ADDIS ABABA UNIVERSITY

DETERMINANTS OF BANK'S DEPOSITS IN ETHIOPIA: A CASE OF COMMERCIAL BANK OF ETHIOPIA

A THESIS SUBMITTED AS A PARTIAL FULFILLMENT FOR THE REQUIREMENTS OF THE DEGREE OF MASTER OF BUSINESS ADMINSTRETION (MBA)

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JUNE, 2019

ADDIS ABABA ETHIOPIA

Declaration Statement

I declare that this thesis is my original work and has not been presented for any degree and that all sources of materials used for the study has been duly acknowledge.

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This is to certify that the thesis entitled: Determinants of Bank's Deposit in Ethiopia: A case of Commercial bank of Ethiopia is prepared by Shalemu Asnake. The thesis is submitted in partial fulfillment of the requirements for the degree of Master of Business Administration complies with the regulations of the university and meets the accepted standards with respects to originality and quality.

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Acknowledgement

I praise the name of Almighty God who gave me power, health and patience in every endeavor of my life. My sincere and deepest gratitude goes to my advisor Dr. Habtamu for his guidance, support and constrictive comments from the beginning of the research proposal to the completion of the thesis work .My grateful thanks also go to my brother Mr.Wubshet for his assistance in my thesis work and I would also like to thank National bank of Ethiopia data center expert Mr.Bizuayehu and Commercial bank of Ethiopia MIS office expert Mr.Bayou for their support by giving the required data for my thesis work.

I also would like to express my deepest indebtedness to my wife, NewayneshLakew and my kids Eyosiyas and Semayat, as always, they were there, right beside me patiently especially at the night time, and may God reward them with his highest blessings.

Finally, I wish to acknowledge the efforts and support of those individuals and their institutions that led to the success of this study especially commercial bank of Ethiopia employee for their coordination with me by responding my questionnaire.

Thank you all.

Abstract

The main objective of this study is to identify determinants of deposit mobilization in commercial bank of Ethiopia. Accordingly, the researcher adopts quantitative research approach. The reason for using such method on this study is due to usage of secondary data for analyzing the determinants of bank deposit. In this study time series data covering 1998 and 2018 was analyzed. First, the time series data were assessed using descriptive statistics for the variables as well as the test for unit root test, heteroskedasticity, autocorrelation and normality testing to know if the assumptions of CLRM violated or not. Accordingly the result of Unit root test (i.e. the data is stationery at first level both ; Augmented Dickey fuller test and Phillips-Peron tests), Model Stability test(i.e. the study model was stable) , Heterodosicity test (there is no heteroscedasticity problem), Autocorrelation test(as long as explanatory variables, regardless of their true significance there is no evidence for the presence of autocorrelation on the study) and Normality test(i.e. the study data were consistent with a normal distribution). Estimation was done using Ordinary Least Squares technique by E-views9 statistical package. The results from economic analysis showed that deposit has a positive relationship with GDP, individual foreign remittance, deposit interest rate and number of branch opening and a negative relation with inflation. Among these variables, branch opening is an important strategy for deposit mobilization, it is highly significant than others. Individual foreign remittances is also significantly affects CBE's deposit next to branch opening. The data gathered from different organs were depicted in graph and it magnifies or clearly shows growth of each variables. Finally, the study ends with recommendations on determinants of deposit mobilization

Key words: Commercial Banks, Deposits mobilization, Determinants of bank deposits

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List of Abbreviations and Acronyms

ADR	Average deposit rate of commercial banks of Ethiopia
ADF	Augmented Dickey-Fuller
BPG	Bruserch –Pagan-Godfrey
CBE	Commercial Bank of Ethiopia
CLRM	Classical Linear Regression Model
CSA	Central Statistics Authority
DR	Deposit Rate
DW	Durbin-Watson
EViews9	Econometric Views Software version 9
JB	Jarque–Bera
INF	The overall inflation ratein Ethiopia
IFR	Individuals foreign remittance to Ethiopia
GDP	Gross Domestic Product
LOG	Logarithm
LOGRGDP	Logarithm of Real Growth of Domestic Product
LOGCBEDEP	Logarithm of total deposits of Commercial Bank of Ethiopia
LOGNBO	Logarithm of Commercial bank branches
NPL	Non-performing loan
NBE	National Bank of Ethiopia
NBO	Number of new branch opening in Commercial Bank of Ethiopia
OLS	Ordinary Least Square
REALIR	Real Interest Rate
SPSS	Statistical Package for Social Science

1. CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

All nations across the world needs comfortable and better standard of living from their countries economic growth. Economic growth of a country depends on resources of a country. For constructing dams, roads, Power stations and other facilities, for facilitating and improving the manufacturing sector and also the agriculture sector, for improving import export a country should have mobilized money in the form of saving on the hands of banks.

According to Jember (2014) one of the financial institutions in the world which give financing services is commercial banks (Desinga, 1975). Commercial banks are financial institutions that give financial service to those in need of the service. They accept money from the depositors and lend it to the borrowers. Thus for commercial banks to lend, there have to be deposits in their treasury. Therefore, we can say that deposits are the most important resource of commercial banks. Thus the amount of deposit a commercial bank should have at hand should be enough to make the bank involve in the market and to satisfy the financial needs of its customers. Now a day, commercial banks are managing their deposit to fulfill the need of their customers.

The studies made in the past underlined that deposit money banks have been globally acknowledged for their unique role as an engine of growth and development in any economy. The deposit itself is a liability owed by the bank to the depositor. Bank deposits refer to this liability rather than to the actual funds that have been deposited. When someone opens a bank account and makes cash deposit, he surrenders legal title to the cash, and it becomes an asset of the bank. In turn, the account is a liability to the bank where the bank in turn plays an intermediation. Their intermediation role can be said to be a catalyst for economic growth and development as investment funds are mobilized from the surplus units in the economy and made available to the deficit units.

Generally, deposit money banks provide an array of financial services to their customers through which deposits are mobilized from the banking public while credits granted for investment purposes. It can therefore be said that the effective and efficient performance of the banking industry is an important foundation for the financial stability of any nation. The extent to which

banks extend credit to the public for productive activities accelerates the pace of a nation's economic growth as well as the long-term sustainability of the banking industry.

According to Nwanko, (2013) savings mobilization and subsequent investment is the key to economic growth and development. According to Laura (1999) at the level of the national economy, high levels of savings increase the amount of national resources and decrease the need to resort to foreign indebtedness in order to cover domestic investment and consumption demand. Numerous countries with low internal savings rates must borrow from abroad, which results in a debt service burden. This clearly underlines the importance of saving mobilization to sustain economic growth with national financial resources (Kibebe, 2016).

Thus, the issue of banks deposits and its determinants is crucial to the financial sector of developing country like Ethiopia. This study enables banks and regulators to keep control to the issue of deposit which is very important to the security of their operation as well as the economy as a whole in the country. It also identifies and gives empirical analysis for determinants of deposit mobilization in commercial bank of Ethiopia and enables to know the determinants. Therefore, this paper aimed to identify and evaluate those factors affecting deposit of Commercial Bank of Ethiopia.

1.2 Background of the Company

After the Ethiopian-English victory over Fascist Italy, the new government established the State Bank of Ethiopia a proclamation issued in August 1942. State Bank of Ethiopia commenced full operations on 15 April 1943 with two branches and 43 staff. It served both as the Ethiopia's central bank with the power to issue bank notes and coins as the agent of the Ministry of Finance, and as the principal commercial bank in the country. In 1945 the Ethiopian government granted the bank the sole right of issuing currency. The first governor of the bank was an American, George Blowers. He inaugurated the new national currency, which owed its successful introduction to the United States. The United States provided the silver for 50 cent coins, whose intrinsic value ensured popular acceptance of the new paper money to a population used to the circulation of the silver Maria Theresa thaler. In 1963, the Ethiopian government split the State Bank of Ethiopia into two banks, the National Bank of Ethiopia (the central bank), and the Commercial Bank of Ethiopia. (http://www.combanketh.et/AboutUs/CompanyProfile.aspx)

The Ethiopian government merged Addis Bank into the Commercial Bank of Ethiopia in 1980 to make CBE the sole commercial bank in the country. The government had created Addis Bank from the merger of the newly nationalized Addis Ababa Bank, and the Ethiopian operations of the Banco di Roma and Banco di Napoli. Addis Ababa Bank was an affiliate that National and Grindlays Bank had established in 1963 and of which it owned 40%. At the time of nationalization, Addis Ababa Bank had 26 branches. The merger of Addis Ababa Bank with CBE made CBE the sole commercial bank in Ethiopia, with 128 branches and 3,633 employees. Since then, it has been playing an important role in the development of the country.CBE is Pioneer to introduce modern banking to the country. It has more than 1280 branches stretched across the country. It is the leading African bank with assets of 565.5 billion Birr as on June 30th 2018. (http://www.combanketh.et/AboutUs/CompanyProfile.aspx)

Commercial bank of Ethiopia plays a catalytic role in the economic progress & development of the country. The bank is the first bank in Ethiopia to introduce ATM service for local users. Currently CBE has more than 18.8 million account holders and the number of Mobile and Internet Banking users also reached more than 1,736,768 as of June 30th 2018. Active ATM card holders reached more than 4.4 million. As of June 30, 2018, 1708 ATM machine and 11,796 POS machines were available. It has strong correspondent relationship with more than 50 renowned foreign banks like Commerz Bank A.G., Royal Bank of Canada, City Bank, HSBC Bank, and others.CBE has a SWIFT bilateral arrangement with more than 700 others banks across the world. (http://www.combanketh.et/AboutUs/CompanyProfile.aspx)

CBE combines a wide capital base with more than 33,000 talented and committed employees. (http://www.combanketh.et/AboutUs/CompanyProfile.aspx)

CBE is Pioneer to introduce Western Union Money Transfer Services in Ethiopia early 1990s and currently working with other 20 money transfer agents like Money Gram, Atlantic International (Bole), Xpress Money, and others.CBE has opened four branches in South Sudan and has been in the business since June 2009.it has reliable and long-standing relationships with many internationally acclaimed banks throughout the world. (CBE Public Website)

1.3 Statement of the problem

One of the main objectives of financial institution is mobilizing resources and channeling these to investors. This intermediation role of financial institution takes different forms in different economic systems. Deposits play the most important role in any banking system, whether cooperative or commercial. Deposits provide limits to the working capital of the bank concerned. The higher the deposit, the higher will be the funds at the disposal of a bank to lend and earn profits. Deposit mobilization is the major services of commercial banks. Deposits are of course mobilized to meet the required liquidity for credit customers of banks. But this too depends on the availability of credit facilities which in turn depends on the level of funds loaned.(Alemayehu,2004)

In this regard currently in Ethiopia, the pace of the banking system to mobilize adequate resources would not be sufficient, given the large fund requirement of the economy that would certainly result in liquidity gap. The major reasons for liquidity gap are money may be kept in traditional way and majority of population is unbanked. This shows that the deposit mobilization practice among commercial banks in Ethiopia is not developed. So this type of traditional banking practices should be stopped and replaced by the new and relevant deposit mobilization strategy. The essential for knowing such new strategy and to scale up the current deposit mobilization effort forces this study to be undertaken.

Varies projects which is proactively investing in road infrastructure, building hydropower dams, constructing housing condominiums and expanding agricultural and other investments in the country are hugely relying on the commercial banks loans and credit facilities. Moreover, there have been multiple small enterprises incubated in the last decades and increasing number of import and export companies, heavily relying on commercial banks for loans, foreign currency and trade assurances. This calls for an increased demand for deposit mobilization from public institutions, private sector and other potential contributors (Hibret, 2015).

The total investment required for implementation of Ethiopian Growth and Transformation Plan is estimated at ETB1.26 trillion (US$77 billion). About 54.8% of this will be funded directly from the budget, out of which 11% is expected from development partners while 45.1% will be contributed by state enterprises. Given the financing challenge, the government of Ethiopia plans

to expand tax revenues and domestic savings mobilization, to reach 15% of GDP, respectively. In order to increase domestic sources of capital, the Ethiopian government is in dire need of savings from the public to effectively implement GTP plans (African Development Bank Group, Country Strategy Paper 2011-15, pp. 18-24).

Thus the banking sector in Ethiopia must increase its deposits by overcoming the existing challenges; hence they need to know the factors that determine deposit or financial savings. This study empirically investigates determinants of mobilizing deposit for banks in Ethiopia by taking CBE as a case.

Many studies have been done on deposits mobilization by taking as a case different Commercial banks in Ethiopia and a few studies have been done by taking CBE as a case. Among these studies, Shemsu (2015) and Wubitu(2012) conducts by taking CBE as case. Since they conducted before four and above years, this study attempts to update Shemsu and Wubitu's studies, hence there is need to update these studies with current macro-economic trends to further develop findings.

