



St. MARY UNIVERSITY

**DETERMINANTS OF DEPOSIT MOBILIZATION:
THE CASE OF COMMERCIAL BANK OF ETHIOPIA**

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OF COMMERCIAL BANK OF ETHIOPIA

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partial fulfillment of the requirements for the degree master of MBA in
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DECLARATION

I declare that this thesis entitled “Determinants of deposit mobilization the case of Commercial Bank of Ethiopia” submitted for the award of Master of Business Administration –accounting and finance is my original work and has not been presented by other scholars everywhere in universities and other research institutions except wheredueackno

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ABSTRACT

The study had looked at the vital part and basic current issue in Ethiopia regarding deposit mobilization by taking CBE as evidence, the main task of any commercial bank is to mobilize deposits from the people and then supply to those who are in need of the fund in the form of loan to lubricate investment and trade which in turn promote growth to an economy. This study principally aims to investigate the determinants of deposit mobilization in the case of Commercial Bank of Ethiopia. Explanatory type of research design, descriptive statistics, correlation matrix and multiple regression technique are used based on time series secondary data collected from Commercial Bank of Ethiopia, MOFED and National Bank of Ethiopia for the sample year from 1995 to 2016GC. The researcher utilized secondary sources of data, which are sourced from reports, journals, bank's publications and other reference books. The data for the study were the values of dependent and independent variables. The study had found variables that can affect private saving deposit of commercial banks. Five independent variables, which are saving interest rate, inflation rate, exchange rate, branch expansion and gross domestic product are regressed with the dependent variable CBE saving deposit. All these variables are tested using EViews 9 application. The result indicates that saving deposit rate and branch expansion have statistically positive and significant effects, saving interest rate, exchange rate and inflation rate have contrary to the theoretical assumption before research, and exchange rate has inverse relation with Commercial Bank of Ethiopia deposit mobilization (private saving deposit). Finally the study had recommended what should be done to mobilize more deposits.

*Key words--- commercial bank of Ethiopia total saving deposit
Inflation, exchange rate, branch expansion, gross domestic product, interest rate*

CHAPTER ONE

1. INTRODUCTION

1.1. Background to the study

The study had tried to see the vital part and basic current issues in Ethiopia regarding deposit mobilization since smooth and efficient flow of saving-investment process is a prerequisite for the economic development of a country. Deposit mobilization refers to the generation of savings from domestic resources and their allocation to socially productive investments Culpeper (2015).

As for the previous three years, in 2016 east Africa growth was the fastest on the continent at a slightly decelerating 5.5 percent the sub region's growth was driven by Ethiopia, Kenya, Rwanda and Tanzania. Public spending on the infrastructure was the main contributor of Ethiopian growth. Economic commission for Africa (2017) in east Africa, the ratio of gross domestic saving to GDP is still below the average of middle income economies and the average of the fast growing economies Economic commission for Africa (2017). So, the financial sector is working hard to mobilize a huge amount of deposit. Financial sector is broad which consists of the banking sector and other non-banking institutions (such as insurance corporations, pension funds, brokers, public exchange and securities markets, Micro Finance Institution, etc). However, in the context of African continent, the banking industry accounts for the greater share of the financial system Sheku (2005).

According to Mohammad and Mahdi (2010), financial resources of banking system are naturally provided from people's deposit. Hence, we can say that deposits are the most essential resource of commercial banks. With the same token, Ethiopia being a developing country needs to improve her economy and one of the means for such a strive to be successful is that she has to focus on executing (fostering) investment opportunities in the country there by replacing imports from other countries. This would be materialized only when saving more from incomes generated by the public is secured. One of the methods of deposit mobilization is collecting the money (fund) through intermediaries like commercial banks. The domestic saving mobilization for capital formation mainly depends on the intermediary

role of commercial banks. Now, in our country it is the commercial bank of Ethiopia which plays a vital role in encouraging and teaching the public to save and expend less. Moreover, over the past decade, Ethiopia launched large projects to be implemented that require a lot of domestic and foreign financial resources. To assure stable financial resource to accomplish these projects, to provide and disburse credit facility to the public in need, the CBE has to make an exhaustive effort to let this possible. As a result, the government of Ethiopia gives much attention for mobilizing the domestic resource to insure sustainable fund collection.

Ethiopia has given large part of the financial resource mobilization task to Commercial bank of Ethiopia to increase the gross domestic saving to percentage of gross domestic product to fill this negative saving-investment gap for the bank is a state owned bank. Ethiopia since 2006, the integrated housing development program funded through government bonds has led to the construction of more than 396,000.00 condominium housing units of various size .the program was funded through the government bonds from commercial bank of Ethiopia amounting to 153 million dollar (\$ 153,000,000.00) by the end of 2011.(Economic commission for Africa, 2017 pp 2014).the above utterance of the commission shows that the CBE is vested a duty of collecting funds which are preconceived by the government for expenditure. If banks fail in meeting their deposit strategy (budget), they are farfetched from their success in all their business engagement.

1.2. Problem of Statement

People deposit for a variety of reasons, which is for purchase of house, emergency, school fee, health care and targeting of some big purchase in future moreover government machine conceive of spending more fund in relation to government investment projects.

More importantly, availability of bank deposits likely to create better performance to banks as well as the country as a whole. The principal profit making activity of Commercial Banks is making loans to its customers by mobilizing deposit from the public. If the bank has low deposit, it may have a negative impact on its performance since deposits enhance the availability of funds to satisfy the credit needs of the nation economy. Most commercial banks globally, have lacks in practices to effectively investigate and identify the determinate factors and there by mobilize the required resources in order to satisfy the credit demands in the economy.

