth in different countries. The following are researches which were conducted in overseas with the aim of determining the factors affecting CBs' deposit growth:-Ostadi and Sarlak (2014), studied to identify the effective factors on the absorption of bank deposits in Isfahan Sepah Bank in Iran. The results indicated that money supply has positive effect on bank deposit growth. Conversely, Ngula (2012) also tried to study the determinants of saving mobilization in Ghanaian CBs. The research findings showed that exchange rate, money supply and inflation have negative significant effect on deposit mobilization. Finally, Katalai (2008) attempted to analyze the factors that influence CBs' deposit growth in Kenya. The study disclosed that exchange rate and GDP have positive significant influences on CBs' deposit growth. When we move to Ethiopia, as far as the researcher concerned, the following are researchers who conducted researches on factors affecting deposit growth of CBs in Ethiopia; - Mamo; Fisseha and Ketema (2017), Behredin; Kibebe; Andinet; Yannet; Nafkot and Ephrem (2016), Shemsu and Hibret (2015), Getahun (2014), Sisay (2013) and Wubitu (2012). In their researches they tested the effect of numerous independent variables on deposit growth. According to the researches conduct by Kibebe and Behredin (2016), money supply has insignificant negative effect on CBs' deposit growth. Whereas, the research conducted by Ketema (2017) revealed that money supply has significant negative effect on CBs' deposit growth. Finally, Ketema and Fiseha (2017) and Behredin (2016) tried to determine the effect of inflation on CBs' deposit growth. Their findings revealed that inflation has negative significant effect, positive significant effect and positive insignificant effect respectively on CBs' deposit growth.

However, none of the former researchers tested the effect of interest free banking on Commercial banks deposit growth in econometrical way. By studying the effect of this independent variable quantitatively this study is unique from previous studies. In addition to this the researcher includes the effects of other independent variables like branch expansion, inflation rate, nominal GDP and money supply with the dependent variable banking industry deposit growth.

1.3 Objective of the Study

1.3.1 General Objective

The general objective of the study is to examine the role of interest free banking on commercial banks deposit growth in Ethiopia.

1.3.2 Specific Objectives

The Specific Objectives are to determine:

1. Effect of IFB on deposit growth of Commercial banks
2. Effect of branch expansion on deposit growth of Commercial banks
3. Effect of inflation on deposit growth of Commercial banks
4. Effect of money supply on deposit growth of Commercial banks
5. Effect of Nominal Gross Domestic Product (NGDP) on deposit growth of Commercial banks.

1.4 Research Questions

1. Does Islamic finance/IFB has a significant relationship with bank's deposit?
2. Does inflation rate have a significant relationship with bank's deposit?
3. Does branch networking has a significant relationship with bank's deposit?
4. Does nominal GDP has a significant relationship with bank's deposit?
5. Does money supply has a significant relationship with bank's deposit?

1.5 Significance of the Study

This study is helpful for policy makers, commercial banks and future researchers by qualifying commercial banks to increase their deposit by making the familiar with the effects of interest free

banking and their deposit growth. It guides policy maker of Ethiopian about the importance of Islamic Financial Institutions Development and its significant impact on macroeconomic variables of the country. It also serves as a reference for policy makers in policy making process.

1.6 Scope of the Study

The purpose of the study is to examine the role of Islamic finance in Ethiopia and its prolific impact on deposit growth of commercial banks by catalyzing the gap left by the conventional banks as an alternate banking convention.

Deposit mobilizations in Ethiopia are performed by different financial institutions like commercial banks, contractual savings (such as private pension fund, health insurance and insurance premium) and microfinance institutions. However, this study is limited on Commercial banks only. Also, the study is limited on four years quantitative data of eight commercial banks- namely Oromia International Bank(OIB), Awash International Bank (AIB), Commercial Bank of Ethiopia (CBE), Cooperative bank of Oromia (CBO), Nib International Bank (NIB), United Bank (UB) Abay bank(AB) an Wegagen Bank (WB).

1.7 Limitation of the Study

Data collection was extremely tedious and time consuming. The period that the investigation performed was, therefore, through investigation was unable to undertaken. The study however, minimized these by conducting in-depth analysis that significantly covers the shortcoming of the study. Additionally the information was tiresome to gather as well as work out since it was in its raw nature. Also the data arrangement was different that led to difficulty in data computation.

The researcher did not overlook the key drawback of descriptive research investigation which is that the investigation makes it hard to describe occurrences over time; hence the study findings are only applicable to the study framework. This makes it harder to describe occurrences over time; hence the outcomes are only pertinent to the investigation's period. It was difficult to access secondary data due to strict confidentiality exhibited by the banks under study. The annual financial reports are also crated under the key assumption and concepts which are particular.

Lastly numerous financial reports are confirmed in the previous year's implying that information misstatement of enterprises performance may develop a prospect for previous year's alternation and this could possibly not be conveyed imping on the link verified.

1.8 Organization of the Paper

The paper is organized in five chapters. Chapter one introduces the general overview of the study. Chapter two is literature review which includes both theoretical and empirical reviews. The methodology which was employed for conducting the research is organized in chapter three. The analysis and interpretation of the research findings is incorporated in chapter four. Chapter five, finally, encloses conclusions and recommendations based on the findings of the study.

CHAPTER TWO

2. LITERATURE REVIEW

2.1 Theoretical Literature Review

This chapter has three parts; the first part is theoretical reviews, the second part is empirical studies reviews and finally the third part is conceptual framework. In the theoretical review part the literatures that are related to CBs and bank deposits are discussed. In the empirical studies part past studies which were conducted on the area of factors affecting CBs' deposits growth are discussed. Finally, based on the literatures conceptual framework was developed.

2.1.1 The Definition and Functions of Commercial Banks

CBs are the most common and important type of banking institutions. They have the lion's share in banking operations. They are monetary institutions that serve the interest of their depositors by providing with security vaults for the surplus resources and, on the other hand, make profits by investing its resource in the productive measures by extending loans.

CBs receive deposits in the form of fixed deposit, saving bank account and current account. They grant loans, generally for short period, in the form of cash credits, overdrafts and ordinary loans. They also render numerous services such as collection of cheques, safe custody of valuables, remittance and payment of insurance premium, etc. CBs may be owned by the government or may be run in the private sector (Kumar and Mittal, 2002).

Commercial banks perform variety of functions which includes:-

Accepting Deposits

Deposit account is a savings account, current account or any other type of bank account that allows money to be deposited and withdrawn by the account holder. These transactions are recorded on the banks 'books, and the resulting balance is recorded as a liability for the banks and represents the amount owed by the banks to the customer. Some banks may charge a fee for this service, while others may pay the customer interest on the funds deposited. The account

holder has the right to withdraw any deposited funds, as set forth in the terms and conditions of the account. The following are most common type of bank deposit.

Demand Deposit

It consists of funds held in an account from which deposited funds can be withdrawn at any time without any advance notice to the depository institution. Demand deposits can be "demanded" by an account holder at any time. Many checking accounts today are demand deposits and are accessible by the account holder through a variety of banking options, including teller, Automated Teller Machine (ATM) and online banking.

Saving Deposit

It is a deposit account held at a bank or other financial institution that provides principal security and a modest interest rate to the depositor. Depending on the specific type of saving account, the account holder may not be able to write checks from the account and the account is likely to have a limited number of free transfers/transactions (Jhingan, 1999).

Fixed or Time Deposit

Time Deposit: time deposit or certificate of deposit (CD) held for a fixed-term, with the understanding that the depositor can make a withdrawal only by giving notice. A time deposit is an interest-bearing bank deposit that has a specified date of maturity; the longer the term the better the yield on the money (Dereje, 2017 as cited by Ketema 2017).

Advancing Loan

Commercial banks are financial intermediaries that borrow funds from people who have saved and in turn make loans to others on higher interest rate than it pays to the depositors (Mishkin and Eakins, 2012).

Credit Creation

Credit creation is also one of the most important functions of the commercial banks. Like other financial institutions, they aim at earning profit. For this purpose, they accept deposits and advance loans by keeping small cash in reserve for day-today transactions. When CBs advance

loans, they open accounts in the name of the customer and do not pay him/her in cash but allow him/her to draw the money by cheque according to his/her needs. By granting loans CBs create credits or deposits (Jhingan, 1999).

Financing Foreign Trade

CBs finance foreign trade of their customers by accepting foreign bills of exchange and collecting them from foreign banks. They also transact other foreign exchange businesses and buy and sell foreign currency (Jhingan, 1999)

Agency Service

CBs operate as agent of their customers in collecting and paying cheques, billing of exchange, drafts, dividends, etc. they also buy and sell shares, securities, debentures, etc. for their customers. Further, they pay subscriptions, insurance prima, rent, electric and water bills and other similar charges on the behalf of their clients. They also act as trustee and executor of the property and will of their customers. Moreover, the CBs act as income tax consultant to their clients. For some of these services the CBs charge a normal fee while they render other free of charge (Jhingan, 1999).

Miscellaneous Services

More to the point the above noted services; the CBs perform a number of other services. They act as the custodian of the valuable of their customers by providing those lockers where they can keep their jewellery and valuable documents. They issue various forms of credit instruments such as cheques, drafts, travellers 'cheques etc. which facilitates transactions. The CBs also issue letter of credits and act as a referee to their clients. In underwrites shares and debenture of companies and helps in the collection of funds from public. Some CBs also publish journal which provide stastical information about money market and business trends of the economy (Jhingan, 1999).

2.1.2 The Role of Commercial Banks in Developing Economy

The banking system is of more importance for the economic growth of less developed countries. A sound banking system mobilizes saving of the people, channelizes them into productive activities and boosts up the rate of capital formation in the economy. Secondly, through a

network of branches in rural and backward areas, the banking system can accelerate the process of monetization in the economy. Thirdly, the banking system can permit business innovations by providing cheap credit facilities to entrepreneurs, which not be possible for want of adequate bank credit. Fourthly, the banking system can provide long term finance to business and industry and that helps the development of commerce and industry in less developed countries. Fifthly, the banking system by adopting a cheap money policy can help the economic growth of such countries. Finally, the banking system can provide financial accommodation to priority sectors such as agriculture and small scale industries. Thus, a well-developed commercial banking system can prove a boon for economic development of less developed countries. Yet, the importance of CBs is not limited on the developing economy whereas they are very important to the developed economy too (Hajela, 2009).