Finally, the purpose of this study is, to evaluate the trend and growth of deposit mobilization and recommend ways for enhancing the capacity for mobilizing concentrating the case mainly on Commercial bank of Ethiopia. The main problem to be solved is, the amount of money/resource deposited in the bank is very low and the level of saving in the society is at the infant stage because of different factors. So this research is expected to identify the prominent factors that affect deposit mobilization and the way to combat them.

1.4 Research questions

This research try to answers the following questions: -

- What is the relation between CBE's total deposit against the most significant factors (GDP, branches expansion, inflation rate, individual foreign remittance and deposit interest rate)?
- What should be done to manage total deposit of commercial bank of Ethiopia?
- What should be done to have a progressive deposit of Branches?

1.5 Objectives of the study

This research has the following general and specific objectives.

1.5.1 General objectives

The general objective of this study is to identify the factors affecting commercial bank deposits.

1.5.2 Specific objectives

Specific objectives of the study are:

- To identify bank specific factors affecting deposit of CBE
- To evaluate the relationship between the CBE's total deposit against the most significant factors (GDP, branches expansion, inflation rate, individual foreign remittance and deposit interest rate)

1.6 Hypothesis of the study

The null and alternate hypotheses of the regression are explained as follows;

Ho: Deposit rate, inflation rate, real GDP, individual's foreign remittance and new branch opening have no effect on CBE total deposit.

HP1: GDP has a positive significant effect on CBE total deposit.

HP2: Individual foreign remittance has a positive significant effect on CBE total deposit

HP3: Branch opening has a positive significant effect on CBE total deposit

HP4: Deposit interest rate has a positive significant effect on CBE total deposit

HP5: Inflation has a negative significant effect on CBE total deposit

1.7 Significance of the study

This study intends to elicit body of knowledge and understanding of the determining factors of mobilizing deposit by commercial bank of Ethiopia. It is also significant to put in place adequate bank deposit management tools, understanding factors that determine commercial bank's

deposit. The study has great contribution to the existing knowledge in the area of factors determining Commercial Bank of Ethiopia deposit. This in turn contributes to the well-being of the financial sector of the economy and the society as a whole. Therefore, the major beneficiaries from this study are: Commercial Bank of Ethiopia, regulatory bodies and the academic staff of the country. Furthermore, it will serve as stepping stone for further research in similar area. And lastly this study will give good idea to the researcher about this specific topic and general knowledge about any research.

1.8 Scope of the research

In Ethiopia there are eighteen commercial banks under operation. From the number of the banks under operation the study uses Commercial Bank of Ethiopia as case study due to its larger deposit proportion from the commercial banks in Ethiopia. In order to make the scope of the study manageable, this research focus on some major factors that determine bank deposit and the study is restricted to identify some of the bank specific and macroeconomic factors affecting deposit of CBE. The research is also limited in its scope since it doesn't consider all primary data and information from external government organs, banking regulators, other banks and the public at large. The study uses only secondary data; primary data is not used due to the researcher believe in that only secondary data can appropriately help for conducting the thesis.

1.9 Limitation of the study

Even though this study has been completed successfully, there were practical limitations. In its best, this research work should have been extended to cover all the commercial banks in Ethiopia to collect facts however, the inadequacy of relevant data and material have compelled the researcher to limit the study to only one commercial banks CBE. It is selected because it covers the larger proportion of bank deposit in Ethiopia.The study was used twenty one years (1997/98-2017/18) secondary data collected from CBE, NBE and IMF it may have potential bias from the data source. Number of years also limited to twenty one due to lack of data in CBE'S and NBE'S data base.

1.10 Organization of the study

In addressing the research objectives, this thesis is structured into five chapters: Chapter one deals about introduction of the topic, chapter two will discuss about theoretical and empirical literature review, chapter three is about research design and methodology, chapter four is about results and discussions, and chapter five presented conclusions and recommendations of the results.

1.11 Operational Definition

Bank: is a legally authorized business institution by state and federal laws to discount and deal in negotiable instruments, to lend money, to receive deposits, and to buy and sell foreign exchange (CBE accounting procedure)

Banking: Business service offered by financial institution; bank (CBE accounting procedure)

Current Account: Is a deposit account opened for customers who want to save their money in the bank and transact it using cheque sleep without having interest**.** (CBE accounting procedure)

Deposit: the most significant components of the money supply used by the public and changes in money growth are highly correlated with changes in the prices of goods and services in the economy (Kelvin, 2001).

E-banking: Implies electronic banking deployed by commercial banks to enhance modern banking service to customers. This includes internet banking, mobile banking, ATM (CBE Branch Banking Procedure)

Public thrust: The reliability of the bank to the general public or the society at all. (CBE Public Website)

Saving account: Is a deposit account opened for customers who want to save their money in the bank and transact it using pass book**.** (CBE accounting procedure)

Chapter 2: Literature Review

Literature review is prepared in two parts, i.e. the theoretical review and the empirical review part. In the theoretical review part the theories that states about the commercial banks deposits and the variables that is claimed to affect it are discussed. The empirical literature part discusses past studies that were conducted on the area of factors determining commercial banks deposits.

2.1 Over view

Different historical sources states that the first foundations of the banking service in the world were put by goldsmiths and silversmiths. They have a safe box to put & they were the most trusted. They used to receive gold, silver and various jewelries to put with them. Therefore an individual or a merchant puts his wealth under their custody, for their service they charge a small amount of money and give the customer a receipt to guarantee their acceptance. Then they started using, money paying instrument what we now call this document as 'check'. However as time goes by , the goldsmiths and silversmiths observed that their customers wouldn't take their jewelry soon, and those clients, whenever they face the shortage of money, they started lending to this people and started to get profit from their service. They encouraged depositing and lending and rather than making the customers to pay a charge for depositing, they started to pay them interest and introduced the public to work with money. It is believed that, ancient Assyrians, Babylonians, Athenians, Romans and Abyssinians also used the banking service. (Gedey, 1990)

Commercial Banks deposits are dependent on depositor's money as a source of funds. According to the Keynesian theory of demand for money, there are three main motives why people hold money: transactions, precautionary and investment motives. In order to cater for these motives, commercial banks offer three categories of deposit facilities that are demand, savings and time deposits. Demand deposit facility is most commonly referred to as current account and is designed for those who need money for transaction purposes. This motive can be looked at from the point of view of consumers who want income to meet their household expenditure and from the viewpoint of businessmen who require money and want to hold it in order to carry out their business activities. Hence, the purpose of deposit facility is for convenience or for making daily commitments. (Shemsu, 2015)

Bank deposits represent the most significant components of the money supply used by the public, and changes in money growth are highly correlated with changes in the prices of goods and services in the economy (Sergeant, 2001). Bank deposits are made to deposit accounts at a banking institution, such as savings accounts, checking accounts, time deposit accounts and other accounts. The account holder has the right to withdraw any deposited funds, as set forth in the terms and conditions of the account. The "deposit" itself is a liability owed by the bank to the depositor (the person or entity that made the deposit), and refers to this liability rather than to the actual funds that are deposited.

2.1.1 Commercial Bank Deposit

Commercial bank deposits are major liabilities for commercial banks. (Kelvin, 2001) said that deposits of commercial banks account for about 75% of commercial banks liabilities. Commercial banks keep lending as long as they possess adequate deposit.

Therefore, banks will be better off if they are mobilizing more deposits. However, as (Desinga, 1975) indicates deposit mobilization is a very difficult task. The cost of intermediation for mobilizing deposits is also very important part of overall intermediation cost of the banking system as (E.A. Shaw 1995) indicates. In spite of the difficulties, deposits play an important role not only to the banking sector but also the overall economy.

All the financial performance of most of the commercial banks in one way or the other related to the deposit it managed to be mobilized. Deposits provide limits to the working capital of the bank. The higher the deposit, the higher will be the funds at the disposal of a bank to lend and earn profits (Desinga, 1975). Therefore, to maximize its profit the bank should increase its deposit. (Mahendra, 2005) had also mentioned deposits as a foundation up on which banks thrive and grow and deposit is unique items on a bank’s balance sheet that distinguish them from other type of business organizations.

Commercial banking is a service industry with a high degree of built in profit potential (Meenakshi, 1975). Commercial banks mainly depend on the funds deposited with them by the public to lend it out to others in order to earn interest income (Davinaga, 2010). However, banks attract deposits by paying a risk free return to the savers. Interest expense is number one expense on the income statement of most commercial banks. (Hamid 2011) said that if banks lose their

deposit base they rely on non-deposit based funding that is very expensive and consequently minimizes the profit margin.

2.1.2 Types of Deposit products

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 bank's books, and the resulting balance is recorded as a liability for the bank and represents the amount owed by the bank to the customer. 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, ATM and online banking.

Savings Account: is a deposit account held at a bank or other financial institution that provides principal security and a modest interest rate. Depending on the specific type of savings account, the account holder may not be able to write checks from the account (without incurring extra fees or expenses) and the account is likely to have a limited number of free transfers/transactions.

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. Generally speaking, the longer the term the better the yield on the money (Dereje, 2017)

2.1.3 Importance of Commercial bank deposit

From depositors' point of view, the key purposes to use deposit in bank are safety of their money, easy access and a possible real return. In general depositors keep their money in banks for a motive to undertake some activities in the future. In banks side deposit to banks has the following importance.

A. source of investment

According to (Ongore&Kusa, 2013),Intermediation function of banks play a vital role in the efficient allocation of resources of countries by mobilizing resources for productive activities. They transfer funds from those who don't have productive use of it to those with productive venture. (Nwanko, Ewuim, &Asoya, 2013) States that, savings are resources which one decides to put aside for investment purposes and not for luxury. What people save, avoiding to consume all their income, is called "personal savings". These savings can remain on the bank accounts for future use or be actively invested in houses, real estate, bonds, shares and other financial instruments.

B. Low cost

According to (Shettar&Sheshgiri, 2014) the success of the banking greatly lies on the deposit mobilization. Performances of the bank depend on deposits, as the deposits are normally considered as a cost effective source of working fund.

Elser, Hannig, &Wisniwski, (1999) savings are a source of funds with low financial costs i.e., interest costs, Compared to other commercial funds. With regard to financial costs, most of the institutions apply a differentiated interest rate schedule, compensating for the higher administrative costs with no or low interest rates on small savings and increasing them according to the size of the deposit.

C. Source of profit

According to (Varman, 2005) the ability of a bank‘s management and staff to attract checking and saving accounts from business and individuals is an important measure of the bank‘s acceptance by the public. Deposits provide most of the raw materials for bank loans and thus represent the ultimate source of bank profits and growth.

Tuyishime, Memba, &Mbera, (2015) also affirmed that, Deposits are an indispensable tool commercial banks use to enhance its profitability through advancing deposits mobilized to its customers in form of loans which make in return interest to commercial banks.

D. Economic Growth and Development

According to (Ongore&Kusa, 2013), In addition to resource allocation good bank performance rewards the shareholders with sufficient return for their investment. When there is return there shall be an investment which, in turn, brings about economic growth. On the other hand, poor banking performance has a negative repercussion on the economic growth and development. Poor performance can lead to runs, failures and crises. Banking crisis could entail financial crisis which in turn brings the economic meltdown.

2.1.4 The determinants commercial banks deposits- theory

An important indicator of the success and efficiency of any credit agency, which is also a banking institution is, the extent to which it is able to mobilize the savings of the community in the form of deposit. Deposit mobilization is very difficult task. It depends up on various factors.

As (Desinga, 1975), did the researcher classify the variables which are claimed to have effect on the commercial banks deposits into two, namely exogenous and endogenous factors. Exogenous has further divided into country specific and bank specific factors for clarification purpose. Endogenous factors can be controlled by the banking system; however the exogenous factors cannot be controlled by the banking system. The bank specific factors are factors that are specific to the banking system and the country specific factors are factors that are beyond the banking system. Some researchers tried to classify as macro-economic factors and micro economic factors. They consider macro-economic factors as country specific factors and micro economic factors as bank specific factors and include the endogenous factors under bank specific factors. I also tried to classify as country specific and bank specific factors.

A) Country specific factors

The past researcher has identified various country specific factors that have effect on the commercial bank's deposits from the literature. These are saving interest rate or deposit rate, inflation, Taxation, Government expenditure, Monetary Policy, Open market operations, reserve requirement, population growth, Discount rate, Special deposit, per capita income of the society, economic growth, consumer price index, gross domestic product (GDP) and shocks.

1. Interest rate

Interest rate is the price for money that depositors receive from the bank. This is the opportunity cost of capital that savers/borrower receive/pay by lending to/borrowing from the financial intermediaries. With regards to deposit mobilization the ruling interest rates attracts more deposits when it is comparatively higher than the rate of investment. In the developing countries the trend of the government has been the use of interest rate ceilings as a regulatory mechanism to provide cheap credit to SMEs (World Development Report, 1989). (*Mustafa and Sayera, 2009)* said that low deposit rates are discouraging saving mobilization. (*Bhatt, 1970)* said that the banking system is unlikely to be in a position to meet the demand for bank credit unless concerted policy is pursued to raise the rate of saving generally and the rate of saving in the form of deposits in particular.