In Ethiopia, 80 % of the potent society is presumed to be unbanked and the main problem could be a problem of low domestic savings being generated to facilitate the required investment. As a result, the saving-investment gap becomes huge and impedes the commercial banks in the country to attain their plan of deposit mobilization and there by affecting the country`s economic growth.

Specifically when we come to Commercial Bank of Ethiopia, by harmonizing its own corporate business strategy with the country`s growth and transformation plan has been continuing to mobilize the desired deposit to properly finance those grand developmental projects, infrastructures and other major projects which are believed to be vital for the nation`s development. To this effect, to achieve such plan, mobilization of domestic resources by CBE is indispensable and crucial through instilling saving cultures in the society. Nevertheless, CBE encountered saddles or challenges to significantly reduce the gap between those investment requirements for finance and the level of deposits , though it achieves some improvements in mobilizing domestic deposit over the last few years .

Therefore , due to the existence of challenges in effectively practicing and mobilizing the required deposit resources to meet the credit needs of the country`s economy and also absence of any well-done related research on this topic in CBE , the researcher has become initiated to work on it in order to examine and determine those factors which significantly affect deposit resource mobilization and there by contribute to minimize and or curb those challenges in mobilizing the desired deposit resources in the case of CBE .

1.3 Research Questions.

1.3.1. What is the effect of interest rate on deposit mobilization on commercial bank of Ethiopia?

1.3.2. What is the effect of inflation rate on deposit mobilization on commercial bank of Ethiopia?

1.3.3. What is the effect of exchange rate on deposit mobilization on commercial bank of Ethiopia?

1.3.4. What is the effect of branch expansion on deposit mobilization on commercial bank of Ethiopia?

1.3.5. What is the effect of gross domestic product on deposit mobilization on commercial bank of Ethiopia?

1.4 Research Hypothesis

The researcher conducted the study by reviewing and examining the determinants of deposit mobilization in the case of Commercial Bank of Ethiopia. So the study tried to test the following research hypothesis:

Wubitu Elias k(2012) had concluded in her research that saving interest rate has a positive effect on total saving deposit on CBE

H₁: Saving interest rate has direct positive effect on Commercial Bank of Ethiopia saving deposit. (When IR increases, SD increases and otherwise)

Mohammad and Mahdi(2010) found that inflation has negative correlation with absorbed deposits in developed countries.

H₂: Inflation rate has negative effect on Commercial Bank of Ethiopia saving deposit.

Ali Sarlak and hosseinostadi (2014) concluded in their research that the effect of exchange rate is negative

H₃: Exchange rate has negative relation with Commercial Bank of Ethiopia saving deposit.

Yahnetkahssay .H (2016) factors affecting deposit mobilization in the case of CBE: sent merry university (MBA thesis) and Wubitu Elias k(2012)Yanet and wubituconcluded in their research that branch expansion has positive effect in total saving deposit in CBE.

H₄: Branch expansion has positive effect on Commercial Bank of Ethiopia saving deposit.

TewdrosHilu(as cited in mudayneway 2018 pp 21) GDP has positive effect on total saving deposit on commercial banks

H₅: GDP has positive effect on Commercial Bank of Ethiopia saving deposit.

1.5 Objectives of the study

1.5.1 General Objective

The general objective of the research was to examine the determinants of saving deposit in Commercial Bank of Ethiopia. The specific objective in addition to the general objective was the following listed below:

1.5.2 Specific objective

- ❖ To examine the effect of saving interest rate on Commercial Bank of Ethiopia saving deposit.
- ❖ To examine the effect of inflation rate on Commercial Bank of Ethiopia saving deposit.
- ❖ To examine the effect of branch expansion on Commercial Bank of Ethiopia saving deposit.
- ❖ To examine the effect of per capita income on Commercial Bank of Ethiopia saving deposit
- ❖ To examine the effect of exchange rate on commercial bank of Ethiopia saving deposit

1.5.3 Scope of the study

The study is applicable only to commercial bank of Ethiopia (state owned commercial Bank) fully comprising of all its branches and the data collected from 1996-2016 only in order to evaluate the effect of the independent variables on the dependent variable in the free economy by excluding the command economy where 1995 is the period when the new constitution is enacted following the fall of the former regime (junta). The data for 2017/18 did not include or covered in the study, since it became very difficult to acquire well organized and updated related data of the subject matter. However, most researchers usually prefer and accept the adequacy of the data for to conduct proper study using the time span specified above.

Methodologically, the study has utilized or limited to quantitative approach and the data collection process was limited only to secondary sources to acquire the relevant data to be

analyzed and infer about the phenomenon of the study. The data did not been collected from other private commercial banks in the industry, since they are using or following almost the same strategy of resources mobilization of CBE, i.e., leading strategy, and working with in the same business environments. Over and above CBE is giant bank in the county's banking industry in every parameter,

1.5.4 Limitation of the study

Owing to constraint of time, money and other factors, the study focused only on commercial bank of Ethiopia moreover some variables like management capacity, test of the community to state owned banks against the private ones, bank size, technology, level of loan granted and other relevant variables have not been embodied in the research model.