Bank Deposit Theories

According to the Keynesian hypothesis, saving is the excess of income over consumption expenditure, or simply, saving is a function of income. Extending the Keynesian perspective, Modigliani and Brumberg (1954) proposed the life-cycle model which emphasizes that the main motive of saving is an accumulation for retirement. The model predicts that consumption in a particular period depends on expectations about lifetime income and, hence, saving will be different across one's stages of life cycle. Theories relating to savings can be seen from both banks and depositor's perspective. The following are theories relating to savings from bank standpoint:-

Real Bills Theory

This theory holds that banks should concentrate on making short term self-liquidating loans and advances; implying that CBs should hold assets in short term loans that would be liquidated in the normal course of business. The proponents of this theory are the view that banks should only finance the movement of goods through successive stages of production to consumption (making working capital loan). The proponents do not expect CBs to make long term or even medium term loans for the purpose of financing the purchase of plants and equipment, real estate or agricultural loans. The rationale is that since the liabilities of a bank are payable on demand, it would be unable to meet its obligations if its assets are tied up over a long period of time. They

further stressed that a bank needs a continual and substantial flow of cash moving through it in order to maintain its own liquidity and such cash flow can be attained only if the bank limits its lending activities to short term facilities otherwise the bank has to hold more of deposits to attain a cash flow in short term demands.

Shiftability Theory

The next theory of bank deposit analysis is the shiftability theory of Moulton (1981). Assets shiftability refers to the ability of financial assets to move between persons or institutions (banks) at negotiated prices. The shiftability theory holds that the liquidity of a bank depends on its ability to shift its assets to someone else at a particular price. The theory is based on the proposition that a bank's liquidity could be maintained by holding assets that could be shifted or sold to other lenders or investors for cash at short notice. On the whole, a bank's interests as regards deposit will be better served if its assets are suitable to enable it acquire liquidity readily as the need may arise. It would be appropriate for a bank to hold short-term open market investment in its portfolio of assets. The essence of holding short-term investments is to help banks to meet the withdrawal demands of customers from available cash or near cash assets that can easily be sold for cash. On the other hand, if loans are not repaid, the collateral security on the loan could be sold in the market for cash if they are marketable, or rediscounted at the central bank. Deposits therefore, satisfy the shiftability requirement of the bank (Mutton, 1981).

The Liability Management Theory

The liability management theory is also another important theory to be considered in this review. This theory suggests that banks can meet liquidity requirement by bidding in the market for additional funds. It further suggest that a bank borrow (purchase) the fund it needs by means of the various bank related money market instrument; inter-bank fund (call money fund), certificate of deposits and Eurocurrencies. Under words, the bank goes out to purchase the liquidity it need to liability management. This theory is contrast of the liquidity management theory which suggest that the bank sells secondary reserve assets to meet customers deposit withdrawals and legitimate loan request of its customers. Investment whether of the short term or intermediate terms provides some income and can quickly be converted. Loans which are much less liquid assets serve the credit needs of the society and provide the greatest sources of profits of banks.

The theory emphasized the need for a good mix of bank deposits. A well-mixed deposit with regular monthly or quarterly payments of principal and interest has some liquidity because of the regular monthly or quarterly cash flow that can be anticipated. It also emphasizes the desirability of relating loan repayment to the future anticipated income of the borrower. This means emphasizing the cash flow prospect of a project rather than placing undue reliance on security.

However, from the depositor's perspective there are three main theories relating to savings behavior: the traditional models of the life-cycle hypothesis (Modigliani & Brumberg, 1954), the permanent-income hypothesis (Friedman, 1957) and the more recent buffer-stock theory of savings behavior (Deaton, 1991). These theories explain why the individual depositor would like to hold part of asset portfolios in savings.

The Life-Cycle Hypothesis of Savings

This theory assumes the individual to be a net saver during the early stages of life, and dissave during retirement. And as Haron and Azmi (2006) put it, the cornerstone of the life-cycle hypothesis is age related consumer heterogeneity. According to the predictions of this model of savings, the savings curve takes a hump-shaped pattern which peaks in the middle ages of one's life. Conversely, there is low savings during the young and old ages.

The Permanent-Income Hypothesis of Savings

The permanent income hypothesis was first propounded by economist Friedman in his treatise A theory of consumption in 1957. This model abstracted from retirement saving decisions. This theory distinguishes between permanent and temporary income. Income is argued by this model to consist of the permanent (anticipated and planned) component which is the expected long-term average income, and the temporary (transitory or windfall gain or unexpected) component. According to the permanent-income hypothesis, consumption at a particular point in time is dependent on not only on one's current income but also on their expected future income (permanent income). The theory postulates that a consumer will save only if he/she expects that his/her long-term average income (permanent income) will be less than his current income.

The Buffer-Stock Theory of Savings

This theory of saving is usually termed as the precautionary savings model. It argues that consumers are impatient and prudent in the face of unpredictable income fluctuations. The buffer-stock theory assumes consumers to be impatient because they resort to borrowing against future income in order to meet (finance) current consumptions if income were certain, and also as prudent because they have precautionary motives. To avoid or avert the dangers associated with future fluctuations in income and also retain a smooth consumption pattern, individuals are forced to set aside some precautionary reserves by way of reducing current consumption in order to save against the contingent occurrences. Therefore, one would expect savings rate to be procyclical, with individuals saving more when incomes are higher, in order to smoothen consumption in bad times.

2.1.3 Factors Affecting Deposit Growth of Commercial Banks

Based on the empirical and theoretical reviews the following are factors affecting CBs' deposit growth.

Bank Branches

According to NBE the role of bank branches is very important in growing the capacity of banks in deposit mobilization. The possible reason is that when there is an increase in number of branch the accessibility of bank service will increase therefore; the more banks accessible the more customers will increase and as the same time the deposit will increase (Fiseha, 2017).

Fisseha and Mamo (2017), Behredin; Yannet; Andinet (2016), Shemsu and Hibret (2015), Sisay (2013) and Wubitu (2012) carried out researches in order to determine the effect of branch expansion on commercial banks deposit mobilization. The result from their researches revealed that the effect of number of branches on bank deposit is positive and statistically significant.

Inflation

The rate of inflation and the inflationary expectations might have some influence on the growth of overall deposits with the banking system. It is generally assumed that the growth of total deposits is to be negatively related with inflationary expectation. As inflation accelerates, deposits become less attractive, depending on the interest rate. In this case, the assumption would be that as deposit interest rates rise, deposits would increase in principle as well. The narrower

the spread between deposit rates and inflation, the less attractive it should be to hold deposits above the required level. As the rate of inflation increases, people will be tempted to divert their savings from bank deposits to any other kind of tangible assets because these assets act as hedge against (Behredin, 2016).

According to Ngula (2015) inflation has negative significant effect on deposit growth. Whereas, Ketema (2017) Yannet and Andinet (2016) found that the effect is negative but, statically insignificant on deposit growth. Finally, Behredin (2016) and Shemsu (2015) found that inflation has positive insignificant effect on bank deposit growth. .

Narrow Money Supply

According to NBE narrow money supply is the summation of currency outside the bank and net demand deposit.

According to researches conduct by Ngula (2012), in Ghana money supply has significant negative effect on bank deposit. In addition, Ostadi and Sarlak (2014) found that money supply has positive effect on banks' deposit. However, when we come to researches conducted in Ethiopian commercial banks by Behredin, (2016) money supply has insignificant negative effect on commercial banks deposit. Whereas, the research conducted by Ketema (2017) revealed that money supply has significant negative effect on commercial deposit growth. Kibebe (2016) also found that money supply has most significant effect.

Nominal GDP

According to Mohammed (2014) the fundamental assumption of the life-cycle hypothesis is that an individual seeks to maximize the present value of lifetime utility subject to the budget constraint. The theory predicts that consumption in a particular period, and thus the decision to save, depends on expectations about lifetime income. According to this theory, the lifetime of an individual is divided into working period and retirement period. Individuals are assumed to be net savers during the working period and dissave during the retirement period. In the light of that, growth of per capita income will result in an increase of aggregate savings rate, because it increases the lifetime earnings and savings of younger age groups relative to older age groups. Thus countries with higher NGDP growth rate and so higher per capita growth rate are expected

to have higher savings ratios than countries with lower growth rates. However, there is another view indicates that the size of this effect is likely to decline as per capita income rises and may even become negative for rich countries where investment opportunities and growth are relatively lower.

Studies by Fiseha (2017), Andinet (2016), Boadi, Li and Lartey and Hibret (2015) found that GDP has significant positive effect on banks deposit growth. On the other hand, the study by Shemsu (2015) found that GDP has positive insignificant effect on bank deposit growth.

2.1.4 Islamic banking

The first writings concerning finance and Islamic banking were founded during the early twenties by Siddiqi. The Islamic banking theory is mostly grounded on the point that according to the Islamic beliefs, interest is forbidden. The theory is also based on the fact that Islamic religion provides the necessary guidance on where to base the banks. The theory is essentially based on the principle that interest is unnecessary as well as not required foundation for the banking undertakings. It also argues that Islamic knowledge provides a foundation for operating the banks. The basis suggests that Islamic teachings guide all the theoretic work regarding Islamic banking and that profit and trade is permissible (McDonnell & Rubin, 1991). The main standard in the Islamic regulation is that man or unfair contracts which involve conjecture or any other form of risks are impermissible in economics of Islam, a book authored by Ahmed, he predicted the development of Islamic banks founded on a combined stock company with a limited site liability. Besides current account, which does not allow any interests or dividends, there existed another account where people deposited their capital in terms of partnership with other stakeholders where they received higher bonuses than the real account holders. Hypothetical work concerning Islamic banking includes various features related to possible socio economic consequence as a result of implementation of the freshly introduced system as well as operating actions of Islamic banks.

Major principles (theories) of Islamic finance includes: First is the principle of requiring zakat. This is to uphold justice connected to the allocation of wealth or resources. Islam levies a property tax referred to as zakat (Uddin, 2015). The second principle is prohibiting riba(interest). Islam forbids transactions based on interest. The third principle is encouraging shared risk.

Islamic fosters risk-sharing in economic relations (Harrison & Ibrahim, 2016). The Last is principle is that prohibits gambling. In Islam wealth acquisition through chance (not by effort) as well as games of gamble is forbidden since they depend on uncertainty (Uddin, 2015).

According to World Bank (WB, 2015) Islamic finance refers to an equity-based, asset supported, moral environmentally as well as socially responsible finance that uphold risk division, attaches the financial segment with the actual economy, and gives emphasis to financial involvements as well as social prosperity. Walker (2017) defines Islamic finance that is in conformity with the Islamic laws known as sharia laws.