2. Inflation

As to (Herald &Heiko, 2008), inflation is one of the factors that determine commercial banks deposits. Fischer showed that in Latin America the effect of inflation on savings and time deposit to GDP was significantly negative (Mohammad & Mahdi, 2010).

The classical belief is that, because bank assets and liabilities are expressed in monetary terms and because these assets will normally grow in line with growth in money supply, banks are relatively immune from the effects of inflation (Devinaga, 2010). In brief, monetary policy works by controlling the cost and availability of credit. During inflation, the Central bank can raise the cost of borrowing and reduce the credit creating capacity of commercial banks. According to (Devinaga, 2010), this will make borrowing more costly than before and thereby the demand for funds will be reduced. Similarly with a reduction in their credit creating capacity, the banks will be more cautious in their lending policies. Since the banks demand for fund decreases obviously the deposits will decrease. Banking system was affected by inflation in terms of deposit absorption and facilities grant (Mohammad & Mahdi, 2010). As to (Mohammad & Mahdi, 2010), in developed countries negative correlation between inflation and absorbed deposits and granted facilities has been documented. However, in developing countries the opposite is true.

Inflation is seen as an economic problem in developed countries in the second half of 20th century. Inflation with effect in economic growth, employment, income distribution and wealth as well as social and political conditions of a country can influence its entire dignity (Mohammad & Mahdi, 2010). Banking system as an important effective factor in economic performance has also been under the influence of inflation. As far as the effect of inflation on financial sector conceived the literature demonstrates that inflation affects the capacity of financial sector for optimal allocating of resources. That is as inflation rate increases, true yield rate of money and assets decreases; therefore deposits are no longer attractive. Also the increase of inflation rate has a negative effect on the performance of financial sector through the market credits and in turn, on the performances of banks and capital markets and finally on the long term economic growth (Mohammad & Mahdi, 2010).

With respect to the effect of inflation on savings, it can be mentioned that in general, all individuals who save a part of their incomes in banks are directly damaged by the inflation and their assets decrease in proportion with money value decrease (Mohammad & Mahdi, 2010). In that case as (Mohammad & Mahdi, 2010) describes people try to change their cashes and savings to more reliable and stable forms such as land, jewelry, antiques, art collections, foreign currencies that causes to definite decrease in commercial bank's total deposit. High inflation rates reduce the real value of deposits (M. A. Baqui& Richard L. Meyer, 1987). According to (M. A. Baqui& Richard L. Meyer, 1987), inflation technically did not decrease deposit; however it decreases the value of deposits.

3. Economic growth

Economic performance is generally being measured through GDP (Gross Domestic Product), a variable that has also become the de facto universal metric for 'standards of living. It is universally applied according to common standards, and has some undeniable benefits mainly due to its simplicity.

According to (Herald &Heiko, 2008), growth is one of the determining factors for commercial banks deposits. GDP is calculated by adding up the value-added at each stage of production (deducting the cost of produced inputs and materials purchased from an industry's suppliers. (Erna &Ekki, 2004), finds four variables, GDP, number of Islamic bank's branch offices, profit

sharing rate, and interest rate that are thought to have influence on the volume of deposits. So, GDP can influence the growth of commercial banks deposits.

4. Taxation

Taxation is the main source of government revenue and the effectiveness of which rests on its ability to generate required revenue and support investment (Tanzi, 1991). Taxation is often defined as "the levying of compulsory contributions by public authorities having tax jurisdiction, to defray the cost of their activities. Taxes are compulsory statutory payment made to government with no obvious and immediate benefit to the taxpayer but for the benefit of all. Hence, in the short run taxation reduces the deposit of the nation but in the long run if government uses the taxation properly to improve infrastructure facilities, it increases the deposit.

5. Population growth of the country

The twin objectives of commercial banks, i.e. acquiring deposits and advancing credit cannot be attained without good banking habits of the people (Mahendra, 2005). Moreover (Mahendra, 2005) states that, the number of deposit accounts is more important because it ensures that the probability of account is more important because it ensures that the probability of account holders withdrawing cash at a time decreases as the number of deposit account increase, thereby creating advantage for banks in terms of increasing the size of the loanable fund. So the higher number of deposit accounts the greater is the advantage to banks. The number of deposit accounts depends on the number of deposit account holders.

6. Per capita income

According to (Jim, 2008), per capita is the level of GDP divided by the population of the country or region. Changes in real GDP per capita over time are often interpreted as a measure of changes in the average standards of living of a country. The relationship between income and deposit is positive, that is as income of the society increase the same happens for the commercial bank's deposit.

7. Social Instability or Shocks

Social instability affect deposits during crises, regardless of bank fundamentals and investors' responsiveness to bank risk taking increases in the aftermath crises (Maria & Sergio, 2001). Therefore, given all other variables social unrest happened in the economy can affect the banks' deposits. Aggregate shocks affect deposits and interest rates during crises, regardless of bank fundamentals and investors‟ responsiveness to bank risk taking increases in the aftermath crises (Maria and Sergio, 2001). Therefore, given all other variables constant the shocks happened in the economy can affect the banks‟ deposits negatively.

B) Bank specific factors

1. Liquidity of the banks

Liquidity from the banks point of view is "the ability to meet its day to day withdrawals". Banks by accepting short term deposits (liabilities) and lending them to borrowers by loan commitments (assets) have the obligation to keep part of the deposits to meet daily demands for money (Hull 2003).

An important measure of liquidity is loan to deposit ratio. The loans to deposit ratio is inversely related to liquidity and consequently the higher the loans to deposit ratio the lower the liquidity and vice versa (Devinaga, 2010).

Key liquidity indicators such as central bank credit to financial institutions, deposits as a share of monetary aggregates, loans to deposits ratios, are important for open market operations and liquidity management (Sheku, 2005). The basic need for liquidity, asset, liability, capital adequacy, credit and interest rates risks management are now more challenging than before. The banks' liquidity management involves acquiring sufficient liquid asset to meet the bank's obligation to depositors. According to the theories of financial intermediation, the two most crucial reasons for the existence of financial institutions, especially banks, are their provision of liquidity and financial services (ISMAL, 2010). According to (ISMAL, 2010), Regarding the provision of liquidity, banks accept funds from depositors and extend such funds to the real sector while providing liquidity for any withdrawal of deposits, however the banks' role in transforming short term deposits into long term loans makes them inherently vulnerable to

liquidity risk(Bank for International Settlements, 2008b:1). Individual, business and government will be willing to deposits their money in banks if they are certain that they are save to withdraw the money whenever they want, this is the question of liquidity of banks. The more liquid banks can attract the deposits.

A higher degree of financial intermediation (proxies by the loan-to-assets ratios) may signal a bank's success in generating income as well as a need for it to attract more deposits to support its increased lending activities (Herald &Heiko, 2008). A higher liquidity buffers (measured by the ratio of liquid assets to deposits) tend factor favoring deposit demand (Herald &Heiko, 2008). Liquid banks as well as banks with a higher loan exposure are associated with higher deposit growth. (Herald &Heiko, 2008), states that the liquidity situation of the bank also plays a significant role in determining banks deposit growth. According to (Nada, 2010), Banks perceived as risky should have had more difficulty attracting deposits and making loans than banks perceived as safe. When banks fail to pay for its depositors then it faces liquidity risk that makes other depositors not to deposit in that particular bank.

2. Profitability of the bank

(Erna &Ekki, 2004), finds that the long run relationship between commercial banks deposits and the profitability of the banks. Higher bank profits would tend to signal increased bank soundness, which could make it easier for these banks to attract deposits (Herald &Heiko, 2008). However, the effect of bank profitability and bank size are found to be insignificant once controlling for the other variables. So, the effect of profitability and banks size on commercial bank deposit is lower as compared with other variables.

3. Security of the bank

Security of banks matters in mobilizing deposit. Riskier banks would be able to attract deposits only paying higher Interest rates. The security of banks has its own impact on its attractiveness for depositors. For example in the existence of deposit insurance the depositors no longer are concerned about the soundness of their banks because their deposits are insured in the event of bank failure. So the bank should secure its system so as to mobilize more deposit than before and to attract new depositors and maintain the exiting depositors.

4. Banking accessibility

There is a relationship between commercial banks deposits and commercial bank's branch expansion. Not only are deposits influenced by bank branches, but the expansion of bank branches is also influenced by the level of deposits in any area (M. A. Baqui& Richard L. Meyer, 1987). It is expected that banks make decisions on expanding their facilities by considering factors such as level of competition, deposit potential, regional income and existence of road and vehicles. As deposit potential is one thing that banks consider in expanding its branches, the deposit can also be a reason for branch expansion strategy that the banking sector uses. According to (Erna &Ekki, 2004), there is a long run relationship between commercial bank branch and commercial banks deposits.

5. Bank size

Among the factors prominently identified as affecting deposit variability one is bank size. Evidence indicates that the number and diversity of the ownership of individual deposit accounts as well as the distribution of deposits by type vary with bank size (Kaufman, 1972). (Herald &Heiko, 2008), founds that although insignificant once controlled by other variables bank size have an effect on deposits. Smaller banks have to generate fewer deposits in absolute terms to achieve the same deposit growth than large banks, thus possibly favoring smaller banks in achieving higher deposit growth. But a larger bank with economies of scale as well as larger branch network might be able to better attract deposits (Herald &Heiko, 2008).

6. Reserves

(Thorn & S., 1959), said that reserves that are fixed legally can influence the deposits that banks can hold. According to them reserve requirements determine the maximum amount of loans and investments that each commercial banks and the banking system as a whole may maintain in relation to deposits. Thus, if the reserve requirement is 20 percent of deposits, loans and investment (of the bank's own choosing) may not exceed 80 percent of deposits.

Therefore, reserve requirements limit the total expansion of bank deposits that can occur on the basis of any primary increase in deposits. Reserve requirements also have the effect of limiting the reduction in bank credit and deposits that is forced up on the banking system by a primary

decrease in deposits. The commercial banks can obtain currency to pay out to customers only by drawing down their reserve deposits at the central bank or by using till money (Thorn & S., 1959). Till money, according to (Thorn & S., 1959) is the currency that banks keep on hand to satisfy day to day needs. They pointed out that bank deposits are a large part of the money supply in virtually all countries.

7. Transaction cost

Important indicator of management's effectiveness in any bank are whether or not deposited funds have been raised at the lowest possible cost and whether enough deposits are available to fund those loans the bank wishes to make (Mahendra, 2005).

This last point highlights the two key issues that every bank must deal with in managing its deposits (Mahendra, 2005):-

- Where can the bank raise funds at the lowest possible cost?
- How can management ensure that every bank always has enough deposits to support the volume of loans and other financial services demanded by the public?

8. Financial technologies

Financial technologies such as card banking enable customers' access to cash services 7-days-24 hours by making large cash carrying unnecessary (Mr Gunnar &Mr Zhao, 2013). It shifts out the traditional frontier of access to banks. Deposit per capita of countries had grown well after the introduction of card payment, ATM and mobile/internet banking technologies in their financial system. A study in Georgia indicated that these technologies have reduced public preference to holding cash in purse.

9. Foreign remittance

Remittance from Diasporas to families in home-country has become another significant determinant of household saving and domestic private savings (Athukorala&Sen, 2001). Remittance is part of the disposable income of recipient households, and as their combined income increases, saving is expected to do so. It is, however, alleged that remittance makes households rather loose in their spending and pressurize families to Western life-style.

According to this pessimistic view, remittance is spent on conspicuous consumption, and unproductive investment when viewed in terms of the economy. On the optimistic side is that remittances allow poor households to invest on durable goods and human capital – improving children's education and health, and should therefore be encouraged and facilitated.

10. Awareness of the society

Some analysts argue that demand for deposits is influenced by education level which in turn increases the awareness of the rural people about banking services. The study of conducted by taking rural area as a base considers the awareness as a factor of deposit mobilization. It was found that literacy as a proxy for awareness about banking, positively influence deposits. (Baqui*et al*, 1987).

11. Convenience of bank's office

Road and vehicles directly influence interest bearing deposits because of the reduction in depositors" transaction costs through reduced time spent in travelling to and from banks (Baqui*et al*, 1987). Banks can mobilize more deposit when they make themselves closer to their customers. This indicate that convenient location for transportation, quality and strength of office attract more deposits.

12. Quality of Services

Service quality is considered as an important tool for a firm's struggle to differentiate itself from its Competitors (Ladhari, 2008). Akroush (2008) also pointed out that service quality is the result of the comparison made by customers about what they feel service firms should offer, and perceptions of the performance of firms providing the services. Gronroos (2007) also defined service quality as the outcome of the comparison that consumers make between their expectations and perceptions.