1.6 significance of the study

Made promotion about deposit benefits both the depositor and the bank. This research enables the bank to know what kind of strategies, procedures, and policies employ to increase its deposit. The findings and recommendations might also benefit other financial institutions and the government to break the challenges of deposit mobilization determinants. In addition, the study results might also initiate other researchers to conduct different research works from different perspectives, which benefit in strengthening the deposit mobilization. Finally, the study improved the researcher basic research skills.

1.7 Organization of the research report

The outline of the research report includes five chapters. Chapter one discussed about introduction of the study which includes background to the study, statement of the problem, objectives, significance, limitation and scope of the study. Chapter two outlined theoretical foundations of the study and empirical review. Chapter three was about methodology that includes research design, Sources of data and data collection techniques, data analysis methods and model specification. Chapter four display about data analysis and presentation whereas chapter five précis about conclusion and recommendation.

CHAPTER TWO

2. LITERATURE REVIEW

This chapter summarizes the theoretical and empirical review of the information obtained from different researcher who had carried out their research work in the same sphereof the study.

2.1 Theoretical review

2.1.1 Brief Ethiopian Banking history

Finance is the life blood of trade, commerce and industry. One of the major functions of the financial sector is to intermediate between lenders and borrowers by mobilizing funds using different deposit instruments and then lend it to different sectors of the economy. Therefore, one performance indicator of the financial sectors is the extent of financial deposits over time.

Commercial banks are important financial intermediaries serving the general public in any society. The other function of the financial sector is to serve as payment media, where different economic agents use the bank to conduct their payments. 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 .Though presumably the government owned bank (CBE) attach interest rate on the fund it disburses, CBE now a day give priority to government projects for finance.

The agreement that was reached in 1905 between Emperor Minilik II and Mr.MaGillivray, representative of the British owned National Bank of Egypt, marked the introduction of modern banking in Ethiopia. Following the agreement, the first bank called Bank of Abyssinia was inaugurated in Feb.16, 1906 by the Emperor. After the Ethiopian-English victory over Fascist Italy, the new government established the State Bank of Ethiopia through 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 1963, the Ethiopian government split the State Bank of Ethiopia into two banks those are the National Bank of Ethiopia (NBE) and the Commercial Bank of Ethiopia. Belay Gidey (1987) aksumite coins, currencies and banking in Ethiopia

Currently, according to the Monetary and Banking Proclamation No.83/1994 and the Licensing and Supervision of Banking Business No. 84/1994 in 1994, the Ethiopian banking sector involves the central bank of Ethiopia (the governor of all financial institutions), 3 state and 16 privately owned commercial banks. One from these banks is the Commercial Bank of Ethiopia (that is state owned).

2.1.2 Basic concepts of Deposit mobilization

There are motives to save money like to own house, provide for children's education and marriage, provide for old age, bequeath property to children and provide for emergency expenditure. Now days, the commercial banks themselves are providing a purpose for depositors –like deposit for college school future fee, for youngsters deposited by parents and others.

Deposit constitutes one of the fundamental elements on which we base our understanding of how an economy works. Simply, domestic deposit offers the assets for the economy's investment in future production. Without deposit, the economy can't grow unless alternative sources of investment, such as foreign capital, are injected.

Deposit plays a crucial role in financial management strategies of the poor. Deposit facilities make it easier for poor clients to turn small amounts of money into 'useful lump sums', enabling them to smooth consumption and mitigate the effects of economic shocks (Rutherford, 2011).

Commercial Bank deposits are major liabilities for commercial banks .Deposits of commercial banks are assets to the depositors and liability for the commercial banks. Due to the fact that commercial banks are using this liability to lend it and ripe return on it in the form of interest, the lender uses the fund to finance its business and there by create a job. Therefore, banks will be better off if they are mobilizing more deposits. The higher the deposits, the higher will be the funds at the disposal of a bank to lend and earn profits. Therefore to maximize its profit the bank should increase its deposit. Different authorities had also mentioned deposits as a foundations up on which banks thrive and grow and unique items on a bank's balance sheet that distinguish them from other type of business organizations.

People in rural, urban and other low-income communities, although poor, can save when they are guided and encouraged. Banks like other businesses, convert savings into own capital and make ready or accessible to borrowers to generate wealth.

The core resources used in financial institutions are comprised of deposits from the private and public sector, which is one of the primary resources of funds that would be ready for vendors in need of credit (loan) and thereby vendors (investors) create job opportunity for the public at large and influence the economy positively. Deposit services strengthen also the finances of low-income households. For this reason financial institutions have a task of attracting customers to keep deposits with them. The government banks (CBE) can easily collect funds from federal government agencies and regional states' bodies because they are made business partners (affiliated) by policy therefore the effort to attract the public which are not part of the government body is known as **Deposit mobilization effort or literally deposit mobilization**.

Bank deposit is the main source of money supply that can be mobilized to generate economic growth and wealth creation. 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. So, the bank deposits are broadly classified into three types (Davinaga,2010):

1. **CURRENT ACCOUNT** - Demand deposit account (current or checking account) is a non interest bearing account and is opened by Literate customers only. Demand deposit account can be opened /operated by a legal agent in the name of the principal.

2.—**saving deposit** – is an interest bearing deposit that CBE renders for physical and legal persons who can fulfill the banks requirement and different products are under this category like women savings, youth savings, education savings and the like with different interest payment.

3.-**term deposit or fixed time deposit** –is deposit at a banking institution that cannot be withdrawn for a certain term or specified period of time when the term is over, it can be withdrawn or it can be held for another term the rate at which is paid is negotiable between depositors and the bank.