According to Dahir (2017) Islamic finance, is a financial scheme based on profit-division, and forbids the gathering as well as interest payment. The current reality forces a number of financial needs, and to satisfy these needs Muslim jurists focused in financial transactions were dedicated to come up with unique financial products as well as solutions well-matched with sharia' meeting the requirements of people as well as corporates perfectly. Among Islamic finance tools are: Idjiara: which is an Islamic financial tool precisely, referring to leasing. In this contract the bank purchases equipment and leases it momentarily to a customer for some fee. At that, the customer is allowed to buy the equipment from the financial establishment in the period of agreement validity or afterward its termination depending on initial agreement with the bank. Istisna: is also an Islamic financial tool that assumes that one of the parties purchases material or commences to offer finance to another party for performance of particular jobs (Chokri & Anis, 2018). Another Islamic finance instrument is Mudarabah which is a type agreement that entails investment partnership when party funds the task and the other one is responsible for its completion.

Create a community founded on justice and fairness (McDonnel & Rubin, 1991). Therefore, the idea regarding Islamic banking has continued under the condition that supervision for all the established developments within the Islamic community should be based on the philosophies of sharia. The major content and form of Islamic banking have to be guided by the Islamic teachings. For example, a loan gives the creditor an established return regardless of the results of the debtor's project. The Islamic teachings also point out that it is fair for the losses and profits to be shared by all the involved parties. In this context, fairness is perceived in two scopes; the provider of the return must be equal to the efforts as well as risks implicated, hence should be

guided by the yield realized on a person's venture into which the capital was invested. A financial organization which does not consider interests requires a monetary rule framework (McDonnell & Rubin, 1991). Following the abolition of interests

In the economy, the strategy of the sharia-compliant financial policy dominates among the economists as well as the Islamic bankers. The Islamic standards require a field that plays equally among all the market participants, thus permitting the economy to develop which helps in alleviating poverty. In a conservative economy, the monetary inflation and alleviate output fluctuation.

The financial performance and economic growth and posterity of the Islamic financing sector are mainly determined by different variables. According to Ajlouni (2014), these variables include; It is added by Ajlouni (2014) is a logical expression used in measuring the economic growth of a market by taking consideration of monetary expenditures in an economy. In other words, economics can make use of this tool in understanding the productive output of a market or industry by tracking the value of the dollar on in an industry during a specific period. A combination of the outputs in an economy or industry are then measured in regard to the amounts invested or dollars spent to determine the total production. However, there are tautologies that allege that expenditures in determining the GDP of a market tend to be equal to the sold-production and may not be used in measuring the relative productivity of a market. In this case, Ajlouni (2014) argues that the productive capacity of an industry of economy may not grow as a result of the circulation of foreign currencies, but economies turn out to be productive when resources are productively put to use.

The gross national product (GNP) is an economic indicator used by economics to determine the total income of a nation or an economy resident within a period and the manner in which the residents make use of their resources. GNP therefore plays a significant role in determining the total income accrued among a population sample in a period. According to the Bureau of Economic Analysis (BEA), the GNP was employed in determining the financial health of the U.S before the financial crunch that hit the nation. Kogid, Mulok, Beatrice & Mansur (2015) alleges that there are differences between the two financial indicators in as much as they differ significantly in the manner in which they are used in different markets. For instance, an economy

that mainly contains foreign-owned investment and companies are likely to have a higher GDP as opposed to GNP.

The relationship between the productivity and spending of an economy may be used as a tool in determining the productivity of a market. Several economists establish that total spending is a product of a productive output, an aspect that may be used in adjusting inflation. Contrarily, a Section of literatures posit that increased spending alone may not be used an indication of growth productivity and spending therefor spur profits in several businesses and as a result, there is a rise in stock prices in the market. As established by Kogid et al., (2015), this gives organizations and companies within the sector to make investments and hire more employees. As jobs are created within an economy, the levels of incomes rise and the consumers are in a position to access more money they require in purchasing additional products and services. This therefore established that purchases drive the level of economic growth in an economy. For this reason, organizations that have a positive economic outlook are more productive and spend a little bit more.

The financial system is complex, comprising many different types of private-sector financial institutions, including banks, insurance companies, mutual funds, finance companies, and investment banks all of which are heavily regulated by the government (Mishkin and Eakins, 2012). Financial institutions are firms and their behavior can be analyzed in much the same way that economists analyze any other type of firm. Thus, we can think of them as producing various forms of loans out of money which people are willing to lend. Furthermore, we can assume that they are profit maximizes and that the profit arises from charging interest to borrowers at a rate which exceeds that paid to lenders. One of the most common types of financial intermediary is bank (Howells and Bain, 2007).

2.2 Empirical Literature

Ostadi and Sarlak (2014), studied on effective factors on the absorption of bank deposits in Isfahan Sepah Bank. The aim of the study was determining the effective factors on the absorption of bank deposits in Isfahan Sepah bank. The research was applied and in terms of research methods, the branch of the field was descriptive survey. Data collection and statistical tests using panel data Stationarity test assumptions of classical collinearity regression model, test

t, Fisher F test, Durbin Watson test was significant, F Lymr personal effects, Hausman test, the variance test anisotropy the remaining residues of Normality review for multiple regression analysis was used. The research population consisted of Sepah Bank deposits in the province during the period 1379 to 1389. The results indicated that the effect money supply was increased relative share of bank deposits. Exchange rates'effect on deposits was negative.

Jaber and Manasrah (2017) carried out research with the aim of identifying factors that affect attraction of deposits in Palestinian Islamic banks. The researchers used descriptive approach to reach the results and recommendations of the study. The study populations were all branch managers of Islamic banks operating in Palestine. The sample was the same of study population; because the small size of study population. The study found that there is a relation between advertising campaigns and bank deposits in Islamic banks in Palestine. Boadi, Li and Lartey (2015) did a study to find out the determinants of bank deposits in Ghana. Their research examined the effect of interest rate liberalization on bank deposits in Ghana. A deposit function model was specified with long term deposit as the main dependent variable with real savings rate, real Treasury bill rate, exchange rate movement and gross domestic product as independent variables while controlling for inflation. Ordinary Least Squares (OLS) method was used to estimate the specified model which covered seasonally adjusted quarterly data drawn from Bank of Ghana and Ghana Statistical Service. The results of the study revealed that the interest rate liberalization and gross domestic product jointly accounted for about 78% of the variation in the level of bank savings deposits in Ghana. The results also showed that the liberalization of the interest rates is attractive for people with idle funds to save in financial institutions especially in banks. It also revealed a negative relationship between real savings rate and the real Treasury bill rate expected in a high inflationary environment. All the independent variables were significant.

Ngula (2012) made research with the aspiration of examining the determinants of savings mobilization and its role in promote economic growth in Ghana. Data for the analysis cover the period between 1980 and 2010. Time series characteristics of the data were investigated by applying unit root tests to examine the stationarity of each variable. To determine the robustness of the Ordinary Least Squares (OLS) regression coefficients, a test for serial correlation and heteroskedasticity was performed. The demand for real bank deposits was modeled using the OLS technique. Results from the study show that exchange rate, inflation rate and money supply

(M2) significantly affect the mobilization of financial savings (deposit) in Ghana. Deposit interest rate however, proved to be a weak determinant of bank deposit mobilization. This is because of the lack of confidence that people had in the banking system. Successful mobilization of domestic resources requires a stable macroeconomic environment in which inflation is under control and possible currency substitution is tamed by a stable exchange rate. The functions performed by banks, especially their use of deposits to allocate credit to the private sector for investment, promote growth to an extent. However, government borrowing and other factors constrain the economy from realizing the full growth benefits of functions performed by the banks. Financial policies by government can also augment this development process by assuring greater amount of information on credit worthiness of businesses and households in the economy.

Katalai (2008) the objective of the study was to analyze the factors that influence Commercial banks' deposit growth in Kenya. Time series data covering 1968 - 2006 was analyzed. First, the time series characteristics of the data were assessed using unit root tests to examine the stationarity of each variable. Secondly, the test for co integration was performed to determine the long run relationship of the non-stationary variables. Lastly, estimated model was a single regression equation with deposit as the dependent variable and explanatory variables as deposit rate, nominal exchange rate, investment income ratio, number of cheques cleared (used as proxy for innovations in the financial sector), real GDP, ratio of monetary GDP to total GDP and Structural Adjustment Programs (SAPs). Estimation was done using Ordinary Least Squares (OLS) technique and Econometric Views (E-views) statistical package. Analysed results showed that lagged Commercial bank deposits and all the other variables including Structural Adjustment Programs (SAPs) significantly affect Commercial banks deposit growth in Kenya.

2.2.1 Empirical Studies in Ethiopia

Sisay (2013) the aim of the paper was to examine and assess deposit mobilization of private commercial banks. Those having two years and above experience senior Addis Ababa area branches and head office employee were selected for data collection. The research used questionnaire and structured interview discussion for employees and the management of Awash International Bank Share Company. The result shows that the reconstruction of Addis Ababa roads, Aggressive branch expansion of CBE, the current condominium house construction

program, peoples attitude towards using private banks and poor parking area are strongly influence the deposit mobilization process of Awash International Bank S.C. Opening of additional branches, aggressive promotion and upgrading service deliverance can boost the deposit balance of a bank positively.

Kibebe (2016) the research tried to determine factors that affect deposit mobilization, the associated costs of deposit mobilization in private banks. The study adopted mixed approach to gather the data. The primary data were gathered using questionnaire. On the other hand, the secondary data were extracted from annual reports of all private commercial banks in Ethiopia, NBE and from Central Statistical Authority (CSA). The secondary data were time series data from 2000-2014. Sampling method of the primary data was purposive sampling technique. The analysis was made by using Classical linear regression method. The study showed that, Age dependency ratio, Investment and money supply, are the most significant factors of deposit mobilization activity. The other variable such as Per capita income has insignificant power to influence the dependent variable. Andinet (2016) the aim of this study was to examine factors influencing deposit mobilization in private commercial banks in Ethiopia. In doing so, the study adopted quantitative methods research approach using secondary data. The study had found variables that can affect the total deposits of the banks. Seven variables were regressed with the dependent variable i.e. total deposit. The explanatory variables were number of bank branches, deposit interest rate, liquid asset to deposit ratio, lagged value of bank deposits, net interest margin, inflation rate and economic growth (GDP). The data for these variables were collected from the respective private commercial banks' financial statements, national bank of Ethiopia, central statistical authority and MOFEC of the sample year 2005 up to 2015. Different diagnostic test were performed to know whether the model is valid or not. All the tests were valid and eventually regression analysis was performed using Eviews statistical package. The result from regression analysis showed that number of bank branches, deposit interest rate, net interest margin and GDP were significantly and positively correlated with the explained variable. Lagged value of bank deposit was significantly and negatively correlated with total deposit. However, liquid asset to deposit ratio and inflation rate were insignificantly negatively correlated with bank deposit.