The bank management tends to differentiate their firm from competitors through service quality. Service quality is a crucial element which impact customers' satisfaction level in the banking industry. Generally in banking, quality is a multivariable concept, which includes differing types of convenience, reliability, services portfolio, and critically, the staff delivering the service (Storbacka et al., 1994) cited in Thakur (2011).

2.2 Empirical evidence from different studies

The empirical literature part discusses past studies that were conducted on the area of factors determining commercial banks deposits. The literature suggests that there are a number of factors that crucially determine the commercial banks deposits. The significance of each factor, however, differs across group of countries, countries, and time period. These will help to see where the literature on this area is and how this study will add to the existing literature. Among the articles written on the subject, the researcher has selected two local and two overseas studies made by different researchers.

Shemsu(2015),identified determinants of deposit mobilization in commercial bank of Ethiopia and the study adopts both quantitative and qualitative approach or mixed approach. The researcher collected primary data from the randomly selected Addis Ababa city branches of CBE. Regarding the secondary data, the study used time series data from 1998-2014, seventeen years data. The study had used the frequency distribution output from SPSS software to analyze questionnaires and analysis for the secondary data held by using descriptive analysis techniques and the model used in the study is multiple regression models. The study finds that CBE has capacity and willingness to contribute to economic growth of the country by mobilizing more deposit. The study realize that the size of CBE's deposits has been continuously increasing through time with the rate varies from year to year. Additionally, the study find out that the key factors for deposit growth are service excellences, branch expansion, opening new branches, promotional effort, awareness creation and using new banking technology. GDP and deposit interest rate was found to have a positive relationship with bank deposit growth but the effect on deposit growth is insignificant. While CBE's aggressive branch opening that has positive correlation with deposit mobilization with respect to widening customer base and increased financial inclusion through creating accessibilities to the unbanked rural and urban areas. Accordingly, the study reveals that branch opening highly significant on CBE's deposit growth. And also according to NBE annual report, remittance from Diaspora is one of the most beneficial sources to offset foreign trade deficit of the foreign currency for the country. It has positive impact on individual's income and savings. This study also shows the relationship between CBE's deposit and remittance from outside have positive and significant relationship.

Ketema(2017),examined the determinants of commercial banks deposit mobilization in Ethiopia. The study was conducted on seven selected commercial banks in Ethiopia, excluding ten private commercial banks with less than 16 years services, and the other financial institutions, Micro finances institutions, saving and credit associations, equb and edir. The study examines the cause and effect relationships between growth of deposit and its determinant, therefore it is an explanatory research and the problem identified factors affecting the outcome having numeric value, it is quantitative approach. The researcher had employed quantitative research methodology and techniques using an econometric model and Descriptive Quantitative & Qualitative Analysis in order to address the research questions. Multiple regression using OLS (Ordinary Least Square) estimates of the dependent (Total Deposit Amount) and independent five macroeconomic variables Inflation, Interest Rate, Money Supply, Government Expenditure and Exchange and three bank specific variables Bank Profitability, Bank Liquidity and Bank Credit Risk were employed. It uses time series data covering the period from 2000 through 2015. The sources of data for this research were secondary sources.

The study showed that, among the bank specific variables Bank Credit Risk is positively and statically significant to the growth of commercial bank deposit. In regarding with deposit interest rate, the study implies that deposit interest rate is not a major factor in explaining the commercial banks deposit growth in Ethiopia. In connection with liquidity, the study indicated that the bank liquidity has negative and statically significant effect on commercial bank deposit. Deposit growth decreases when the bank liquidity increases or reduces liquidity risk. Liquidity arises mainly from the type of deposit where commercial banks were collected. Most of the deposit of the commercial banks is either individual or demand deposits and these deposits are withdrawn by the depositor at any time so the commercial banks should have adequate money to meet the withdrawal of the customer. In regard to profitability measured by Return on Asset has a significant positive impact on commercial bank deposits growth. Higher bank profits would tend to signal increased bank soundness, which could make it easier for these banks to attract deposits. The depositor confidence will increase if the bank is profitable and have adequate asset return. The deposit growth reacts negatively towards the increase in inflation. The relationship is similar to the expected sign. Since the county has experienced double digits inflation in the study period that results in higher costs of doing business; which leads to decrease in deposit mobilized by commercial banks. The other micro level determinant of commercial bank deposit is money

supply which has a negative significant impact on the commercial bank deposit. When the government supplies excess money to the economy the economic growth will be affected negatively by increasing the inflation, exchange rate etc. and also the commercial bank deposit will decrease.

Arekhandia(2010),A study on the determinants of commercial bank deposit in Nigeria. The study indicates how the flow of savings, and efficient credit mechanism coupled with a balanced range of viable investment options depend on the ability of commercial bank to mobilize deposits and to manage such deposits efficiently. The objective of the study is to offer suggestions based on the findings of the study on the formulation of appropriate monetary policy relating to bank deposit mobilization and management. The researcher used secondary data obtained from textbooks, journals and Union Bank's Annual Report and accounts of various Issues. Various internal records of the bank as well as relevant publications of regulating authorities namely, Central Bank of Nigeria, Federal Bureau of statistics. Since the researcher centered on finding the effect of some variables on a particular variable the research made use of the ordinary least square (OLS) regression. The researcher gives conclusion by saying loans and advances to customers would definitely have a spiral effect as it would bring about increase in banks deposits. Interest rate, inflation rate as well as number of bank branches were other determinants that affect bank deposits. More branch network when opened in viable areas of the economy would booster economic activities that would culminate in more been saved. Interest rate though significant, was negative, indicating that interest rate has a weak relationship with deposit.

Petter (2016), A study on Economic determinants of savings mobilization by commercial banks in Kenya. The objective of the study was to establish the economic determinants affecting savings mobilization by commercial banks in Kenya. Descriptive research survey was employed on the study and a stratified sampling method. The study adopts mixed approach. The quantitative data collected were analyzed using descriptive statistics such as frequency, percentages, mean and standard deviation using SPSS version 21 and Microsoft excel. Factor analysis is used as the main component for quantitative data analysis. The study shows and gains finding in that real deposit interest determines saving mobilization of the commercial bank to a moderate extent and has a negative correlation with saving mobilization in the commercial banks. The other finding of the research is that about economic growth, economic growth has a

significant influence on saving mobilization in commercial banks in Kenya and the relationship between economic growth and saving mobilization is positive in that saving mobilization increases with increase in economic growth and development.

2.3 Research gap and Conceptual Framework.

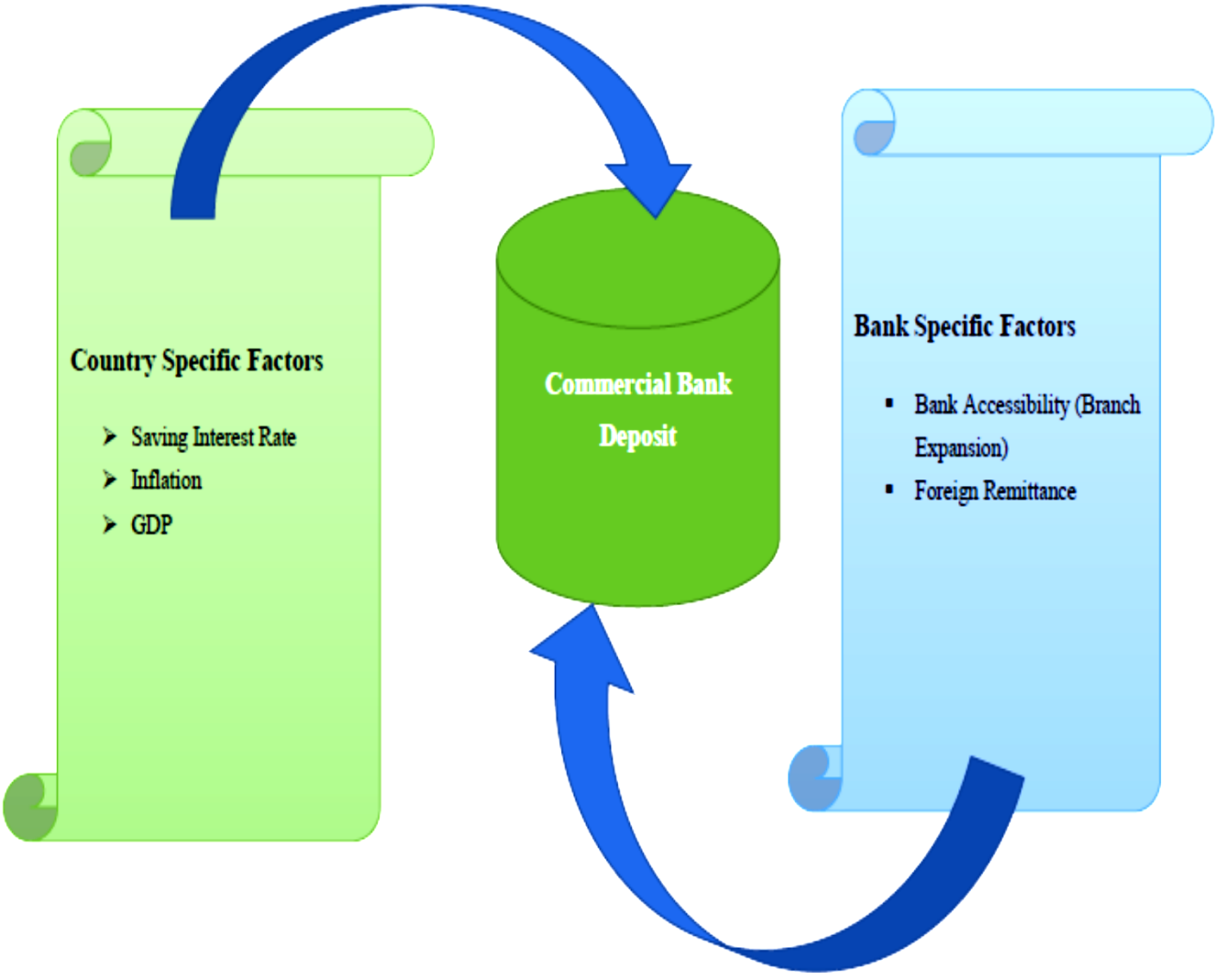
2.3.1 Research Gap

Deposit mobilization is an indispensable 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 success of the banking greatly lies on the deposit mobilization. Performances of the bank depend on deposits, as the deposits are normally considered as a cost-effective source of working fund. There are researches conducted in the subject determinants of deposit mobilization by taking private and other commercial banks before three and four years to the knowledge of the researcher. Since different socio economic and political changes exist in our country the researcher study will get new knowledge and findings in the topic.

2.3.2 Conceptual framework

From the above theoretical and empirical literature reviews the main factors that determine the deposit growth of commercial bank of Ethiopia is divided as country specific and bank specific factors. While the researcher review literature both factors are taken in to consideration and detail description is made as shown in fig.1 below.

Fig2.1. Factors that determine deposit growth of CBE



Source; the Researcher Construction (2019)

Chapter Three: Research Methodology

3.1 Introduction

This chapter contains sub topics which are expected to be found in research design and methodology .Includes the research method (approach), research design, target population, sample and sampling techniques, data collection and statistical tools used in the study. It explains the type of data used for the study and the techniques employed in identifying the factors that influence the bank deposit.

3.2. Research Method (Approach)

There are three main research paradigms; quantitative research method, qualitative research method and mixed approach Creswell, (2009). The quantitative research is objective in nature that involves analysis of numerical data by applying statistical tests. But the qualitative research is much more subjective in nature, concerned with understanding of applicable knowledge and can be generalized in understanding of the phenomenon (Collis and Hussey, 2003). The mixed approach is in which the researcher tends to base knowledge claims on pragmatic grounds and it employs strategies of inquiry that involve collecting data either concurrently or sequentially to best understand research problem Creswell, (2009).

In order to see the determinants of bank deposit in case of Commercial Bank of Ethiopia, the researcher adopted quantitative research method or approach. The reason for using such approach on this study is due to usage of secondary data for analyzing the determinants of bank deposit and the data gathered using questionnaire (primary data) may lead to biasedness and also personal opinions may contradict with the science of macroeconomic and other variables.

3.3 Research design

In order to see the determinants of bank deposit in case of Commercial Bank of Ethiopia, and to achieve the objective descriptive type of research design with quantitative approach or method is employed.

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3.4 Target Population and sample size

The target population under review of secondary data is bank-specific and macroeconomic determinants of bank deposit over the 21-year period 1998— 2018 using time series data. Bank-specific variables were collected from the CBE annual deposit reports, which are mostly unpublished sources of materials. The external sources are Ministry of Finance and Economic Development (MoFED) which regulates the macroeconomic issues of the country and Central Statistics Authority (CSA) annual reports, NBE reports and IMF reports and also others.

3.5 Source of data

The sources of data for the study were secondary sources. The secondary data were data's that the researcher could get from the reports of commercial bank of Ethiopia, Ministry of Finance and Economic Development (MoFED) which regulates the macroeconomic issues of the country and Central Statistics Authority (CSA) annual reports, NBE reports and IMF reports and also others.