2016 (commercial bank of Ethiopia`s customer account transaction procedure)

2.1.3 Determinants of deposit mobilization of Commercial Banks- 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. As practical consideration shows deposit mobilization is very difficult task. It depends up on various factors to the banking system. The effect of the selected research variables on the Commercial Banks deposits identified by the researcher sourced from articles, journals and different reports will be discussed.

One of the most effective factors for deciding to deposit in banking system is the interest rate Mohammad and Mahdi (2010). Moreover, this article shows the impact of interest rate on the performance of the banking system is to achieve the goals that are expected from the banking system. Herald and Heiko (2009) also mentioned interest as one of the determining factor for commercial banks deposits. Moreover, Mustafa and Sayera (2009) said that low deposit rates are discouraging factor for saving mobilization.

Interest rate in the banking system is held as investment cost from the investor's point of and opportunity cost from the depositor's point of view Mohammad and Mahdi(2010). Thus, capital market forces balance interest rates. In other words, the real (fair) interest rate should be determined through market forces that is, interest rate is balanced in supply and demand conditions in proportion with the inflation rate. Maghousenejad (2008) in his study entitled "Factors affecting the increase in customer deposits in commercial bank branches in the city Rafsanjani (from customers perspective)" concluded that employees' social relationships with customers, appropriate individual features of staff, good amount of interest paid and good services.

1. Inflation

It is argued that money or debt paid at a later date may have lower purchasing power because of the persistent increase in the general prices of goods and services due to inflation. The increase in the rate of inflation could have negative impact on the deposit mobilization efforts of the banking industry as it reduces the real income of individuals (Hence, prohibiting increment or interest would be unfair to the lender as the lender is not compensated for loss of purchasing

power of his money TewdrosHailu (as cited in mudayneway, 2018 pp 13). 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. Currently, the annual inflation rate in Ethiopia rose to 10.9 percent in January 2019 from the previous month, (trading economics model) 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 and Mahdi(2010).

In general, as interest rates are lowered, more people are able to borrow more money. The result is that consumers have more money to spend, causing the economy to grow and inflation to increase. The opposite holds true for rising interest rate with less spending, the economy slows and the inflation decreases. In this regard, we know obviously if borrowing rate decrease it amounts as saying that deposit interest rate decreases for it is the difference between the borrowing interest rate and deposit interest rate that banks assume as a profit.

If inflation increases, the purchases power of the money in the bank is reduced and it is presumed that people tend to withdraw their money and put it on goods. Therefore inflation has direct negative relation with saving deposit. The role of the CBE is (the main objective and function) are as follows; realizing price stability and ensuring the soundness of the bank system among others (therefore the CBE has asymmetric information as compared to the private banks and not equally affected by the inflation. Inflation is an increase in the average level of prices and is the rate at which money is exchanged for a good or services. Particularly, when inflation is high and unexpected, it can be very costly to an economy to cope. At the same time ,inflation generally transfersresourcesfrom lenderandsaverstoborrowers, becauseborrowerscanrepaytheirloanswithbirrthatare worthless. So at time of high inflation and low saving rate, customers withdraw their money from the bank and deposit in kind.

2. Exchange rate

Exchange rates are relative, and are expressed as a comparison of the currencies of two countries or it is the rate used to exchange one local currency with another foreign currency and is called indirect quoting and when one foreign currency is quoted by local tender, it is called direct quoting. A weaker exchange rate to the local currency could be seen as a threat to inflation because it raises the prices of imported goods and services. So, people want to save in kind rather than deposit in bank. Ali Sarlak and Hossein Ostadi (2014) cited that the effect of exchange rate was negative because when the value of cash in a bank discounted, individuals seeking stable deposit assets with fixed rates of return. Traditionally, it is all noted that when the indirect quoting is high, people tend to behave that putting their money on goods than depositing it in the banks. (birr per dollar is high people tend to put their money on goods than depositing in bank)

3. GDP

Gross domestic product is a monetary measure of the market value of all the goods and services rendered (produced) in a single specific time especially in a year (annually). (<http://archives> in Wikipedia.) According to natural plan commission (2019), Ethiopia's real GDP is projected to grow by 11% in 2018/19 fiscal year. It is obvious that per capita income of a given country increases; it is probable that banks deposit increases i.e. financial analyst state that per capita income of the society matters for banks' deposit growth. Increased in household income is expected to increase in saving decision and the result purported in line with the expectation TEWODROS HAILU (as cited in mudayneway 2018 pp 21). Changes in real GDP or per capita income over time are often interpreted as a measure of changes in the average standard of living of a country. If households and firms desire to hold more money, deposits will increase. So, the relationship between income and deposits is positive; that is as the income of the society increases, the commercial bank' deposits increase. This indicates that income of the society matters for banks' deposit growth. Therefore as society's per capita income increases the same will happen for commercial banks deposits.

4) Saving interest rate

Savings, according to classical economists, is a function of the rate of interest. The higher the rate of interest, the more money will be saved, since at higher interest rates people will be more willing to forgo present consumption. Based on utility maximization, the rate of interest is at the center of modern theories of consumer behavior, given the present value of lifetime resources.

However, the results of a change in the rate of return, is theoretically ambiguous because of potential offsetting substitution and income effects. For a net saver an increase in the rate of interest will have an overall effect composed of two partial effects: an income effect leading to an increase in current consumption and a substitution effect leading to a reduction in current consumption.