Shemsu (2015) this study aimed to identify and evaluate those factors affecting bank deposit in general by taking Commercial Bank of Ethiopia as evidence. Accordingly, the researcher adopted mixed research approach. Regarding to the qualitative data; questionnaire was used to gather information from the employees of commercial bank of Ethiopia particularly for those employees who actively participated in deposit mobilization tasks in CBE city branches. Regarding to the secondary data; time series data covering 1998 - 2014 was analyzed. First, the time series data were assessed using descriptive statistics for the variables as well as the test for heteroskedasticity, autocorrelation and normality testing to know if the assumptions of CLRM violated or not. Second, estimated model was a single regression equation with deposit as the dependent variable and explanatory variables as deposit interest rate, overall inflation rate, number of branch opening, gross domestic product, individual foreign remittance and dummy variable. Estimation was done using Ordinary Least Squares technique by E-views7 statistical package. The results from economic analysis showed that all the explanatory variables were positively correlated with the explained variable. Among these variables, branch opening was an important strategy for deposit mobilization, it was highly significant than others. Individual remittances from Diasporas were also significantly affecting CBE's deposit next to branch opening. The others factors had positive effect and can increase CBE's deposit. Hibret (2015) this study primarily aimed on determining the short and long run impacts of determinant factors on deposit growth of commercial bank of Ethiopia for the period 1974/75 to 2013/14 by using Vector Error Correction Model (VECM). The study checked the causal relationships between deposit growth and its determinant factors (Economic Growth, Inflation, Interest Rate, Exchange Rate, Population Growth and Branch Expansion). The results revealed that interest rate has positive but insignificant impact on deposit growth both in the long run and short run. While Exchange rate and branch expansion significantly increases banks deposit both in the short run and long-run. Population and Economic growth also had a positive relationship with deposit growth and the relationships were significant in the long run only. However, Inflation has positive and significant impact on deposit in the long-run and negative impact in the short run.

Mamo (2017) the study was mainly aimed to investigate factors that determine customer deposit mobilization by the commercial bank of Ethiopia by using data for 20 years. Both descriptive and econometric analysis was applied in order to investigate factors that determine deposit mobilization in the case of commercial bank of Ethiopia. As determinants of customer deposit

mobilization in the bank five explanatory variables such as loan, existence of competitors, interest rate and branch expansion were included. The econometric result indicated that loan provision, branch expansion and number of customers were found to have significant positive impact on the growth of deposit mobilization. However the emergence of new competitors and interest rate were not found to have positive impact to induce deposit mobilization in the bank.

Getahun (2014) this study examined the determinants of deposit mobilization in commercial bank of Ethiopia using secondary data. The data were collected from national bank of Ethiopia from 1971 up to 2013. Multiple regression model was developed to determine the effect of dependent variables (bank deposit) and independent variables (real interest rate, real per capital income, active labor force and last year deposit). Different diagnostic tests were tested to know whether the model is valid or not. The tests revealed none of the assumptions was violated. The regression result revealed that all the four variables positively and significantly affect deposit mobilization in Ethiopia. The diagnostics tests and the regression were done by using EVIEWS 7.

Yannet (2016) the aim of study was to identify the factors having an impact on banks deposits and even assesses which ones are more significant or less significant by taking CBE as evidence. To do the practical investigation, the researcher collected both primary and secondary data. The primary data were collected by using questioner. The secondary data for the study were eleven years' (2006-2015G.C) values of dependent and independent variables which were collected from commercial bank of Ethiopia, national bank of Ethiopia and CSA. Four variables are regressed with the dependent variables, i.e. total deposit; including inflation rate, loan disbursement, per capital income and bank branches. The data analysis was done using SPSS software. Different diagnostic tests were tested to know whether the model is valid or not. The study revealed that branch expansion has positive and significant effect on total deposit whereas inflation rate has negative and insignificant effect on total deposit. And the remaining two variables loan provision and per capital income has positive but insignificant effect.

Bahredin (2016) the study aimed to find the determinants of commercial banks deposit growth in Ethiopia. In order to achieve this objective quantitative research approach was used. Target populations were all banks that engage in commercial activities and registered by National Bank of Ethiopia to act. Consequently, eight banks, out of the eighteen commercial banks in existence as at 2014, were purposively selected for the study. The dependent variable used to the study was

bank deposit growth. Explanatory variables used for the study were inflation, deposit interest rate, loan-to-deposit ratio, bank branches, money supply growth, per capita income growth, and lagged bank deposit. In order to determine the cause and effect relationship between dependent and independent variables 15 years' secondary data from NBE and purposively selected commercial banks were used. Different diagnostic tests were conducted to check the appropriateness of the model. The random effects technique was applied to find out the most significant variables. According to the final results achieved by applying panel data techniques, bank branches and per-capita-income growth influence is positive and statistically significant; whereas, lagged bank deposit and loan-to-deposit ratio influence is negative and statistically significant. Money supply growth has insignificant negative influence; whereas deposit interest rate and inflation have insignificant positive influence on bank deposit growth.

Fisseha (2017) the aim of the study was to reveal the insight dynamics that determine commercial banks deposit with reference to Ethiopian commercial banks. In order to achieve this objective the study adopted mixed research approach. Regarding to the qualitative data; the study used semi structured personal interview from the employees of sampled commercial banks of Ethiopia. Regarding to quantitative data the study referenced to Ethiopian commercial banks on basis of data covers sixteen years (1999/2000-2014/2015) period. The data were collected from NBE, Central Statistical Authority, Ministry of Finance and Economic Cooperation and the selected commercial banks. The target population was all banks that engage in commercial activities and registered by National Bank of Ethiopia to act. Consequently, eight banks, out of the eighteen commercial banks in existence at 2014/15, were purposively selected for the study. Results from random effect panel least square regression exhibited that number of branch, deposit interest rate, loan to deposit ratio, annual inflation rate, real gross domestic product and population number have significant effect on commercial banks deposit.

Ketema (2017) this paper examined the determinants of commercial banks deposit mobilization in Ethiopia for the periods 2000-2015. From total of seventeen Commercial Banks which are engaged in commercial bank activities, seven selected based on the historical time formation of banks. The researcher adopted Quantitative research approach. Bank specific and macroeconomic variables were analyzed by using the balanced panel fixed effect regression model. Different diagnostic tests (test for assumption of Homoscedasticity, Autocorrelation,

Normality, average value of the error is zero and independent variables are non-stochastic) were conducted to check the appropriateness of the model. The results revealed that the effect of credit risk, exchange rate, and Bank Profitability are positive and statistically significant; whereas, Loan to Deposit ratio (Bank's Liquidity) and Money Supply had negative and statistically significant effect on bank deposit growth. Deposit Interest Rate had insignificant positive effect on bank deposit growth. Finally, Inflation and Government Expenditure had insignificant negative effect on bank deposit growth.

2.2.2 Summary of Empirical Literature Review

It can be deduced empirical studies support theories that anchor this study. They include Bank Deposit theories, Real Bills theory, Islamic banking theory, the Buffer-Stock theory of Savings, the Liability Management theory, Shiftability theory, and the Life-Cycle Hypothesis of Savings theory. The literature has shown that a variety of factors affects the deposit mobilization of commercial banks; however, from empirical findings, the most notable factors includes; interest free banking services, branches expansion, inflation rate, nominal GDP and money supply. Empirical studies have demonstrated a mixer of reaction from findings obtained from various studies carries out locally and internationally. However, limited studies have zeroed in the link between interest free banking and deposit mobilization of commercial banks.

2.3 Conceptual Framework

The conceptual framework describes the relationship between independent and dependent variables of the study. This research seeks to establish effects of interest free banking, branch expansion, nominal GDP inflation rate and money supply (independent variables) on deposit mobilization of commercial banks (dependent variable)

Independent variable

Dependent variable

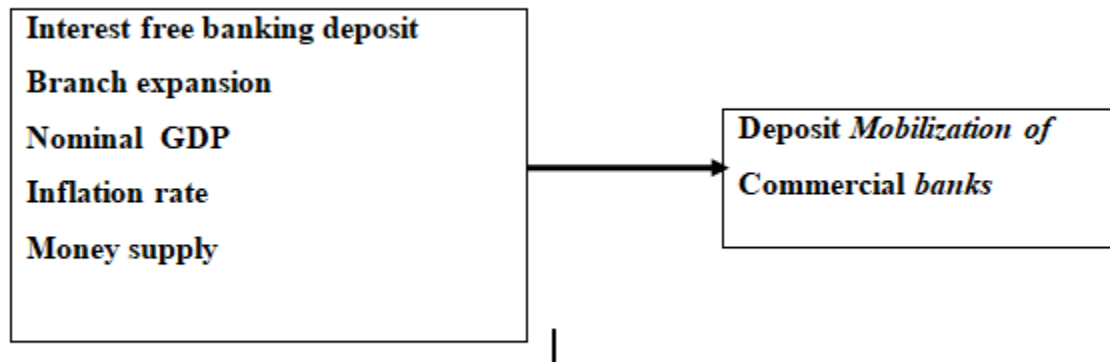


Figure 2.1: Conceptual Framework

CHAPTER THREE

3. RESEARCH METHODOLOGY

3.0 INTRODUCTION

This chapter illustrates the research design, sampling technique, type of data, methods of data collection, method of data analysis, notation and expected signs of the variables, diagnostic test procedure and model specification. Generally, it demonstrates all procedures employed in determining the factors affecting deposit growth of CBs in Ethiopia.

3.1 RESEARCH DESIGN

In order to determine the factors affecting deposit growth of CBs in Ethiopia, the appropriate research design was supposed to be used.

Research design can be defined as a framework or blue print for conducting business research project in an efficient manner. It details the procedures necessary for collection, measurement and analysis of information which helps the researcher to solve business research problems (Mohapatra, Anusree and Sreejesh, 2014). Sreejesh (2014) said that, the research design is chosen based on the objectives of the study, the costs involved in conducting the study, the availability of data and finally the importance and urgency of the decision.