3.6 Method of data collection

The methods that the researcher used in his data collection are finding out documents and reports and also different documents and data's were collected from the organizations (CBE, NBE. MoFED and CSA) with physical presence and also communication was made through emails.

3.7 Method of data analysis

The researcher analyzed the information from the secondary data sources by using descriptive analysis techniques to describe the result. So as to show the trend of total deposit of commercial bank of Ethiopia and the value of each deposit determinants, the researcher also analyze the data using Microsoft excel as a result the graph of total deposits and its determinants is displayed and interpreted.

The collected data was regressed by time series regression method and interpreted with the help of different financial relationship and statistical description including standard deviation, average, minimum, maximum and median (descriptive statistics) and multiple regression

(significant test). To conduct this, the researcher uses different tools and Eviews9software and finally the proposed hypotheses were tested statistically to arrive at the conclusion.

3.8 Model specification

The nature of data used in this study enables to use time series. Quantitative data received were described through multiple regression technique. It contains one dependent variable, many independent variables and the constant term. This regression analysis allows to explicitly controlling for many other factors that simultaneously affect the dependent variable. This is important both for testing economic theories and for evaluating policy effects when we rely on non-experimental data.

Moreover, multiple regression models may accommodate many explanatory variables that may be correlated. Naturally, if we add more factors to our model for explaining dependent variable(y), then more of the variation in y can be explained. Thus, multiple regression analysis can be used to build better models for predicting the dependent variable. An additional advantage of multiple regression analysis is that it can incorporate fairly general functional form relationship and the model allows for much more flexibility. Once we in the context of multiple regression, there is no need to stop with one or two independent variables.

Following these theoretical views, the study estimated the linear regression equation by calculating the log values of the variables in the following equation:

$$Y=\alpha + \beta 1X1 + \beta 2X2+ \beta 3\ X3+ \beta 4X4+ \beta kXk+u \quad \ldots\ldots (1)$$

Where Y is dependent variable, X are explanatory/independent/ variables, α is constant β1 is intercept, and β is the parameter associated with X1, β2 is the parameter associated with X2 and so on. Since there are k independent variables and an intercept, equation (1) contain k+ 1 (unknown) population parameter. The variable u is the error term or disturbance. It contains factors other than X1, X2 and Xk that affect dependent variable (y). No matter how many explanatory variables we include in our model, there will always be factors we cannot include, and these are collectively contained as error term.

Therefore the general models which incorporate all of the variables to test the hypotheses of this study are:

$$DEPOSIT=\alpha + \beta 1GDPt + \beta 2IFR + \beta 3DRt + \beta 4IRt + \beta 5NBt$$

Whereas;

DEPOSIT: is total amount deposits growth rate held by commercial bank of Ethiopia on year t`

GDPt: is the real domestic product/GDP growth of Ethiopia on the year t` IR: is the overall inflation rate in Ethiopia on the year t`

IFR: Individuals foreign remittance to Ethiopia on the year t'

DR: Deposit rate

IR: Inflation rate

NB: Branch expansion

β represent the estimated parameters or represent the slope co-efficient to the dependent variable.

3.9 Model variables

The main variables in the analysis for which data collected are dependent and independent. Dependent variable in this case is total bank deposit which is affected by independent variables. Independent Variables in this case are factors that mostly affect the commercial banks deposits. These are saving interest rate, overall inflation rate, branch expansion and opening, gross domestic product (GDP) and individual foreign remittance. Even if there are other factors the researcher takes these five explanatory variables in this model.

3.10 Validity and reliability of data

Reliability of data concerns its consistency. Thus, reliability refers to the extent to which the data is the same irrespective of their source. Taking in to consideration vulnerability of secondary data the methodology used for this study was selected on certified information from recognized institutions other than subjective opinions only, which would have been associated with primary sources. The F-test and the coefficient of determination were used to test the validity and reliability of the relationship established by the regression analysis.

Chapter Four: Data Presentation, Analysis and Discussion

In this chapter analysis of quantitative and qualitative data identified in the study are analyzed, presented and discussed. The researcher presented the analysis of quantitative and qualitative analysis in the following way.

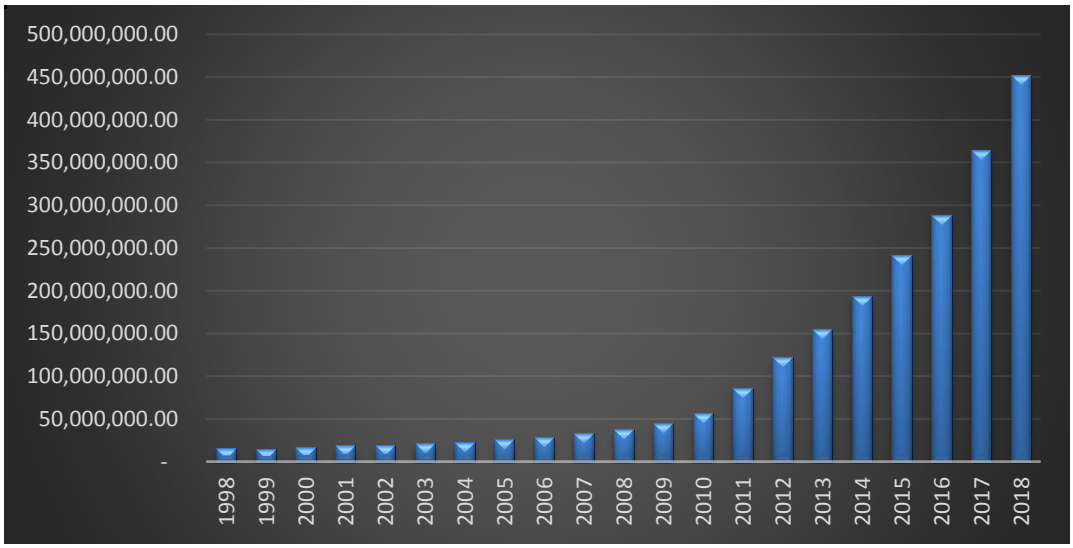
4.1. Descriptive data analysis

Descriptive analysis was conducted to observe the trend of the time series data to be used in economic analysis model of the dependent and independent variables.

4.1.1 Dependent variable

Since the study conducts by taking commercial bank of Ethiopia (CBE) as evidence, total deposit of commercial banks is the dependent variable in this study. The diagram below (Figure 4.1) reveals that deposit increased over the years with 1998 having the lowest record while the value for 2018 is the highest deposit increment year. Despite this consistent increase in deposits, it is realized that from 1998 up to 2004 shows a slow growth which is around one billion-birr increment annually. At that time there was less public awareness to savings, less branch accessibility to the society and other infrastructure and lack of social facilities. Beginning from 2009 CBE'S deposit increases year to year and reaches around four hundred fifty-one billion birr in 2018.The graph clearly shows this increment.

Figure 4.1: CBE total deposit in billions birr covering from years 1998 GC to 2018 GC



Source: CBE Annual Reports

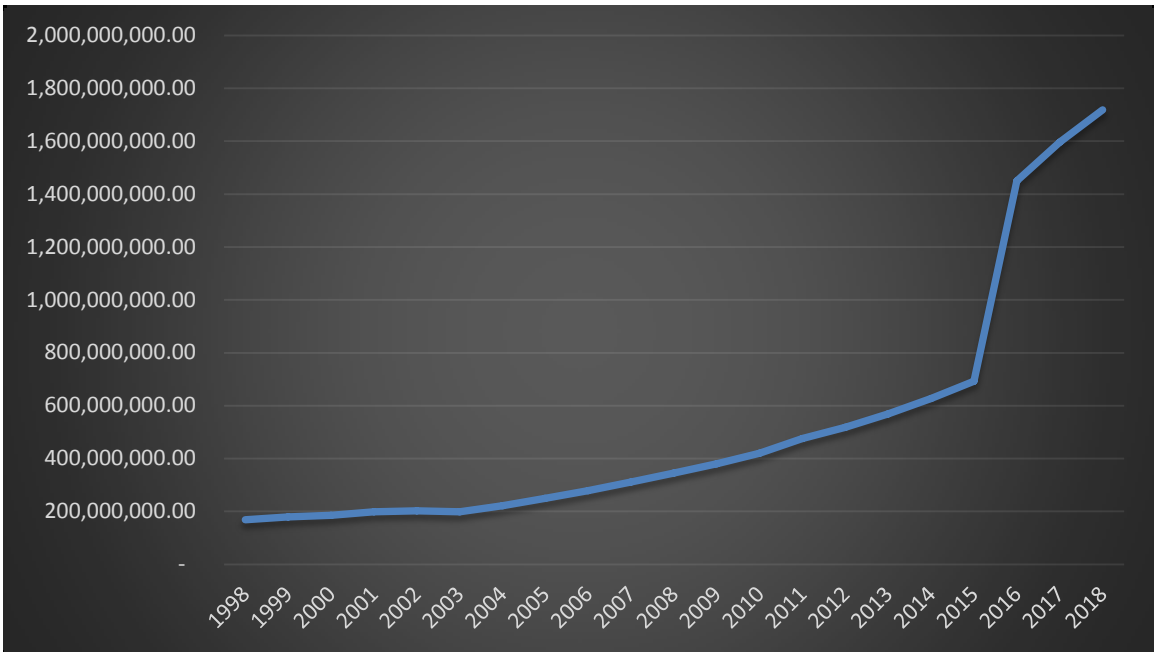
4.1.2 Independent variables

The Independent Variables in this study are gross domestic product, inflation rate, deposit interest rate, branch expansion and individual foreign remittance. Since the study conducted by taking commercial bank of Ethiopia (CBE) as evidence, each of the independent variables in this study is analyzed as follow.

4.1.2.1 GDP

According to conventional models Income and wealth are the prime determinants of saving. Saving is equated to income minus consumption (Henderson and Poole, 1991).Logicallyas the disposable income of a household increases, saving increases both marginally and on average. Since GDP increases year to year on the sample years; CBE deposit also increases year to year on the same fashion. So we can say as GDP increases Banks deposit also increases. Figure 4.2 below shows real GDP increases annually.

Figure 4.2 Real GDP in billions birr covering from 1998 to 2018

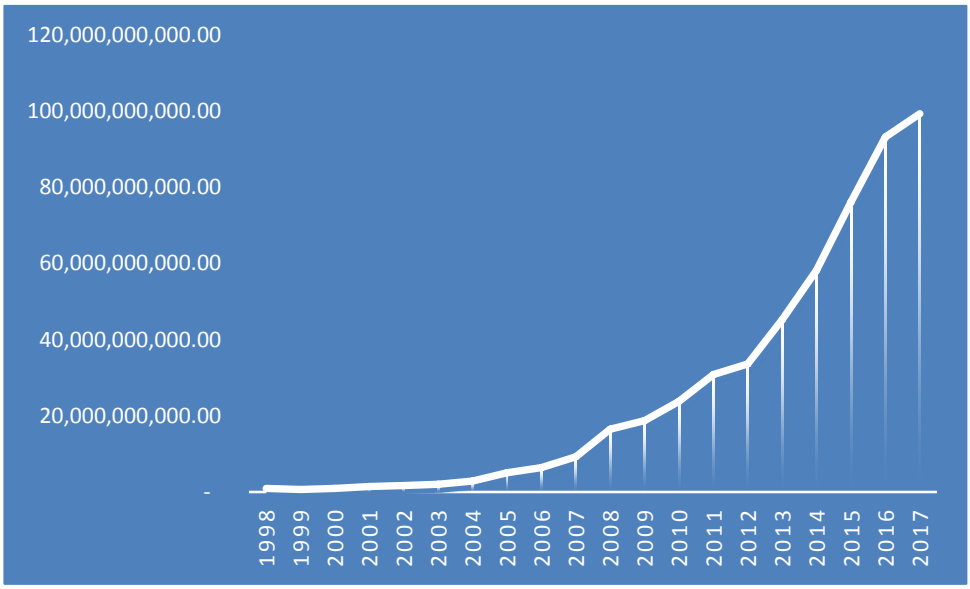


Source :NBE Annual reports

4.1.2.2 Individual Foreign remittances

Individual remittance from Diasporas to families in home-country has become another significant determinant of household saving and domestic private saving nowadays (Athukorala&Sen, 2001). According to NBE report, in Ethiopia remittance from Diaspora is one of the most beneficial sources to offset foreign trade deficit of the foreign currency for the country. It has positive impact on individual's income and savings. The diagram above (Figure 4.2) reveals that individual's foreign remittance growth rate in Ethiopia is increased over the 21 years with having consistent growth rate. This consistent increase in foreign remittances directly or indirectly affects the CBE's deposit. This indicate that the relationship between bank deposit and remittance in Ethiopia have positive relationship. Figure 4.2 magnifies annual increment of individual foreign remittance except on the year 1999.