5. Expansion of bank branches

It is obvious from empirical knowledge that depositors prefer a bank which is adjacent to their dwelling place or working area pertained with convenience. That is why many advertising methods are linked with convenience attached with distance therefore it is logically presumed that a commercial bank with many branches will have more deposits as compared to with the one with less branches. Distance from branches did significantly affect households to save in bank TEWODROS HAILU (as cited in mudayneway2018 pp 20,). There is a long run relationship between commercial bank branch and commercial banks deposits therefore deposits are positively influenced by bank branches.

2.2 Empirical Review

Henceforth, published articles are presented. These will help to see where the literature on this area is and how this study will add to the existing literature. Accordingly, the articles will be discussed below one by one.

2.2.1 Factors Determining Commercial Bank Deposits In Ethiopia: An Empirical Study on Commercial Bank of Ethiopia

Wubitu Elias, K (2012) had written a thesis which empirically studies the factors determining Commercial bank deposit in Ethiopia the case of Commercial Bank of Ethiopia. The study had looked at the country regarding deposit mobilization by taking CBE as evidence. The study had used both primary and secondary data. The primary data is collected by a means of interview and questionnaire. The secondary data for the study were the values of dependent and independent variables. The study had found variables that can affect the total deposit of commercial banks. Three variables are regressed with the dependent variable, i.e. total deposit, these variables include deposit rate, inflation rate and bank branches. The data for these variables were collected from commercial bank of Ethiopia, national bank of Ethiopia and central statistics authority of the

sample year from 2000GC up to 2011GC. The multiple regression model technique is constructed for the dependent variable and the three independent variables. Different diagnostic tests are tested to know whether the model is valid or not, having the models valid the regression analysis and hypothesis testing is performed using EViews software.

As result of the hypothesis testing it was found that all the three variables can affect total deposit. Branch expansion had positive e and significant effect on total deposit where as deposit rate and inflation rate had positive and insignificant effect on total deposit.

2.2.2 Deposit determinants of Commercial Banks in Malaysia

This article was written in 2006 G.C by Professor SudinHaron and Dr. Wan Nursofiza Wan Azmi.They assess the deposit determinants of Commercial Banks in Malaysia and empirically analyze them. Finallytheydescribetheresultofthestudy and provide theirrecommendations.

The study investigates the structural determinants of deposits levels of commercial banks in Malaysia. Both financial and economic variables are introduced and their long run and short run relationships examined using co-integration techniques. They consider in their analysis a number of factors that have been identified in the economic literature as potential determinants of savings. This includes rates of return or deposit interest rate, money supply and GDP. New variables namely base lending rate and composite index were introduced as a factor believed to have an influence on the level of deposits in Malaysia. Both inflation and returns on deposit are supposed to have a positive relationship but this study found otherwise. Similarly, instead of an inverse relationship, both composite index and money supply have positive sign with savings account.

The results suggest that determinants such as rates of profit of Islamic bank, rates of interest on deposits, base lending rate, Kuala lumpier composite index, consumer price index, money supply and gross domestic product have significant impact on deposits. They also find that in most cases, customers of conventional system behave in conformity with the savings behavior theories.

2.2.4 Determinants of Commercial Bank Deposits in a Regional financial center conducted in Lebanon

Herald Finger and Heiko Hesse (2009)

had written a working paper which empirically examines the demand for commercial banks deposits in Lebanon, a regional financial center. They classified the variables into two, i.e. macro and micro level variables.

At the macro level, they found that domestic factors such as economic activity, prices, and the interest differential between the Lebanese pound and the U.S. dollar are significant in explaining deposit demand, as are external factors such as advanced economic and financial conditions and variables proxy the availability of funds from the Gulf. At the micro level, they found that in addition, bank-specific variables, such as the perceived riskiness of individual banks, their liquidity buffers, loan exposure, and interest margins, bear a significant influence on the demand for deposits. They have used quarterly data from

1993 to 2008. They have estimated a number of vector error correction model (VECMs) to take account of cointegration in the non-stationary time series. They have collected the data for their study from 50 Lebanon banks.

They found that both domestic and international factors help explain deposit demand. Among domestic variables, they found that the coincident indicator for real economic activity in Lebanon, consumer prices, and the interest differential between the local currency and the U.S. dollar matter. Among the external variables, advanced economy economic and financial conditions appear significant (especially advanced economy industrial production and the Goldman Sachs Risk Aversion Index), as do some variables proxy the availability of funds from the Gulf. While both domestic and external variables are significant in explaining deposit demand, impulse response functions and variance composition analyses underscore the relative importance of the external variables. Regarding bank specific variables they found that the banks' perceived riskiness (z-score), their liquidity buffers, loan exposures and interest margins all bear a significant influence on deposit growth at the bank level, controlling for domestic and external macro-economic factors.

2.2.5- Factors Affecting Deposit Mobilization in the Case of Cbe-

The researcher YanetKahssay.H(2016) factors affecting deposit mobilization in the case of CBE: sent merry university(MBA THESIS).only regarded branches found under Addis Ababa and alleged that the south ,east, north and west district arrangements embody all the bank`s branches which is not true therefore the study focuses on Addis Ababa but came to conclude for the entire country.The researcher used both quantitative and qualitative and takes the independent variables to be the per capita of the country, branch expansion of the bank, inflation of the country and loan provision .using SPSS version of software and OLS regression method came to conclusion that It is found out that per capita income growth rate, inflation rate, number of branches, and loan provision, are factors that would influence the deposit volume at 99.5% (R²) of the time. Hence, the factors are found to be influential with this study.