According to Cooper and Schindler (2014), causal studies seek to discover the effect that a variable(s) has on another (or others). The concept of causality is grounded in the logic of hypothesis testing, which, in turn, produces inductive conclusions. Since the objective of this study is to determine the cause and effect relationship between bank deposit growth and factors affecting it, the research design is causal (explanatory) research design. The cause and effect relationship between the dependent variable (deposit growth) and independent variables (advertising and publicity, bank branch, exchange rate, inflation, loan and advances, money supply, and nominal GDP) was determined by using multiple linear regression model of CLRM.

3.2 POPULATION, SAMPLE SIZE AND SAMPLING TECHNIQUE

Cooper and Schindler (2014) explained that a more efficient sample in a statistical sense is one that provides a given precision (standard error of the mean or proportion) with a smaller sample

size. A sample that is economically more efficient is one that provides a desired precision at a lower dollar cost.

The total populations of this study were all banks that engaged in commercial banking activities and registered by National Bank of Ethiopia. The banking industry comprises one state-owned and seven private CBs. Consequently, AB, CBE, DB, NIB, UB and WB were selected for this study. The banks were purposively selected based on the availability of data since 2001 G.C. Moreover, According to NBE report, the total deposit which was mobilized by CBs in 2017 was Birr 568.8 billion. From this deposit mobilized the share of purposively selected commercial banks was Birr 457.2 billion which was 80.3 percent of the total deposit mobilized. For that reason, the study was conducted by taking these six CBs as a representative for all CBs in Ethiopia.

3.3 Data Type and Source

The types of data that used in this study are balanced panel data and Quantitative in nature. Balanced panel data meaning that each cross sectional units have same number of time series observations. The investigator has collected Secondary data from annual reports of each sampled banks to conduct this study. Therefore, the main Secondary data of the study are financial statements of the respective banks and Macroeconomic data which are gathered from National bank of Ethiopia (NBE).

3.4 Methods of Sampling

The investigator has utilized Purposive sampling technique for selecting the sample units from population. The rationale behind selecting purposive sampling techniques than others is, it considered more appropriate when the universe happens to be small and a known characteristic of it is to be studied intensively. Therefore, out of twelve commercial banks in Ethiopia that are currently in operating IFB the researcher took eight of them. The ground behind selecting eight banks out of the total population is based on the following criteria's: Time establishment (only banks' which have four and above years' experiences in the IFB banking operations included). Therefore, on the basis of the above criteria Commercial bank of Ethiopia(CBE),Oromia International bank(OIB),United bank(UB),Nib international bank(NIB),Cooperative bank of Oromia(CBO),Wegagen bank(WB),Abay bank(AB),and Awash international bank(AIB) are

chosen in this study but Bank of Abyssinia, Dashen bank, Buna bank and Debu global bank are excluded because they are not fit for this research.

3.5 Data Collection

The researcher collected financial data from the annual reports of the sampled banks for the period of 2016-2019. Besides to financial data, Macro economic data were gathered from National bank of Ethiopia. The time periods in this study, were characterized by some important changes in the banking industry in Ethiopia especially in terms of change in inflation rate and growth rate of the economy.

3.6 Method of Analysis

The investigator used both descriptive statistics tools and Econometrics tools to analyze the collected data. Basically, descriptive statistical tools are used to analyze the mean, standard deviation, minimum and maximum values of the study. On the other hand, an Econometric tool particularly **fixed effect model** assisted the researcher to verify causes of changes within banks' of the study matter beyond descriptive statistical tools. As shown the Hausman test result in the **appendix 1**, the P value is 0.000, which is less than 5%. Hence, the null hypothesis of the random effect model reject at 5 % level of significance and we failed to reject the alternative, this implies that, the fixed effect model is more appropriate than a random effect model. Moreover, such model is very important in controlling for unobserved heterogeneity when this heterogeneity is constant over time and correlated with independent variables.

Panel data is a dataset in which the behaviors of entities are observed across time. These entities could be states, companies, individuals, countries, etc. Panel data allows you to control for variables you cannot observe or measure like cultural factors or difference in business practices across companies; or variables that change over time but not across entities (i.e. national policies, federal regulations, international agreements, etc.). This accounts for individual heterogeneity.

With panel data you can include variables at different levels of analysis (i.e. students, schools, districts, states) suitable for multilevel or hierarchical modeling.

Some drawbacks are data collection issues (i.e. sampling design, coverage), non-response in the case of micro panels or cross-country dependency in the case of macro panels (i.e. correlation between countries)

Note: For a comprehensive list of advantages and disadvantages of panel data see Baltagi, *Econometric Analysis of Panel Data* (chapter 1).

3.7 MODEL SPECIFICATION

Different studies determined different factors that affect deposit growth in various countries. This section presented a framework of analysis on the basis of those studies, and involved adopting a model that would help to demonstrate the responsiveness of certain key variables that influence bank deposit growth. The linear equation in order to measure the cause effect relationship between bank deposits growth and the factors affecting it was developed as follow

$$DEP_{it} = \alpha + \beta_1 IFB_{it} + \beta_2 BREXP_{it} + \beta_3 N(GDP)_{it} + \beta_4 R(INF)_{it} + MS_{it} + \mu_i + \nu_{it} \quad \square$$

Where;

$BDEP_{it}$ = Represents percentage of bank deposit growth (Dependent Variable) for period t.

IFB_{it} = Represents percentage of IFB deposit growth for period t.

$BEXP_{it}$ = Represents percentage of bank branch growth for period t.

INF_{it} = Represents annual percentage of inflation for period t.

MS_{it} = Represents percentage of money supply growth for period t.

$NGDP_{it}$ = Represents percentage of nominal GDP growth for period t.

μ_i , encapsulating all of the variables that affect $BDEP_{it}$ cross sectional but do not vary over time,

ν_{it} , that varies over time and entities (capturing everything that is left unexplained about DEP_{it})

α = Intercept, β_1 , β_2 , β_3 , β_4 , and β_5 are regression coefficients.

3.8 Variables, Notations and Expected Signs of the Variables

Table 3.1 Variables, Notations and Expected Signs

Variables	Variables	Notations	Expected Signs
Dependent Variable	Deposit growth	DEPG	
Independent Variables	Interest free banking	IFB	Positive
	branch expansion	Bexp	Positive
	Nominal GDP	NGDP	Positive
	Inflation	INF	Negative
	Money supply	MS	Negative

SOURCE: DEVELOPED BY THE RESEARCHER, 2021

CHAPTER FOUR

4. RESULT AND DECISION

4.1 Descriptive Analysis

Descriptive statistics explain dependent variable BDEPO and the five explanatory variables of eight different Banks namely IFBD, BRexp, NGDP, RINF and Ms. in terms of central tendency of mean and on measure of dispersion like standard deviation, range maximum and minimum observation value are shown in table below.

Table 4.1: Summary Statistics of Dependent and Independent Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
BDEPO	32	69167.72	136310.7	4832.578	540940.8
IFBD	32	2905.252	4502.113	56	23784.2
BRexp	32	374.3438	362.8454	116	1483
NGDP	32	21.9	2.816541	17.7	25.2
RINF	32	13.625	4.547314	7.4	19.9
Ms	32	285901.4	45184.58	216794.6	336719.3

SOURCE: Stata13 OUTPUT

Mean is the average value of the sample. Similarly, maximum and minimum observation value, standard deviation were depicted in the above table 4.1. Accordingly the mean value of Bank deposit over the period 2016-2019 of 8 different bank in Ethiopia was 69167.72 and also the maximum and minimum value were 540,940.8 and 4,832.58 respectively. Standard deviation measures how far observations are from the sample average. This data standard deviation of the sample data is 136,310.7 far from the mean of the data as shown on the table 4.1, this result of high standard deviation shows the variety of Bank deposit from the mean. Similarly the maximum and minimum result shows high variation in Bank deposit. The other independent variable are could be explained similarly as Bank deposit.

4.2 Correlation Analysis

Correlation is a way to index the degree to which two or more variables are associated with or related to each other. The sample size is the key element to determine whether the correlation coefficient is different from zero/statistically significant. The values of the correlation coefficient are always between -1 and +1. A correlation coefficient of +1 indicates that the two variables are perfectly related in a positive linear sense; while a correlation coefficient of -1 indicates that, two variables are perfectly related in a negative linear sense. A correlation coefficient of 0, on the other hand, indicates that there is no linear relationship between two variables (Brooks, 2008). The chief objective is measuring the strength or degree of linear relationship between two variables.

Table 4.2: Correlation Matrixes of Dependent and Independent Variables

	BDEPO	IFBD	BRexp	NGDP	RINF	Ms
BDEPO	1.0000					
IFBD	0.7131	1.0000				
BRexp	0.7822	0.7862	1.0000			
NGDP	0.1298	0.3213	0.1614	1.0000		
RINF	0.1160	0.3042	0.1531	0.7053	1.0000	
Ms	0.1279	0.3159	0.1598	0.7988	0.7054	1.0000

Source: STATA 13 output

The correlation matrix in table 4.2 shows that deposit growth (dependent variable) is positively correlated with interest free Bank deposit, Branch expansion; Nominal GDP, inflation rate and money supply.

As recalled from the chapter one, there are five research hypotheses that postulate the relationship between the dependent variable and the independent variables. The research hypotheses predict that there is a positive correlation between Bank deposit with Branch expansion, Interest free Bank deposit, and Nominal GDP result shows as the hypothesis predicted but money supply and Inflation are not gain as predicted in the hypothesis.

The result shows most people save their money in Bank fear of political instability to invest in their country.

The correlation matrix in table 4.2 produced statistical evidence that Banks deposit is positively correlated with number of branches, nominal GDP, interest free bank deposit, money supply and inflation with correlation coefficient of 0.78, 0.12, 0.71, 0.12 and 0.11 respectively. Each the dependent variable with the other independent variable result has relationship.

As shown in table 4.2, the degree of correlation of the dependent variable with interest free Bank deposit and Branch expansion are 0.71, 0.78 respectively shows the result highly correlated in the same direction. But with Nominal GDP, Money supply and inflation are 0.12, 0.12, 0.11 respectively shows weak relationship in the same direction. Those correlation results clearly indicate the existence of direct association among the above-mentioned variables and the selected Bank of Ethiopia. The result of inflation rate with nominal GDP, Money supply with inflation rate and nominal GDP highly correlated.