Figure 4.3: Individual foreign remittance covering from years 1998 GC to 2017 GC



Source :NBE annual reports

4.1.2.3 Inflation rate

Inflation is defined as the persistent increase in the general prices of goods and services within an economy over a given period (World Bank, 2007). Based on various literatures, inflation is assumed to affect private or personal saving either positively or adversely that stems from its direct or indirect impact. Inflation is believed to affect savings via the real interest rate. In addition, it causes re-allocation by influencing households' preference of holding their wealth in liquid, semi-liquid and illiquid assets. A high rate of inflation has hindered the attainment of positive real deposit rates. In Ethiopia in 2008 the highest inflation rate was recorded with 44.4% preceded by 33.2% in 2011. This could be explained by relating the inflation to the drought and famine, which hit the economy during these periods but deposit was not negatively affected by that time.

4.1.2.4 Bank deposit interest rate

Deposit interest rate is the rate paid by banks on deposits to individuals or corporations. The level of inflation has influenced the rate of interest that banks give to their depositors. According to a NBE report, inflation and investment policy changes directly affect the bank deposit rate. This means the level of inflation influences that of deposit interest rate, while deposit interest

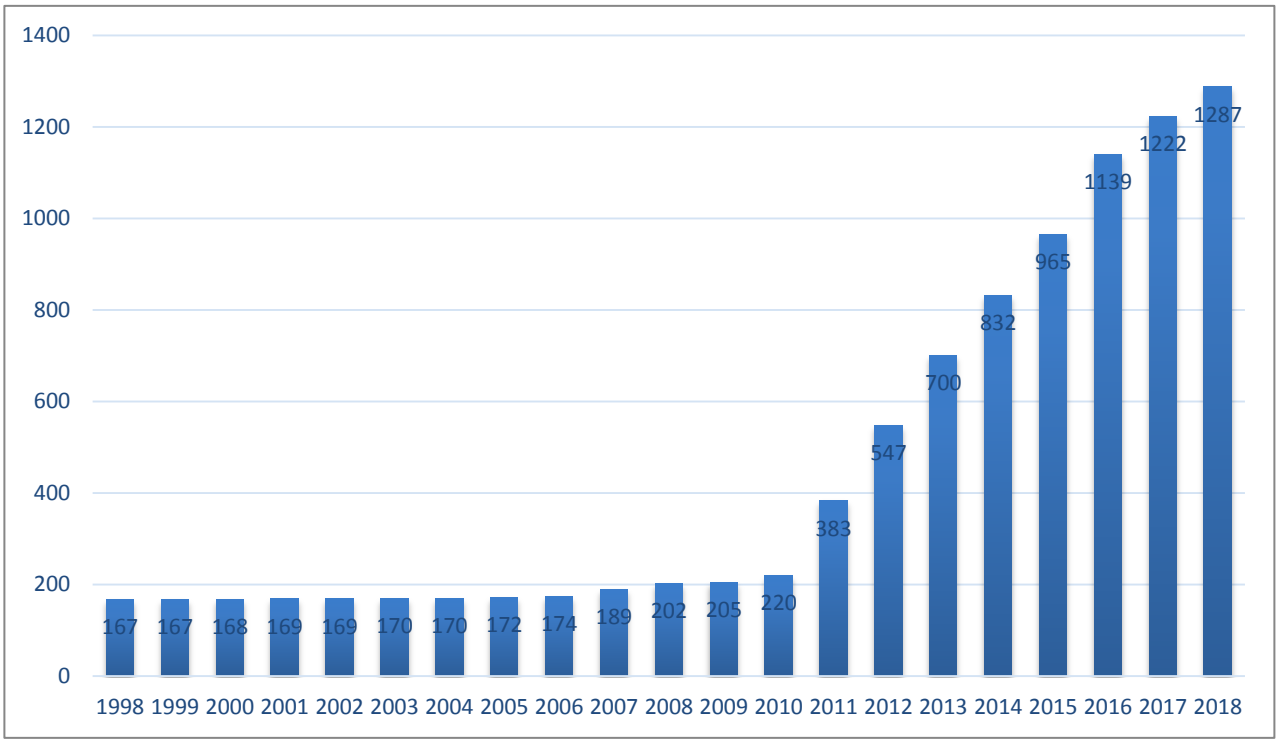
rate in turn influences bank deposits. National Bank of Ethiopia is the governing body of banks that sets deposit interest rate in Ethiopia. As for interest rate, the NBE continued to set the minimum interest rate on saving and time deposits while leaving lending rates to be freely determined by banks.

Based on this, the value for average deposit interest rate (saving and fixed time deposit interest rate) in Commercial Bank of Ethiopia was between 3% and 7% from 1998 to 2018. As the figure 4.2 above shows, over the past 21 years this indicator reached a maximum value of 7% on 2018 and a minimum value of 3% between in 2002 and 2007.This trend indicate that the interest rate in CBE not adjusted on the bases of the market demand relative to the incremental deposit. Here we can see that the result of deposit incremental is not directly affected by deposit interest rate change.

4.1.2.5 Branch expansion

Bank branch opening or expansion and bank deposit had a positive relation in Ethiopia. As branches opened aggressively by seeing unbanked areas new customers will join banks and in turn will contribute to the banks deposit. Figure 4.2 shows newly opened branches from 1998 to 2018.

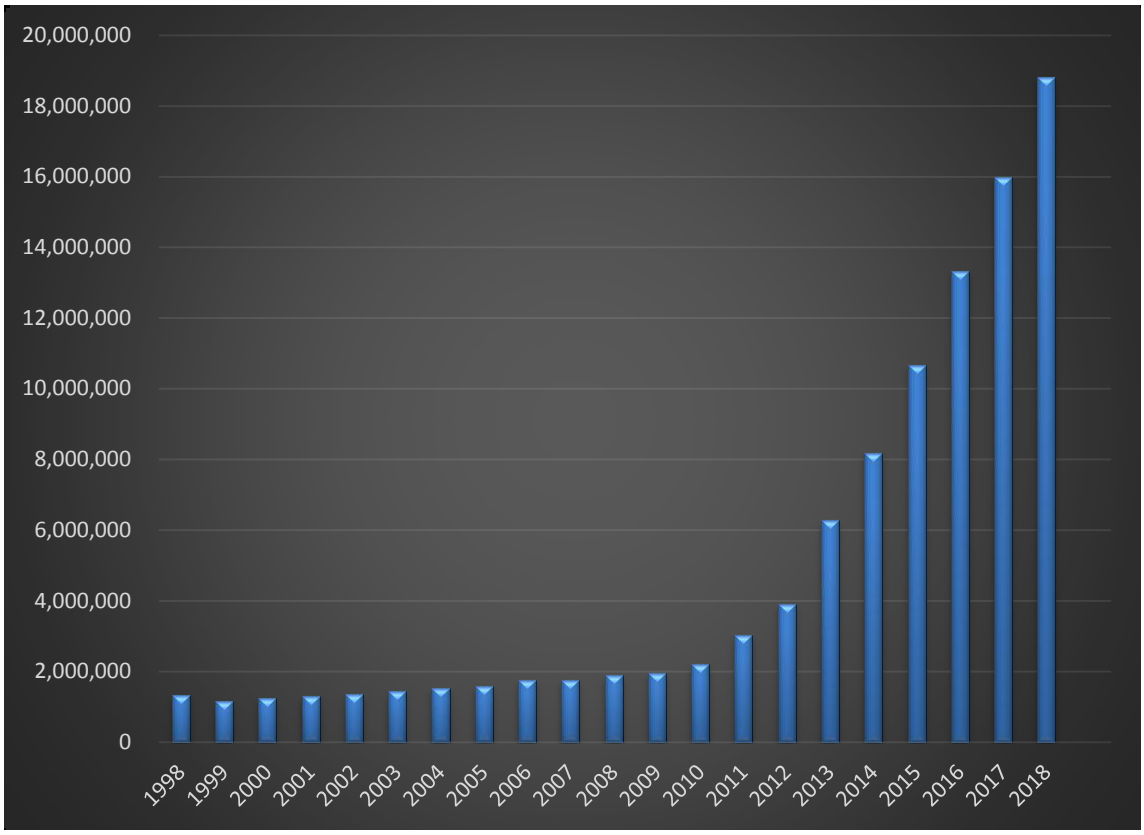
Figure 4.4 Number of branches of CBE covering for the period from 1998 to 2018



Source: CBE Annual reports

Due to aggressive branch opening strategy of the bank, as CBE'S data indicates its number of customer's increases rapidly year to year. Figure 4.5 clearly shows annual increment of customers on the specified period

Figure 4.5 CBE'S total number of customers overing the period from 1998 to 2018



Source: CBE annual reports

4.2 Econometrics Analysis

4.2.1 Test and Results

4.2.1.1 Unit Root - Stationery Test Result

This study focuses on the relationship between banks deposit and the determining factors of bank deposit. The researcher had used the econometric model of multiple regressions. The model contains one dependent variable, five independent variables. The results of Augmented Dickey Fuller test and Phillips-Peron tests were applied to the variables mentioned in the model of this study. ADF test is first level at difference level, accept or not reject the Ho and PP tests is first level Ho accept Ho accept or not reject the Ho so based on thus both test first guideline of the unit root test method; variables of this study are stationery at first level by this implication all critical value at 1%, 5% and 10% are proved the critical value and the second guideline of the

unit root test. The total absolute value of t- test value is greater than each critical absolute value and finally the third guideline of the unit root test which is all variables of p value are less than 5% and significant at all level.

Table 4.1: Augmented Dickey-Fuller (ADF) Test Result

Variables		GRCBEDEP	GRNB	GRRGDP	GRIFR	IR	ADIR
t-Statistic		-7.767278	-4.439777	-4.275235	-6.926914	-5.736995	-6.249603
Prob.*		0.0000	0.0028	0.0043	0.0000	0.0004	0.0001
Critical Values	1%	-3.831511	-3.831511	-3.857386	-3.886751	-3.959148	-3.857386
	5%	-3.029970	-3.029970	-3.040391	-3.052169	-3.081002	-3.040391
	10%	-2.655194	-2.655194	-2.660551	-2.666593	-2.681330	-2.660551

Source: Research Data from Eview9

Table 4.2: Phillips-Perron (PP) Test Result

Variables		GRCBEDEP	GRNB	GRRGDP	GRIFR	IR	ADIR
t-Statistic		-7.629654	-4.669685	-10.32438	-6.989718	-8.677360	-10.97727
Prob.*		0.0000	0.0017	0.0000	0.0000	0.0000	0.0000
Critical Values	1%	-3.831511	-3.831511	-3.831511	-3.857386	-3.831511	-3.857386
	5%	-3.029970	-3.029970	-3.029970	-3.040391	-3.029970	-3.040391
	10%	-2.655194	-2.655194	-2.655194	-2.660551	-2.655194	-2.660551

Source: Research Data from Eview9

ADF Test Analysis: 1St Level with Intercept

The analysis of the ADF output presented in Table 4.1 looks at first level form with intercept the dependent variable GRCBEDEP having absolute t-statics value of (-7.767278) is greater than the critical values 1%(-3.831511),5%(-3.029970) and 10%(-2.655194) also the dependent variables the p- values 0.0000 which is fully less than 5% so the variables are significant at all level; The five independent variables have the absolute t-statistics values GRNB(-4.439777) , on first level form with intercept, is greater than the critical value 1%(-3.831511),5%(-3.029970) and 10%(-2.655194) , GRRGDP(-4.275235) on first level form with intercept is greater than the critical value 1%(-3.857386),5%(-3.040391) and 10%(-2.660551) , GRIFR(-6.926914) is also on first level intercept is greater than the critical value 1%(-3.886751),5%(-3.052169) and 10%(-2.666593) .IR(-5.736995) is greater than the critical values 1%(-3.959148),5%(-3.081002) and 10%(-2.681330) and ADIR(-6.249603) on second level with intercept is also greater than the critical value 1%(-3.857386),5%(-3.040391) and 10%(-2.660551) , so all the mentioned figures clearly shows that all the variables are significant at all level.

PP Test Analysis: 1St Level with Intercept

The analysis of the PP output presented in Table 4.2 looks at first level form with intercept the dependent variable GRCBEDEP having absolute t-statics value of (-7.629654) is greater than the critical values 1%(-3.831511),5%(-3.029970) and 10%(-2.655194) also the dependent variables the p- values 0.0000 which is fully less than 5% so the variables are significant at all level; The five independent variables have the absolute t-statistics values GRNB(-4.669685) , on first level form with intercept, is greater than the critical value 1%(-3.831511),5%(-3.029970) and 10%(-2.655194) , GRRGDP(-10.32438) on first level form with intercept is greater than the critical value 1%(-3.831511),5%(-3.029970) and 10%(-2.655194) , IR(-8.677360) is also on first level intercept is greater than the critical value 1%(-3.831511),5%(-3.029970) and 10%(-2.655194) , GRIFR(-6.989718) is also on first level intercept is greater than the critical value 1%(-3.857386),5%(-3.040391) and 10%(-2.660551) and also ADIR(-10.97727) on second level with intercept is also greater than the critical value 1%(-3.857386),5%(-3.040391) and 10%(-2.660551) , so all the mentioned figures clearly shows that all the variables are significant at all level.