2.3 Summary of literature review

Studies were made under the title of factors on deposit mobilization by Yanet,K.H(2016) factors affecting deposit mobilization in the case of CBE: sent merry university(MBA THESIS) with a view to infer to all the bank`s body, she only gathered data from 10 city branches and concluded the phenomenon to the entire bank and it is a rupture by the research.WubituElias,K(2012) hadwritten a thesis which empirically studies the factors determining Commercial bank deposit in Ethiopia the case of Commercial Bank of Ethiopia. The study had looked at the potential of the country regarding deposit mobilization by takingCBE asevidence.The study had used both primary and secondary data .The primarydataiscollectedbyameansofinterviewandquestionnaire.Thesecondary dataforthestudywerethevaluesofdependentandindependentvariables.Thestudy had foundvariablesthatcan affect thetotaldeposit ofcommercialbanks. Three variablesareregressedwiththe dependentvariable,i.e. .totaldeposit, thesevariables includedepositorate, inflationrateandbankbranches

Inflation has been found to exert dual influences on savings.Loayza, Schmidt-Hebbel andServen(2000)foundpositiveandsignificantrelationship betweeninflationandprivatesaving. In support to this, Ozcan et al. (2003) found that inflation has positive impactonsavings whereas

Mohammad and Mahdi (2010) found that inflation has negative correlation with absorbed deposits in developed countries.

Herald Finger and Heiko Hesse (2009) had written a working paper which empirically examines the demand for commercial banks deposits in Lebanon, a regional financial center. They found that interest rate bears a significant influence on saving deposit. In addition, Mustafa and Sayera (2009) said that low deposit rates are discouraging saving mobilization. But, according to Sudin Haron and Wan Nursofiza Wan Azmi (2006), they assess the deposit determinants of Commercial Banks in Malaysia and empirically analyze that returns on saving deposit are found negative relationship.

According to Sudin Haron and Wan Nursofiza Wan Azmi (2006), gross domestic product has significant impact on deposits.

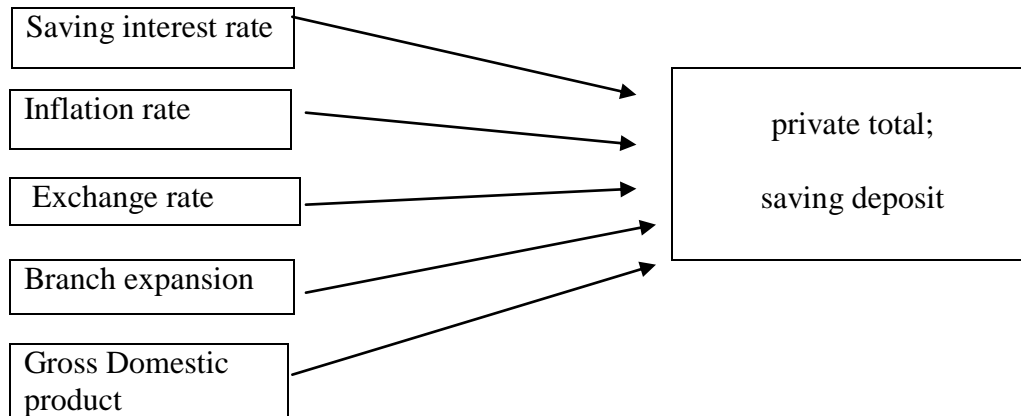
According to Erna and Ekki (2004), there is a long-run relationship between Commercial Bank branch and commercial banks deposits. Moreover, Wubitu E. (2012) determinants of deposit mobilization in the case of three private banks : Addis Ababa university (MBA thesis). had also found that Branch expansion had positive and significant effect on saving deposit whereas deposit rate and inflation rate had positive and insignificant effect on total deposit.

Some other researches have been made on some private banks on the same title without addressing the peculiar nature of the CBE therefore the researcher has regarded or found it important on working (studying) on factors affecting deposit mobilization in the case of commercial bank of Ethiopia by taking only secondary data.

This study attempts to examine the determinants of saving deposit the case of Commercial Bank of Ethiopia. It is indeed very important to understand the determining factor influencing saving deposit to realize the reasons. From the theoretical and empirical study, the researcher identifies the result obtained by different researchers who had carried out their research work have controversial results in the relationship and effect of the explanatory variables on saving deposit which identified by some researchers whereas other researchers concluding these variables as insignificant and negative relationship.

2.4 Conceptual Framework

The conceptual framework shows the relationship between the five independent variables (saving interest rate, exchange rate, inflation rate, branch expansion and gross domestic product) with one dependent variable that is saving deposit.



Independent Variables

Dependent variables

Source: self-developed

Figure 2.1

CHAPTER THREE

3. RESEARCH METHODOLOGY AND DESIGN

3.1 Research design

This research was aimed to examine the determinants of deposit mobilization to achieve the objective of the study; explanatory research design is adopted to collect data by manipulating the research variables. The researcher had utilized explanatory type of research to infer from and explain the phenomenon under the study besides, this study used quantitative research approach to meet the stated objective of the study and to test the hypotheses.

3.2 Target Population and sampling technique

3.2.1 Target Population

The population of the study was Commercial Bank of Ethiopia having more than 75 years' experience, which purposively selected since large part of the financial resource mobilization mandate is given to CBE for the success of GTP due to a state owned bank and also covers a wider geographical area.