Even though the correlation analysis shows the direction and degree of associations between the variables, it does not tell us the cause and effect relationship among the identified variables. Thus, in examining the effects of selected independent variables on the dependent variable, the econometric regression analysis which is discussed in the forthcoming section of the paper gives assurance to overcome the shortcomings of correlation analysis.

TEST FOR MULTICOLLINEARITY ASSUMPTION

Table4.3: Correlation Matrix of Explanatory Variables

	IFBD	BRexp	NGDP	RINF	Ms
IFBD	1.0000				
BRexp	0.7862	1.0000			
NGDP	0.3213	0.1614	1.0000		
RINF	0.3042	0.1531	0.7053	1.0000	
Ms	0.3159	0.1598	0.7688	0.7054	1.0000

The result in the above correlation matrix table shows that the highest correlation is 0.7862 which is between BRexp and IFBD. Since there is no correlation above 0.8, according to Brooks (2014), it can be concluded that there is no problem of multicollinearity in this model.

4.3 Panel Unit Root Test

		Individual	Individual intercept and trend
Variable	Level of test	Hadri Z-stat	Hadri Z-stat
BDEPO	Level	0.0000	0.0000
	1 st differ	0.0000	0.0000
BEXP	Level	0.0000	0.0000
	1 st differ	0.0001	0.0000
IFBD	Level	0.0000	0.0000
	1 st differ	0.0060	0.0000
MS	Level	0.0000	0.0000
	1 st differ	0.0008	0.0000
NGDP	Level	0.0000	0.0000
	1 st differ	0.0008	0.0000
Inf	Level	0.0000	0.0000
	1 st differ	0.0000	0.0000

Source: STATA 13 output

The use of non-stationary data can lead to spurious regressions. If two stationary variables are generated as independent random series, when one of those variables is regressed on the other, the t -ratio on the slope coefficient would be expected not to be significantly different from zero, and the value of R^2 would be expected to be very low. This seems obvious, for the variables are not related to one another. However, if two variables are trending over time, a regression of one on the other could have a high R^2 even if the two are totally unrelated. So, if standard regression techniques are applied to non-stationary data, the end result could be a regression that looks 'good under standard measures (significant coefficient estimates and a high R^2), but which is really valueless. Such a model would be termed a spurious regression (Brook, 2008; Gebi, 2016).

For the purpose of the analysis, a stationary series can be defined as one with a constant mean, constant variance and constant auto covariances for each given lag. While working with panel data, testing for stationary is needed. As it has been stated in previous paragraph, working with non-stationary leads to spurious output. This means, it indicate a relationship between variable which does not exist. To have reliable result, we have to transform non-stationary to stationary by making it differencing (Gebi, 2016).

There are a variety of tests for unit roots or stationary in panel datasets like the Hadri Z-stat, Levin–Lin–Chu (2002) and Breitung and Das (2005), Im, pesaran and shin W-stat, ADF-Fisher chi-square and PP-Fisher chi-square test. This study uses the Hadri Z-stat test to analysis or investigates stationary of the Variables as a summary. The assorted tests make different asymptotic assumptions regarding the number of panels in the dataset and the number of time periods in each panel, thus this test assumes for balanced data sets. The main difference between panel and time series unit root test is that we have to consider asymptotic behavior of the time-series dimension T and the cross-sectional dimension N . If the calculated value is greater than the tabulated (P-value or critical) value at a given level, the given variable is stationary at the given order.

The Hadri Z-stat test result shows significant at the level and first difference in individual and individual and trend test. The result indicates constant mean, constant variance and constant autocovariances.

4.4 Choosing Random Effect or Fixed Effect Models

The organized data are estimated based on the panel model, which includes cross sectional and time series dimensions for the selected eight banks in Ethiopia for the period 2016 to 2019. Fixed effects and random effects models are commonly used models for the panel data. In order to choose fixed or random effect model a formal test so called hausman test has used which was based on the null hypothesis in favor of random effect model estimator or the hypothesis states as: H_0 : Random effect model is appropriate and H_1 : Random effect model is not appropriate or FE model is appropriate. The decision rule is when the $\text{prob} > \chi^2$ or the P-value is greater than the given level of significant (usually 5%), then we fail to reject the null hypothesis (H_0), thus random effect model is appropriate. On the other hand, if the P-value is less than a given level of significant or 5% we reject the null or the fixed effect model is appropriate (Woodridge, 2006).

Other to the fixed effects model described above is the random effects model, which is sometimes also known as the error components model. As with fixed effects, the random effects approach proposes different intercept terms for each entity and again these intercepts are constant over time, with the relationships between the explanatory and explained variables assumed to be the same both cross-sectional and temporally.

The difference is that under the random effects model, the intercepts for each cross-sectional unit are assumed to arise from a common intercept α (which is the same for all cross-sectional units and over time), plus a random variable ϵ_i that varies cross-sectional but is constant over time. ϵ_i measures the random deviation of each entity's intercept term from the global intercept term α .

Random effects model is more appropriate when the entities in the sample can be thought of as having been randomly selected from the population, but a fixed effect model is more plausible when the entities in the sample effectively constitute the entire population (Brooks, 2014).

Hausman Test Result

H_0 : Random effect model is appropriate. If P-value $> 5\%$, we fail to reject the null

H_a : Fixed effect model is appropriate. If P-value $< 5\%$, we reject the null.

As shown the Hausman test result in the **appendix 1**, the P value is 0.000, which is less than 5%. Hence, the null hypothesis of the random effect model reject at 5 % level of significance and we failed to reject the alternative, this implies that, the fixed effect model is more appropriate than a random effect model.

4.5 Regression Analysis and Interpretation

4.5.1. Regression Analysis

This section presents the regression result of fixed effect model to analyze the effects of interest free banking on the deposit mobilization of 8 different commercial banks in Ethiopia. Accordingly, the regression result and coefficients of the variables estimated by ordinary least squares (OLS) technique using Stata 13 software. The fixed effects regression model is an appropriate model by using the hausman test method. Thus, the model of the Interest Free Banking deposit mobilization is:

$$BDEPO_{it} = \beta_0 + \beta_1 IFBD_{it} + \beta_2 BRe_{it} + \beta_3 NGDP_{it} - \beta_4 RINF_{it} + \beta_5 MS_{it} + U_{it} \text{ --- (5)}$$

Where: - $BDEPO_{it}$:-Bank deposit of Interest free commercial banks for period t

BRe_{it} -represent Bank expansion at period t

$IFBD_{it}$ -represent Interest free Bank deposit at period t

$NGDP_{it}$ -represent nominal GDP at period t

$RINF_{it}$ -represent inflation rate at period t

MS_{it} -represents money supply at period t

i& t-represent cross section and time series respectively

β_0 - Represent intercept, β_1 - β_5 represent slopes & u_{it} represent error term.

The coefficient of explanatory variable of the regression result in Table 4.4 demonstrates both coefficients of explanatory variables and corresponding p-values.

Table 4.4 Results of Fixed Effect Regression Model

Fixed-effects (within) regression		Number of obs	=	32		
Group variable: id		Number of groups	=	8		
R-sq: within	= 0.8955	Obs per group: min	=	4		
between	= 0.9757	avg	=	4.0		
overall	= 0.9702	max	=	4		
corr(u_i, Xb) = 0.3643		F(5,19)	=	32.56		
		Prob > F	=	0.0000		

BDEPO	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
IFBD	5.95327	1.981446	3.00	0.007	1.806056	10.10048
BRexp	296.3051	144.6701	2.05	0.055	-6.492992	599.1032
NGDP	2354.377	2127.315	1.11	0.282	-2098.145	6806.899
RINF	-3946.381	1192.617	-3.31	0.004	-6442.557	-1450.205
Ms	.0703812	.0410224	1.72	0.102	-.0154797	.1562421
_cons	-75966.24	36360.5	-2.09	0.050	-152069.6	137.1725

sigma_u	23326.644					
sigma_e	14374.108					
rho	.72478758	(fraction of variance due to u_i)				

F test that all u_i=0:	F(7, 19) =	7.05	Prob > F =	0.0003
------------------------	------------	------	------------	--------

Thus, to analyzing the above regression result, the researcher has been used the developed model.

$$BDEPO_{it} = -75966.24 + 5.953IFBD_{it} + 296.305BRexp_{it} + 2354.38NGDP_{it} - 3946.38RINF_{it} + 0.0704MS_{it} + U_{it} \text{ --- (5)}$$

- ✓ When all explanatory variables took a value of zero, the average value of CBs' deposit growth would be -75966.24 percent and it statistically significant at 1% level of significance
- ✓ Holding other factors constant on average when IFB increase by one percent deposit will increase by 5.953 percent and the relationship is significant at 5% significance level.

- ✓ Holding other factors constant on average when BREXP increase by one percent total deposit will increase by 296.305 percent and the relationship is significant at 10% significance level.
- ✓ Holding other factors constant on average when NGDP increase by one percent deposit will increase by 2354.38 percent and the relationship is insignificant at 1% significance level.
- ✓ Holding other factors constant on average when RINF increase by one percent deposit will decrease by 3946.38 percent and the relationship is significant at 1% significance level.
- ✓ Holding other factors constant on average when MS increase by one percent deposit will increase by 0.0704 percent and the relationship is insignificant at 1% significance level.

4.5.2. Interpretation on Regression Result

A. Interest free Bank deposit (IFBD)

As shown in the above table 4.4, interest free Bank deposit found to have a positive relationship with BDEPO of different commercial bank of Ethiopia. IFBD of different commercial bank Ethiopia and BDEPO has significant relationship at 1%. According to the regression result in the above, a 1 unit increase in interest free bank deposit generates 5.95327 unit increases Bank deposit. Therefore IFBS and Bdepo can be influence positively and significantly. This implies that IFBD is a major factor in explaining the eight different commercial banks' in Ethiopia.

B. Inflation Rate (RINF)

Inflation is a sustained rise in the general level of prices. The inflation rate is the rate at which the price level increases. Symmetrically, deflation is a sustained decline in the prices level of goods and services.

The regression result in table 4.4 shows that, inflation rate has significant and negative impact on bank deposit growth. The coefficient of this relationship was -3946.38 which

indicates that, holding other things constant, a one unit increase in inflation rate will leads to 3946.38unit decrease in bank deposit growth in the study period. This implies that persistent inflation has a negative significant effect on growth of the eight different commercial Bank deposits. So higher inflation induces savers to save less, perhaps households get stable price prediction from deposit. This result is consistent with the precautionary motive, suggesting that increased macroeconomic uncertainty induces people to save a proportion of their incomes. This is particularly true for households in developing countries such as Ethiopia whose income prospects are more uncertain than their counterparts in developed countries.