Therefore the above unit root test analysis show that the ADF test statistic and Phillips-Peron (PP) in absolute term is greater than the set of critical values provided by Davidson and MacKinnon (1993) at 1%, 5% and 10% .The dependent, constant and independent variable, thus the *t* statistics value obtained is compared with the critical value given at 1%, 5% and 10% and those indicated that the t statistics values are greater than the critical values at 1%, 5% and 10%. The P-values are also less than the 5% that means it is significant, so the null hypothesis of no co-integration is rejected for the entire model. The evidence of co-integration by both methods indicates the existence of long run relationship among the variables. Hence there are significant relationship on both ADF and PP analysis; hence the data of the study are stationary.

4.2.1.2 Autocorrelation Test Result

Autocorrelation is one of the basic assumptions in linear regression model and it is that the random error components or disturbances are identically and independently distributed. The Durbin-Watson test statistic value in Table 4.3 was 2.055876. As mentioned in the previous chapters to empirically analyze determinants of deposit mobilization factors on CBE 21

observations were used in the model. Moreover, there were 5 independent variables and an intercept term in the model. That is as long as explanatory variables, regardless of their true significance there is no evidence for the presence of autocorrelation on this study. The R-squared value is also well acceptable since its value is 0.727200 or 72 % implies that the dependent variable which is CBE 'S deposit depends on the independent variables by the stated percentage and also the value of the R-squared is expected to be greater than the adjusted R-squared value which is clearly written as R-squared is greater than Adjusted R-squared.

Table 4.3: Regression result of Durbin-Watson Test

R-squared	0.727200	Mean dependent var	14.99229
Adjusted R-squared	0.629771	S.D. dependent var	8.731761
S.E. of regression	5.312963	Akaike info criterion	6.421502
Sum squared resid	395.1861	Schwarz criterion	6.720221
Log likelihood	-58.21502	Hannan-Quinn criter.	6.479815
F-statistic	7.463930	Durbin-Watson stat	2.055876
Prob(F-statistic)	0.001331		

Source: Research Data from Eview9

4.2.1.3 Stability Test Result

The Ramsey RESET test was performed to find out the stability of the model. Ramsey RESET test was aimed at testing for specification errors or non-normality which violate the assumption that the disturbances are distributed N (0, I). It tests for the omitted variables (that is; the vector of the regressors does not include all relevant variables), incorrect functional form and the correlation between the dependent and independent variables. Under such specification errors,

Ordinary Least Squares estimators would be biased and inconsistent, and conventional inference procedures would be invalidated (Ramsey, 1969).

The null hypothesis that the model is stable (H0: Model is stable) was tested against the alternative hypothesis of no stability in the model (H1: No stability in the model). The null hypothesis is rejected in favour of the alternative hypothesis if the probability F-statistic of the Ramsey RESET test statistic is significant at five percent. The results from Ramsey RESET test are presented in appendix F and X^2 versions of the test show that the functions are linear and are stable since the *p*- value of [the] dependent variable equation (8) is significant at 5%. So using number of fitted term two our model was the probability F-statistic of the test (0.0040) is significant at five percent level. Therefore, based on this result we fail to reject the null hypothesis that the models are linear and stable.

Table 4.4: Ramsey RESET Test Result

	Value	df	Probability
F-statistic	8.074533	(3, 11)	0.0040
Likelihood ratio	23.27642	3	0.0000

Source: Research Data from Eview9

4.2.1.4 Hetroscedasticity Test Result

An important assumption assumed by the classical linear regression model is that the error term should be homogeneous in nature. Whenever that assumption is violated, then one can assume that heteroscedasticity has occurred in the data. In this study as shown in Table 4.5 , both the F-statistic and Chi-Square versions of the test statistic gave the same conclusion that there is no evidence for the presence of heteroscedasticity, since the p-values were in excess of 0.05. The third version of the test statistic, Scaled explained SS, which as the name suggests is based on a normalized version of the explained sum of squares from the auxiliary regression, also gave the same conclusion that there is no evidence for the presence of heteroscedasticity problem, since

the p-value was considerably in excess of 0.05 .The researcher uses White test to test for hetroscedasticity.

Table 4.5 White test

F-statistic	2.638696	Prob. F(5,14)	0.0698
Obs*R-squared	9.703413	Prob. Chi-Square(5)	0.0841
Scaled explained SS	4.877611	Prob. Chi-Square(5)	0.4310

Source: Research Data from Eview9

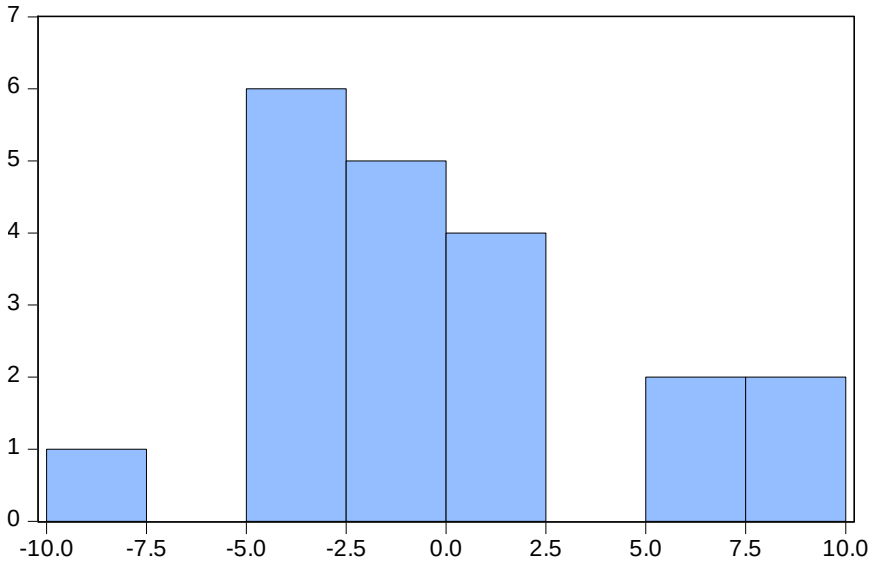
Based on the result displayed in the above table 4.5 the three different types of tests for heteroskedasticity and all fails to reject the null hypothesis of homoscedasticity presence. Therefore it can be concluded that the variance of error term is constant or the second assumption of CLRM is not violated.

4.2.1.5 Test for non-normality test

Ho: The residuals are normally distributed

H1: The residuals are not normally distributed

Figure 4.6: Test for non-normality test



Series: Residuals	
Sample 1998 2017	
Observations 20	
Mean	0.000000
Median	-0.366554
Maximum	8.967316
Minimum	-9.929163
Std. Dev.	4.560621
Skewness	0.261428
Kurtosis	3.051713
Jarque-Bera	0.230043
Probability	0.891347

Source: Research Data from Eview9

A Jarque-Bera normality test has been used for normality test. The non-normality test figure 4.6 indicates that the kurtosis value is 3.051713 which are related to 3. Jarque-Bera's also indicates that the residuals are normally distributed having the value 0.230043 which is greater than 0.05. The p-value given at the bottom of the normality test screen should be bigger than 0.05 to fail to reject the null hypothesis at the 5% level (Chris, 2008) In this case the p-value 0.89 which is greater than 0.05 had failed to reject the null hypothesis of normality presence.

4.2.1.6 Test for Multicollinearity

The problem of multicollinearity usually arises when certain explanatory variables are highly correlated. Usually, as noted by Hair et al. (2006) correlation coefficient below 0.9 may not cause serious multicollinearity problem. In contrary to this, Kennedy (2008) argued that as any correlation coefficient above 0.7 could cause a serious multicollinearity problem leading to inefficient estimation and less reliable results. Accordingly, this research paper utilizes Generalized Least Squares regression (GLS) which corrects the standard errors for panel hetero-skedasticity and as the results are believed to be unbiased coefficients and consistent panel-corrected standard errors. most of the econometrics study suggest that all variables free from multicollinerty coefficient bellow 0.70 or 70% as thus assumption we have coming this study

there is no multicollinerity problem through these all variables are below 70% or less than 0.70.The results of correlation tests are depicted in table 4.6

Table 4.6 Test for multicollinearity

Correlation	GRNB	GRRGDP	GRIFR	ADIR	IR
GRNB	1.000000				
GRRGDP	0.331776	1.000000			
GRIFR	0.019120	0.368425	1.000000		
ADIR	0.240464	-0.203302	-0.337709	1.000000	
IR	0.494704	0.292162	0.171152	-0.238241	1.000000

The correlation matrix presented in Table 4.7 indicates as there is no higher correlation between independent variables. Therefore it can be concluded that there is no correlation between the explanatory variables.

4.2.1.7. Hypothesis test

The null hypothesis says that the coefficient of independent variables on the right hand side is zero that means the independent variables have no effect on the dependent variable, total deposit of commercial banks. The alternate hypothesis is therefore the coefficients of independent variables are different from zero that is the independent variables have effect on the dependent variable, total deposit of commercial banks. Therefore the rejection of the null hypothesis shows that the coefficients of variables on the right hand side are different from zero, i.e. independent variables have effect on the dependent variable. Table 4.8 summarizes the relation between the dependent and independent variables. Except inflation all independent variables have a positive significant effect on CBE'S total deposit.

Table 4.7 Hypothesis final sign

S.no	Variable name	Expected sign	FINAL SIGN
1	Real GDP	+	+
2	NBO	+	+
3	Individual foreign remittance	+	+
4	ADIR(Deposit interest rate)	+	+
5	Inflation	-	-

4.3 Summary of regression analysis and results interpretations

The main variables in this analysis are dependent, independent variables. The relationship between one dependent variable and five independent variables is regressed using econometric software called EViews9. Dependent variable in this case annual bank deposit growth which is affected by independent variables. Independent variables in this case are factors that mostly affect the commercial banks deposits. These are deposit interest rate, overall inflation rate, number of branch opening, gross domestic product, and individual foreign remittance. Therefore the general models which incorporate all of the variables to regress are

GRCBEDEP: is total annual deposits growth rate held by commercial bank of Ethiopia on year t`

ADIR: is average deposit rate of commercial banks of Ethiopia on the year t`

GR**NB**: is the annual growth of number of branch in CBE on the year t`

LOGR**GDP**: is the real domestic product/GDP growth of Ethiopia on the year t`

IR: is the overall inflation rate in Ethiopia on the year t`

GRIFR: Individuals foreign remittance growth rate in Ethiopia on the year t'

The regression by ordinary least square method with the data of successive 21 years from the 1998 GC to 2018 GC

Table 4.8 Regression Result

Dependent Variable: GRCBEDEP
Regression Result
Method: Least Squares
Date: 05/14/19 Time: 17:17
Sample (adjusted): 1998 2017
Included observations: 21

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GRNB	0.638469	0.140898	4.531436	0.0005
GRRGDP	0.054658	0.327928	0.166676	0.8700
GRIFR	0.086552	0.091221	0.948817	0.0358
ADIR	0.567272	1.292322	0.438956	0.6674
IR	-0.064024	0.132366	-0.483693	0.6361
C	5.453496	7.249413	0.752267	0.4644

R-squared	0.727200	Mean dependent var	14.99229
Adjusted R-squared	0.629771	S.D. dependent var	8.731761
S.E. of regression	5.312963	Akaike info criterion	6.421502
Sum squared resid	395.1861	Schwarz criterion	6.720221
Log likelihood	-58.21502	Hannan-Quinn criter.	6.479815
F-statistic	7.463930	Durbin-Watson stat	2.055876
Prob(F-statistic)	0.001331		

Source: EViews9 output for normalitytest

A) Coefficient of determination of the model

The above table (Table 4.8) shows the results of regression analysis. An F statistics with Probability >F= 0.00000) indicates the significance of the model in explaining the factors that influence the growth of total bank deposits from customers. The coefficient of determination of R2 0.727200 means that 72.72% of the variation in deposits is being explained by the independent variables in the model and there is a strong relationship between deposits and the independent variables. Based on the regression results also, the model proved to be consistent with the OLS assumption of no autocorrelation. The D-W test of 2.055876 was obtained which is as long as explanatory variables, regardless of their true significance there is no evidence for the presence of autocorrelation on this study.

B) Coefficient of determination of the constant term

The coefficient estimate of the constant of the regression is 5.453496 shows that the value of dependent variable if all independent variable becomes zero. This indicate that the total deposit of commercial banks will be increases by the unit 5.453496 given all independent variable zero and this indicate that the dependent variables in the model is highly depends on the dependent variable.