3.2.2 Sampling Technique

The data collected comprises of 22 years of data from commercial bank of Ethiopia, National bank of Ethiopia, and ministry of finance embodying from the year 1995 to 2016. The data for 2017/18 has not been included or data for the mention period were not embodied in the study, since it became very difficult to acquire well organized, audited and updated related data of the subject matter.

3.3 Type of Data

The researcher used only secondary source of data. Data pertained with interest rate and exchange rate were collected from national bank of Ethiopia, data pertained with branch expansion and total saving deposit were collected from commercial bank of Ethiopia, data

3.4 Model Specification

$$\text{TachoL} = \beta_0 + \beta_1 I + \beta_2 \text{Br} + \beta_3 \text{Inf} + \beta_4 \text{exc} + \beta_5 \text{peca} + \mu I$$

Where:-

TachoL:- STANDS FOR TOTAL yearly SAVINGS DEPOSIT and log of the total deposit will be taken

I:-stands for saving interest rate which is set by national bank of Ethiopia and taken as it is.

BR:-yearly branch increment of the bank(the percentage change will be taken for evaluation or regression)

Inf:-refers to the yearly inflation rate of the country and will be taken as it is.

❖ Perca:-refers to the yearly per capita income of the country and taken as it is.

❖

❖ EXC:-refers to exchange rate and taken as it is.

❖ μI :-stands for the usual disturbance term which tries to capture the unobserved factors.

Table 3.1: Key variables on deposit mobilization

Variables	Categories	Working(operational) definition
Saving deposit	Dependent	CBE saving deposit growth per year-directly measured by log
Saving interest rate	Independent	Annual rate Fixed by NBE-directly measured
Inflation rate	Independent	Country year average-directly measured
Exchange rate	Independent	Country year average of ETB per USD-directly measured
GDP	Independent	Annual real PCI of the country-directly measured
Branch expansion	Independent	Proxy by percentage of newly opened branches per year by CBE(newly opened / total branches)

Source: self-developed

3.5 Methods of data analysis

The researcher used regression using E-views software and other current softwares to interpret the data gathered, ordinary least square was used. The independent variable was regressed against the dependant variable to examine the relation between the independent variables and dependant variable. Other econometrics examinations were made to infer significant relation between the dependant variable and the independent variables like hetroskedactisity test, multicoolinearity, autocorrelation, normality and other econometric tests.

CHAPTER FOUR

4 DATA ANALYSIS AND PRESENTATION

The chapter has five sections which are analyzed based on annual time series data. Under the first section (section 4.1.), the descriptive statistics of the dependent and independent variables are presented then after correlation analysis under section 4.2. Section 4.3 presents the test for the classical linear regression model/CLRM. Then, the results of the regression analysis are presented under section 4.4. Finally; discussions for the results of the regression analysis are made under section 4.5 based on the result displayed by using EVIEWS 9.

4.1. Descriptive Data Analysis

In this section, descriptive statistics for the dependent variable, total saving deposit, and explanatory variables which are saving deposit rate, inflation rate, exchange rate, real GDP and branch expansion are involved in the regression model. Thus, minimum, maximum, mean, median and standard deviation values of these variables are analyzed.

Table 4.1: Descriptive Statistics of CBE deposit growth

	N	Minimum	Maximum	Mean	Std. Deviation
Deposit Growth	22	-0.86243	8.77	0.545095	1.90
Valid N (list wise)	22				

Source: EVIEWS 9 output for the time series data of CBE deposit

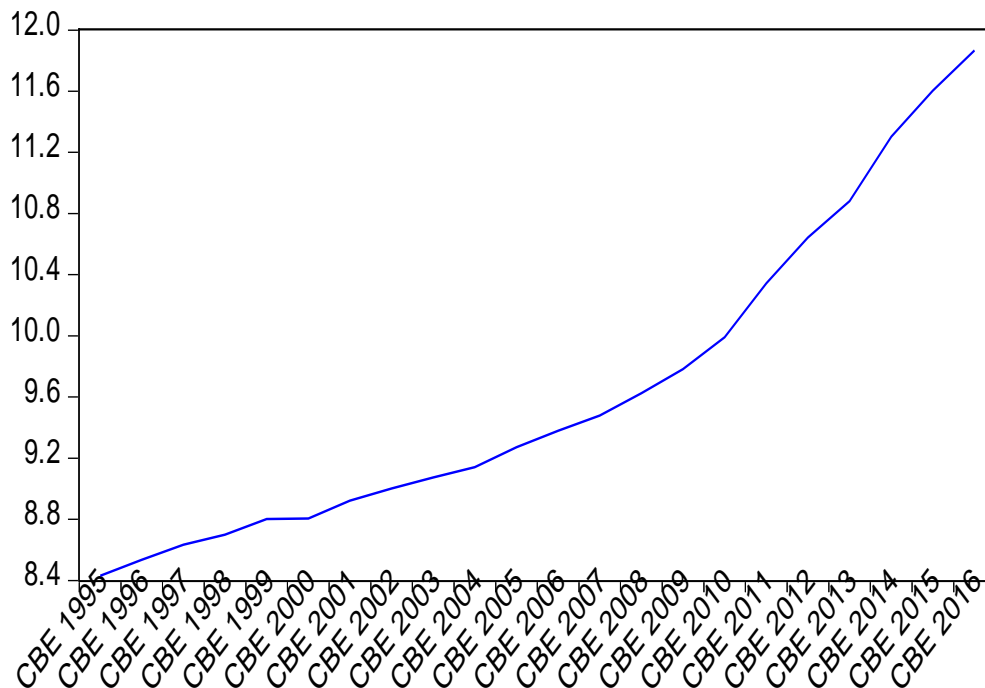
4.1.1. Saving deposit of Commercial Bank of Ethiopia