The research finding of Ngula (2015) is similar with this research that is inflation has negative significant effect on deposit growth. Other which are not similar with this research were Fiseha (2017 found that inflation has positive significant effect on deposit growth. Behredin (2016) and Shemsu (2015) found that inflation has positive insignificant effect on bank deposit growth. Whereas, Ketema (2017) Yannet and Andinet (2016) found that the effect is negative but, statically insignificant.

C. Branch expansion (BREXP)

The regression coefficient for Branch expansion is 296.3051. This indicates that ceteris paribus, an increase in Branch expansion by 1 unit leads to increase the bank deposit by 296.3051 units. This implies that, Branch expansion has a positive significant impact at 10% level of significant on different commercial banks deposit growth. The expansion of branch plays a great role in deposit expansion. The research finding of Fisseha and Mamo (2017), Behredin; Yannet; Andinet (2016), Shemsu and Hibret (2015), Sisay (2013) and Wubitu (2012) are similar to this research result

D. Money Supply at Period (Ms)

The regression coefficient for money supply is 0.0703812 This indicates that ceteris paribus, an increase money supply by 1 unit leads to increase the bank deposit by 0.0703812 units. This implies that, money supply has a positive insignificant impact at 1% level of significant on different commercial banks deposit growth.

According to researches conducted by Ngula (2012), in Ghana money supply has significant negative effect on bank deposit. In addition, Ostadi and Sarlak (2014) found that money supply has positive effect on banks' deposit. However, when we come to researches conducted in Ethiopian commercial banks by Behredin, (2016) money supply has insignificant negative effect on commercial banks deposit. Whereas, the research conducted by Ketema (2017) revealed that money supply has significant negative effect on commercial deposit growth. Kibebe (2016) also found that money supply has most significant effect.

F. Nominal GDP (NGDP): The regression coefficient for nominal GDP is 2354.377. This indicates that ceteris paribus, an increase in nominal GDP by 1 unit leads to increase the bank deposit by 2354.377 units. This implies that, nominal GDP has a positive insignificant impact at 1% level of significant on different commercial banks deposit growth. Studies by Fiseha (2017), Andinet (2016), Boadi, Li and Lartey and Hibret (2015) found that GDP has significant positive effect on banks deposit growth. On the other hand, the study by Shemsu (2015) found that GDP has positive insignificant effect on bank deposit growth. The research finding of Shemsu (2015) is similar to this research result.

4.5.3 The Result of Diagnostic Tests

Every estimator of the model should have to meet the Ordinary Least Squares (OLS) assumptions before the estimation carried out. If the estimators of the model satisfy the OLS assumption, it is possible to say the estimators are blue (best linear unbiased estimator) (Brooks, 2008). The econometric estimation technique that used in this study is ordinary least square (OLS). The method that used to test these assumptions by the researcher described as follows:-

The Result of Normality Test

As shown in **appendix 2** a normal distribution was not skewed and defined to have a coefficient of kurtosis 3.138. Jarque-Bera formalizes this by testing the residuals for normality and testing whether the coefficient of skewness and kurtosis are -0.797 and 3.138281 respectively. 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. The Jarque-Bera probability statistics /P-value/

is also expected not to be significant even at 10% significant level (Brooks, 2008). The study develops the following hypothesis to check the normality: H_0 : The residuals are normally distributed H_1 : The residuals are not normally distributed

As shown in the **Appendix 2** below Histogram, the value of kurtosis is 3.138281 and the Jarque-Bera statistics was not significant even at 10% level of significance as per the P-values shown in the histogram (i.e. 0.181224). Hence, the null hypothesis of normally distributed is failed to reject at 5 percent of significant level. This implying that there is no significant evidence for the presence of normally distributed. The Jarque Bera P-value of the model also supports the presence of normally distribution of the residuals. Therefore, we could conclude that the residuals are asymptotically normal in this study.

The Result of Heteroscedasticity Test

According to Brooks (2008), Heteroscedasticity means that error terms do not have a constant variance. If Heteroscedasticity occur, the estimators of the ordinary least square method are inefficient and hypothesis testing is no longer reliable or valid, as it will underestimate the variances and standard errors. There are several tests to detect the Heteroscedasticity problem, which are Park Test, Glesjer test, Breusch-Pagan-Goldfrey test and White's test.

In this study, the Breusch-Pagan-Goldfrey test for the presence of Heteroscedasticity.

As shown in the **appendix 3** below hetrosedasticity test table, there is no evidence for the presence of heteroscedasticity since the p values in all of the cases were above 5 percent. Generally, in the regression model used in this study proved that, the test statistics is not significant and the variance of the error term is constant or homoscedastic and we had sufficient evidence to accept the null hypothesis of Homoscedasticity. Thus, the linear model also correctly specified.

Testing for cross-sectional dependence/contemporaneous correlation:

Cross-sectional dependence is more of an issue in macro panels with long time series (over 20-30 years) than in micro panels. Pasaran CD (cross-sectional dependence) test is used to test whether the residuals are correlated across entities. Cross-sectional dependence can lead to bias

in tests results (also called contemporaneous correlation). The null hypothesis is that residuals are not correlated. As indicated in the **appendix 4** below, the residuals are not correlated across entities because the result 0.4954 is not significant. In addition to this Breusch-Pagan LM and Pesaran scaled LM result are similar to pasaran CD test. This result leads us to conclude residuals are not correlated each other.

CHAPTER FIVE

5. CONCLUSION AND RECOMMENDATION

5.1 Conclusion

The main objective of this study was determining the effects of interest free banking on the deposit growth of commercial banks in Ethiopia. A casual research design was adopted to determine the casual relationships between the dependent variable (DEP) and independent variables (IFB, BRexp, INF, MS and NGDP). Out of the eighteen CBs eight banks were purposively selected based on the availability of data. Four years secondary data were collected from the purposively selected commercial banks and NBE annual reports. Regression results from FEM showed that IFB and Brexp have strong positive significant effect on bank deposit growth. Ms has weak positive insignificant effect on deposit of banks. Also, NGDP has positive insignificant effect on bank deposit growth. However, INF has negative significant effect on bank deposit growth.

Banks play very important roles in the economic development and growth of any nation. As an important component of the financial system, they channel scarce sources from the surplus economic units to the deficit economic units through deposit mobilization. The growth of bank deposit is usually expressed as a function of different factors. Accordingly, the broad objective of this research is to determine the effect of factors affecting deposit growth of commercial banks in Ethiopia. To achieve this broad objective, the study used quantitative research approach. To this end, data were collected from National Bank of Ethiopia (NBE) and eight purposively selected commercial banks over the period of 2016 to 2019.

Based on the empirical and theoretical review the researcher selected five independent variables as effects of factors affecting deposit growth of commercial banks in Ethiopia. The independent variables were IFB, BREXP, INF, MS and NGDP. Bank deposit growth was taken as dependent variable.

The analysis was conducted using panel data estimation technique of fixed effect model using stata13 statistical software. The study passed through all diagnostic tests including zero mean of

error terms, heteroskedacity, autocorrelation, multicollinearity and normality. Hence, the test result showed that none of the CLRM assumptions was violated.

The regression result showed that IFB and Brexp have positive and statistically significant effect on the banks 'deposit growth. Ms. and NGDP have positive insignificant effect on bank deposit growth. However, INF has negative significant effect on bank deposit growth.

5.2 Recommendations

Based on the research findings the followings are recommendation for CBs in Ethiopia as a way to increase their deposits than before.

- ❑ In order to aid the progress of Islamic banking in Ethiopia and reap the most benefit for the country;
- A legislative framework should be instituted to improve the segment's regulation.
- Both NBE Act as well as banking act should be amended to incorporate Islamic banking concepts.
- A National sharia board should be constituted to guide a process of standardized and convergence of products, set qualification and certification of banks' sharia board members and set rules for sharia control.
- NBE should constitute a sharia advisory board that will add to its regulatory relationship with the Islamic industry.
- ❑ CBs in Ethiopia should expand their branches in order to increase their deposits.
- ❑ The government should keep inflation rate single digit by decrease the money supply in the economy.

REFERENCE

Adedeji, A.N.,Abdulazee,Z.N.(2014).A case of Islamic banking in Nigeria with some lessons from Malaysia. Africa Journal of social science, 4(4),104-114

Adeola.H. (2007). The role of Islamic banking in economic development in emerging Markets A presentation at the Islamic forum business. Lagos

Ahmed, M.J.,& Zakaria,F.F(2013).performance of Islamic banking contracts in Malaysia banking industry. International Islamic Banking, Finance and Investment Conference Kuala Lumpur

Ajiouni,M.M(2014).Islamic banks: Legitimacy, principles and applications.Amman:Dar Al-Mseerah.

Ali,M.,Egbetokun,A.& Memon, M.H(2018). Human capital,social capabilities and economic growth .Economies,6(1),2

Adams.J, Khan.H, Raeside.R and White.D(2007).Research Methods for Graduate Business and Social Science Students .New Delhi: Sage Publications Inc

Andinet(2016). Factors determining deposit mobilization performance: In the case of private commercial banks in Ethiopia (unpublished master's thesis) .Addis Ababa University, Addis Ababa.

Behravan.E and Jokar.I(2014)The Effect Of Exchange Rate Fluctuation And Inflation On Deposited in Meli Bank (The study of top branches of Bushehr province).Journal of Novel Applied Sciences. Available online at www.jnasci.org

Behredin (2016). Determinants of commercial banks' deposit growth evidence from Ethiopia (Unpublished master's thesis) .Addis Ababa University, Addis Ababa.

Boadi.E, Li.Y, and Lartey.V(2015). Determinants of Bank Deposits in Ghana:Does Interest Rate Liberalization Matters? doi.org/10.4236/me.2015.69094

Brooks, C. (2008). Introductory econometrics for finance, 2ndedn, Cambridge University Press, New York

Brooks.C(2014).Introductory Econometrics for Finance (third edition). New York: Cambridge University Press

Cooper.D and Schindler.P(2014).Business Research Methods (twelfth edition). New York: McGraw-Hill/Irwin.

Deaton.A(1991).Household saving in LDC'S: Credit markets, insurance, and welfare. Papers153. Woodrow Wilson School - Development Studies: Princeton.