C)Coefficient of determination of average deposit interest rate

Deposit interest rate was found to have a positive relationship with bank deposit growth but the relationship is however insignificant according to the model in Table 4.9 above. This could be attributed to the fact that in CBE interest rates hardly reflect market conditions thus the effects of other macroeconomic indicators in determining CBE's deposits. The correlation coefficient for deposit rates is 0.567272 indicating that ceteris paribus a 1% increase in deposit interest rates leads to a 0.567272 increase in CBE deposits. And also probability value of 0.6674 is greater than 0.05 critical value showed that this variable was insignificant in assessing the research problem.

D) Coefficient of determination of GDP

Ceteris paribus, a regression coefficient of 0.054658 means that 1% increase in GDP per capita results in 0.054658 units increase in CBE deposits. However there is a positive relationship between deposits and level of economic activity, then again the probability value of 0.054658 is somehow greater than 0.05 critical value showed that this variable was not highly significant in assessing the research problem.

E) Coefficient of determination of inflation rate

The regression coefficient for inflation is -0.064024. This indicates that ceteris paribus, an increase in Inflation by 1% leads to increase in deposits by -0.064024units. Consistent with economic theory, as inflation soars households forego banking products. Households are expected to buy properties and other real assets to cushion themselves against loss in purchasing power of their money. However, in many literatures the effect of inflation is not clearly defined

but in this study the relationship between CBE deposit and inflation is negative but not significant with probability value of 0.6361 which is greater than 5%.

F) Coefficient of determination of increasing number of branches

The relationship between branch opening or addition and bank deposit had a positive and robust association in CBE deposit. The study ascertains that CBE's aggressive branch opening that has positive correlation with deposit mobilization with respect to widening customer base and increased financial inclusion through creating accessibilities to the unbanked rural and urban areas. This is therefore, the study exhibited us branch opening have positively correlated highly significant on CBE's deposit growth. Ceteris paribus, a regression coefficient of 0.6384 means that 1% increase in branch opening results in 0.6384 units increase in CBE deposits. Since the p value is also below 5% this independent variable is highly significant.

G) Coefficient of determination of individual foreign remittances

Remittance from Diasporas to families in home-country has become another significant determinant of household saving and domestic private saving nowadays (Athukorala&Sen, 2001). According to NBE report, in Ethiopia remittance from Diaspora is one of the most beneficial sources to offset foreign trade deficit of the foreign currency for the country. It has positive impact on individual's income and savings. The table 4.4 above in this model also closely shows us the relationship between CBE's deposit and remittance from outside have positive and significant relationship against bank deposit growth.

Chapter Five: Summary of Research Findings, Conclusions and Recommendations

This chapter presents the summary of the study findings, discussion on conclusions and provides recommendations in the preceding sections one by one.

5.1 Summary of research findings

The general objective of this study is to identify the factors affecting commercial bank of Ethiopia's deposits. Specific objectives were to identify bank specific factors affecting deposit of CBE, to evaluate the relationship between the CBE's total deposit against the most significant factors and to see the effect of qualitative factors that affects total deposit of Commercial Bank of Ethiopia.

It is clear that deposit mobilization is the major services of commercial bank of Ethiopia Implies that without having deposit CBE can't survive as a commercial bank. For the reason that, all stakeholders of the bank has to be concerned about the deposit and the determining factors of deposit.

The study finds that CBE has a capacity of mobilizing more than its recent deposit position.

The study realize that the size of CBE's deposits has been continuously increasing through time with the rate varies from year to year.

By applying economic analysis model the following things are the relationships between bank deposit and determining factors. GDP and deposit interest rate was found to have a positive relationship with bank deposit growth but the effect on deposit growth is insignificant. While CBE's aggressive branch opening that has positive correlation with deposit mobilization with respect to widening customer base and increased financial inclusion through creating accessibilities to the unbanked rural and urban areas. Accordingly, the study reveals that branch opening highly significant on CBE's deposit growth. The graph also clearly indicates huge increment of customer base due to aggressive branch opening which in turn highly contributes to total deposit.

According to NBE annual report, remittance from abroad is one of the most beneficial sources to offset foreign trade deficit of the foreign currency for the country. It has positive impact on individual's income and savings. This study also shows us the positive relationship between

CBE's deposit and remittance from outside.

5.2 Conclusions

Based on the result of descriptive and empirical analysis, the study had concluded the following:

Now a day Without having enough deposit for commercial banks business is nothing. The same is true for commercial Bank of Ethiopia. This study also assured that without having enough deposit CBE can't survive as a bank. Because of many factors determining it deposit is a very difficult task

Based on this empirical evidence from the analysis the key factors for CBE's deposit growth are branch expansion or opening of new branches, GDP, deposit interest rate and individual foreign remittance. Among these, interest rate is considered as less significant in deposit growth due to a little market based rate of adjustment are exercised in CBE and also in our country context saving deposit rate is determined by NBE.

The result of economic analysis showed that From the variables branch opening and individual foreign remittance significantly affects CBE's deposit. The others also GDP and deposit rate can affects positively and increase deposit but these factors are not as such significant. Inflation has a negative influence on CBE deposit.

5.3 Recommendations

Based on the research findings and conclusions above, the researcher is going to recommend the following:

- ✓ As deposits are the critical resource for the banks to stay profitable, CBE has to give more emphasis than ever to the activity by digitalizing the payment system.
- ✓ Managing deposits is not possible without knowing and controlling the factors affecting it. Thus CBE should have identified the sources of deposit especially from unbanked areas of new customers and financially rich areas by being easily accessible.
- ✓ To increase deposit new branch opening play a great role with respect to widening customer base and increased financial inclusion through creating accessibilities to the unbanked rural and urban areas. So CBE should work on opening of new branches to areas where there are potential deposit sources even to remote locations even cross border

branches where potential deposits in form of foreign currencies is obtained.

- ✓ Operational excellence or service excellence is among the themes of the bank and are most determining factor. Due to that CBE should work on making its service excellent through developing digital payment systems.
- ✓ Collective awareness creation strategies about the advantages of savings have to be intensified to reach the unbanked society. The Bankers Association still has to do much in this regard as saving plays great role not only for the individual banks but also for the economic development of the country as a whole.
- ✓ Since CBE'S day to day transaction held by network based system CBE should work in providing quality service to its customers by making its network strong and working highly on reducing system failure and network interruption.
- ✓ Now a days ATM, mobile and internet based electronic banking systems are injected to the market, but due to system failure most ATM machines says temporarily out of service, mobile banking application say's system not available and also related problems. So the management of the bank should solve the problems by updating the system and replacing out dated software with new ones.

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7. Appendices

Appendix 1: Data set from 1998 to 2018

YEAR	GRCBEDEP	GRIFR	GRRGDP	IR	ADIR	GRNB
1998	18.54	7.06	-0.78549	3.6	6	0.598802
1999	(3.29)	(23.77)	6.309772	7.9	6	0
2000	11.14	31.33	3.4	0.7	6	0.595238
2001	10.01	35.16	7.41799	-8.2	6	0.591716
2002	3.85	13.24	1.63392	1.7	3	0
2003	7.34	14.97	-2.09852	17.8	3	0.588235
2004	7.25	30.30	11.72935	3.2	3	0
2005	11.20	42.99	12.64421	11.7	3	1.162791
2006	9.75	21.18	11.53938	13.6	3	1.149425
2007	14.77	31.10	11.7949	17.2	3	7.936508
2008	10.64	43.83	11.18716	44.4	4	6.435644
2009	16.02	12.01	10.04131	8.5	4	1.463415
2010	20.11	21.10	10.56711	8.1	4	6.818182
2011	35.15	22.82	11.4	33.2	5	42.55875
2012	29.21	8.30	8.69951	24.1	5	29.98172
2013	20.93	25.76	9.9	8.1	5	21.85714
2014	20.07	22.24	10.34753	7.4	5	15.86538
2015	20.03	23.62	10.2	10.1	5	13.78238
2016	16.23	18.16	8	7.3	5	15.27656
2017	20.91	6.23	10.9	9.9	5	6.792144
2018	19.25	NA	7.7	8.56	7	5.050505

Appendix 2: Unit root test

Augmented Dickey-Fuller (ADF) Test Result

Variables		GRCBEDEP	GRNB	GRRGDP	GRIFR	IR	ADIR
t-Statistic		-7.767278	-4.439777	-4.275235	-6.926914	-5.736995	-6.249603
Prob.*		0.0000	0.0028	0.0043	0.0000	0.0004	0.0001
Critical Values	1%	-3.831511	-3.831511	-3.857386	-3.886751	-3.959148	-3.857386
	5%	-3.029970	-3.029970	-3.040391	-3.052169	-3.081002	-3.040391
	10%	-2.655194	-2.655194	-2.660551	-2.666593	-2.681330	-2.660551

Source: Research Data from Eview9

Phillips-Perron (PP) Test Result

Variables		GRCBEDEP	GRNB	GRRGDP	GRIFR	IR	ADIR
t-Statistic		-7.629654	-4.669685	-10.32438	-6.989718	-8.677360	-10.97727
Prob.*		0.0000	0.0017	0.0000	0.0000	0.0000	0.0000
Critical Values	1%	-3.831511	-3.831511	-3.831511	-3.857386	-3.831511	-3.857386
	5%	-3.029970	-3.029970	-3.029970	-3.040391	-3.029970	-3.040391
	10%	-2.655194	-2.655194	-2.655194	-2.660551	-2.655194	-2.660551

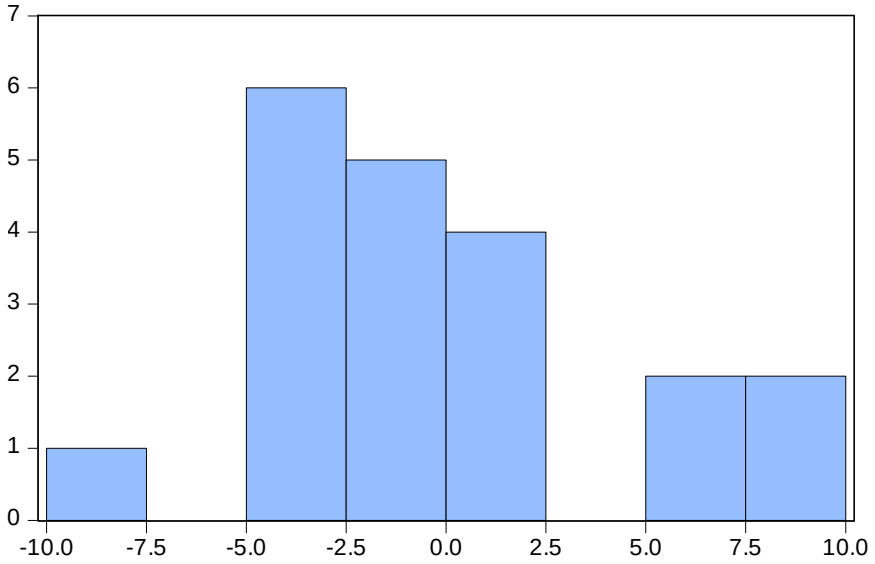
Source: Research Data from Eview9

Appendix 3: Autocorrelation Test Result: Regression result of Durbin-Watson Test

R-squared	0.727200	Mean dependent var	14.99229
Adjusted R-squared	0.629771	S.D. dependent var	8.731761
S.E. of regression	5.312963	Akaike info criterion	6.421502
Sum squared resid	395.1861	Schwarz criterion	6.720221
Log likelihood	-58.21502	Hannan-Quinn criter.	6.479815
F-statistic	7.463930	Durbin-Watson stat	2.055876
Prob(F-statistic)	0.001331		

Source: Research Data from Eview9

Appendix 4: *Test for non-normality test*



Series: Residuals	
Sample 1998 2017	
Observations 20	
Mean	0.000000
Median	-0.366554
Maximum	8.967316
Minimum	-9.929163
Std. Dev.	4.560621
Skewness	0.261428
Kurtosis	3.051713
Jarque-Bera	0.230043
Probability	0.891347

Regression Result

Dependent Variable: GRCBEDEP
Method: Least Squares
Date: 05/14/19 Time: 17:17
Sample (adjusted): 1998 2017
Included observations: 21

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GRNB	0.638469	0.140898	4.531436	0.0005
GRRGDP	0.054658	0.327928	0.166676	0.8700
GRIFR	0.086552	0.091221	0.948817	0.0358
ADIR	0.567272	1.292322	0.438956	0.6674
IR	-0.064024	0.132366	-0.483693	0.6361
C	5.453496	7.249413	0.752267	0.4644

R-squared	0.727200	Mean dependent var	14.99229
Adjusted R-squared	0.629771	S.D. dependent var	8.731761
S.E. of regression	5.312963	Akaike info criterion	6.421502
Sum squared resid	395.1861	Schwarz criterion	6.720221
Log likelihood	-58.21502	Hannan-Quinn criter.	6.479815
F-statistic	7.463930	Durbin-Watson stat	2.055876
Prob(F-statistic)	0.001331		