Ephrem(2016).Challenges and prospects of saving mobilization in commercial bank of Ethiopia: case study of Addis Ababa (unpublished master's thesis). St. Mary's University, Addis Ababa.

Etzel.M, Walker.B and Stanton.W(2007).Marketing(Fourteen edition).New York:MCGrawHill/Irwin

Fisseha(2017). Determinants of commercial banks deposit in Ethiopia (unpublished master's thesis) .Addis Ababa University, Addis Ababa. Frederic S.

MishkinS. Financial Markets and Institutions (Seventh edition) Graduate School of Business, Columbia University Stanley G. Eakins East Carolina University Pearson Education, Inc America

Friedman.M(1957). A Theory of the consumption function.Princeton: Princeton University Press.

Getahun(2014).Determinants of deposit mobilization in commercial bank of Ethiopia(unpublished master's thesis).St. Mary's University, Addis Ababa.

Growth and transformation pane II (2015/16-2019/20)

Haron, S & Azmi.N(2006).Deposit Determinants of Commercial Banks in Malaysia.Working PaperSeries 009

Hibret(2015).Determinants of commercial banks' deposit growth in Ethiopia: case study on commercial bank of Ethiopia (unpublished master's thesis) .Addis Ababa University, Addis Ababa.

Howells.P and Bain.K(2007).Financial Markets and Institutions (fifth edition). Harlow: Pearson Education Limited.

Jaber.A and Manasrah.M(2017).The Factors That Affect To Attract Deposits in Palestinian Islamic Banks. Asian Journal of Finance & Accounting doi:10.5296/ajfa.v9i1.11020 pp 261-273

Katalai.L(2008). Determinants of Kenyan commercial banks deposit growth (unpublished master's thesis).University of Nairobi, Nairobi.

Ketema(2017).Determinants of commercial banks deposit mobilization in Ethiopia (unpublished master's thesis). St. Mary's University, Addis Ababa.

Kelvin A. Sergeant (2001), "The Role of Commercial Banks in financing growth and economic development in Trinidad and Tobago and the Caribbean: A Perspective From The Royal Bank of Trinidad and Tobago" Central Bank of Belize.

Kibebe (2016).Determinants of commercial banks' deposit mobilization evidence from private commercial banks in Ethiopia (unpublished master's thesis).Addis Ababa University, Addis Ababa.

Kumar.N and Mittal.R(2002).Banking law and practice(first edition).New Delhi.J.L Kumar for Anomal publications pvt LTD

M.L.Jhingan(1997).Money, banking, international trade and public finance(eighth edition).Delhi:Virinda Publications LTD

Mamo(2017).An investigation of determinants of deposit mobilization in commercial bank of Ethiopia. research on humanities and social sciences.wolaita sodo university, Ethiopia.

Mashamba.T, Magweva.R, and Gumbo.L (2014).Analyzing the relationship between Banks' Deposit Interest Rate and Deposit Mobilization: Empirical evidence from Zimbabwean. Journal of Business and Management.Volume 16, Issue 1 PP 64-75

Mishkin.S and Eakins.G(2012).Financial Markets and Institutions (seventh edition).Boston: Pearson Education, Inc.

Modigliani.F & Brumberg.R (1954), 'Utility Analysis and the Consumption Function: An Interpretation of Cross-Section Data'.Post Keynesian Economics, Rutgers University Press, New Brunswick N.J.

Mohammed.S(2014). The Effect of Interest Rate, Inflation Rate and GDP on National savings Rate, Global Journal of Commerce and Management Perspective, ISSN:2319-7285, Vol.3(3), pp. 1-7

Mohapatra.S, Sreejesh.S and Anusree.M(2014). Business Research Methods (an applied orientation).Switzerland: Springer International Publishing

Moulton (1981).General Principle of Financial Economics. The Journal of Political Economy Vol. 6.No.10

Mshauri.M (2012) Assessment of the factors that influence deposit mobilization in Tanzania: the case study commercial banks in Dar Es Salaam (unpublished masters‘thesis) University of Tanzania

Nafkot(2016).Factors affecting deposit mobilization in the case of commercial bank of Ethiopia (unpublished master‘s thesis).St. Mary‘s University, Addis Ababa.

NBE annual report 2016/17

Ngula.I(2012).Determinants of deposit mobilization and its role in economic growth in Ghana (unpublished master‘s thesis).Kwame Nkrumah University of science and technology, Kumasi.

Ostadi.H and Sarlak.A(2014).Effective factors on the absorption of bank deposits in order to increase the relative share of Isfahan Sepah Bank. International Journal of Academic Research in Economics and Management Sciences DOI: 10.6007/IJAREMS/v3-i4/1112 pp139-149

Parvin.A, Rumana .R and Afsana.J(2014).Evaluation of Individual Depositors‘ Satisfaction from the Deposit Management Services of Commercial Banks of Banglades. European Journal of Business and Management.Vol.6, No.31, 2014

Rajeshwari M. Shettar,(2014), Deposit Mobilization and Socio - Economic Impact: A Case Study of Union Bank Of India, IOSR Journal of Engineering (IOSRJEN.

Shemsu(2015).Determinants of commercial bank deposits in Ethiopia: a case of commercial bank of Ethiopia (unpublished master‘s thesis) .Addis Ababa University, Addis Ababa.

Sisay(2013). Factors affecting deposit mobilization in private commercial banks: the case of awash international bank S.C. (unpublished master's thesis). St. Mary's University, Addis Ababa.

Oscar Torres-Reyna(2007). Panel Data Analysis Fixed and Random Effects using Stata (v. 4.2)

T.N Hajela(2009). Money, banking and international trade (eighth edition).NewDelhi:Ane Books Pvt.LTD

Telatela.S (2013).Assessment of factors that determine deposits mobilization in tanzanian financial institution a case of Tanzania postal bank (unpublished master's thesis). Mzumbe University, Tanzania.

Turhani.A and HysenHoda.H(2016).The Determinative Factors of Deposits Behavior in Banking System in Albania. Academic Journal of Interdisciplinary Studies.Doi:10.5901/ajis.2016.v5n2p246-256

Viswanadham.P, Yirgalem, Medanit(2014).The Effect of Location and Information Technology on Banks Deposit Mobilization Status in Ethiopia: Empirical Evidence on Private Commercial Banks in Adama Town . International Journal of Science and Research (IJSR)

Wubitu (2012).Factors determining commercial bank deposit: An empirical study on commercial bank of Ethiopia (unpublished master's thesis) .Addis Ababa University, Addis Ababa.

Yannet (2016).Determinant factors of deposit mobilization in commercial bank of Ethiopia (unpublished master's thesis).St. Mary's University, Addis Ababa.

APPENDIXES

Appendix 1: Result of Husman Test

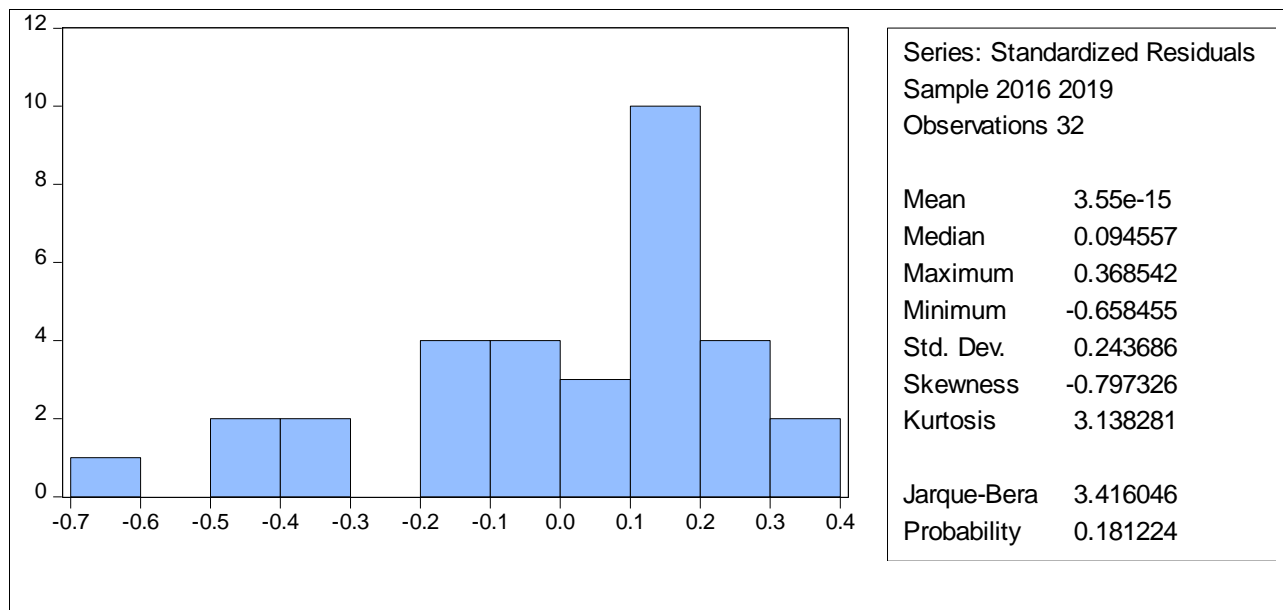
Correlated Fixed Effects - Hausman Test

Test: Ho: difference in coefficients not systematic

$$\chi^2(5) = (b-B)'[(V_b-V_B)^{-1}](b-B) = 28.81$$

Prob>chi2 = 0.0000

Appendix 2: Normality Test Result



Appendix 3: Heteroskedasticity

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

$\chi^2(1) = 2.34$

Prob > $\chi^2 = 0.1260$

Appendix 4: Testing For Cross-Sectional Dependence/Residual Pesaran Cd Test

. xtcsd, pesaran abs

Pesaran's test of cross sectional independence = -0.682, Pr = 0.4954

Average absolute value of the off-diagonal elements = 0.514

Appendix 5: Testing For Cross-Sectional Dependence/Residual Pesaran Cd Test, Breusch-Pagan Lm, Bias-Corrected Scaled Lm and Pesaran Scaled Lm

Residual Cross-Section Dependence Test

Null hypothesis: No cross-section dependence (correlation) in residuals

Equation: Untitled

Periods included: 4

Cross-sections included: 8

Total panel observations: 32

Cross-section effects were removed during estimation

Test	Statistic	d.f.	Prob.
Breusch-Pagan LM	37.02646	28	0.1183
Pesaran scaled LM	1.206211		0.2277
Bias-corrected scaled LM	-0.127122		0.8988
Pesaran CD	-0.681760		0.4954