CBE mobilizes its funds from the government bodies or agencies, customer deposit and its operation profit. The bank collects deposit in three forms, i.e. demand deposit, fixed deposit and saving deposit. Demand deposit is non-interest bearing deposit that the bank collects mainly from the government and trader with the deal that they can withdraw their money on demand. Fixed deposit is the contract between the bank and its customers, i.e. the bank negotiates with

the customer about the date of the withdrawal and the interest the bank should give to the depositor. The last one, saving deposit is mainly the concern of the research as it is the proxy indicator of the dependent variable. The minimum interest rate on saving deposit is fixed by the national bank of Ethiopia (NBE). Commercial banks of the country can give interest above the fixed amount as a mean to compete with each other; however they can't give interest less than the minimum interest rate fixed by the National bank.

As can be seen from the graph below in chart 4.1 (displayed by EViews 9) the volume of Commercial bank of Ethiopia saving deposit increased steadily from the year 1995 to 2016.

Chart 4.1: The trend of CBE Total saving deposit growth from 1995 to 2016
LTSD



Source: EViews 9 output for timeseries data of CBE saving deposit

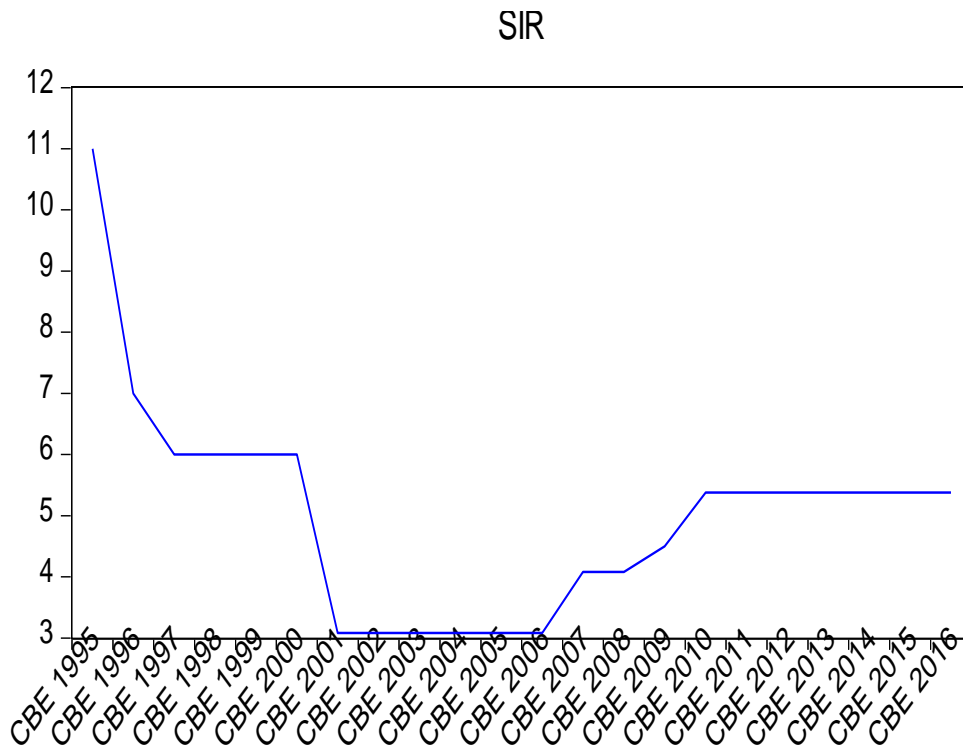
The vertical axis measures the saving deposit amount whereas the horizontal axis corresponds to the time periods. From the graph, we can understand that the saving deposit is increased every year steadily.

In this study, private saving deposit of Commercial Bank of Ethiopia is the dependent variable. Since the study concludes by taking Commercial Bank of Ethiopia

(CBE)asevidence,total saving deposit growth of thebankisanalyzed.Ineconometricanalysis, saving deposit growthisregressedwith fiveindependentvariablesnamely,saving depositrate,inflationrate, exchange rate, branch expansion and real gross domestic product.Thedata are timeseriescovering 22yearsfrom 1995GCto2016GC.

The descriptivestatisticsofthedependentvariable, savingdeposit growthof the bank, is displayedbyEViews 9asfollows. Itcontainstheminimum value, maximumvalue, averagevalueof thevariableandthestandarddeviationofthevariable.

Chart 4.2: The trend of deposit interest rate of CBE from 1995 to 2016



Source: EViews 9 output of deposit interest rate

The vertical axis measures the deposit rate whereas the horizontal axis corresponds to the time period. From the graph, we can understand that the deposit rate in the beginning of the data observed i.e. 1995 was 11 which was the highest peak value as compared to the upcoming years but the highest frequency is 3.08 keeps constant for six years from the period 2001 up to 2006 GC.

The descriptive statistics of the dependent variable, deposit of the bank, is displayed by EViews 9 as follows. It contains the minimum value, maximum value, average value of the variable and the standard deviation of the variable.

Table 4.2: Descriptive Statistics on deposit interest rate

	N	Minimum	Maximum	Mean	Std. Deviation
Deposit Rate	22	3.08	11.00	5.03	1.81
Valid N (list wise)	22				

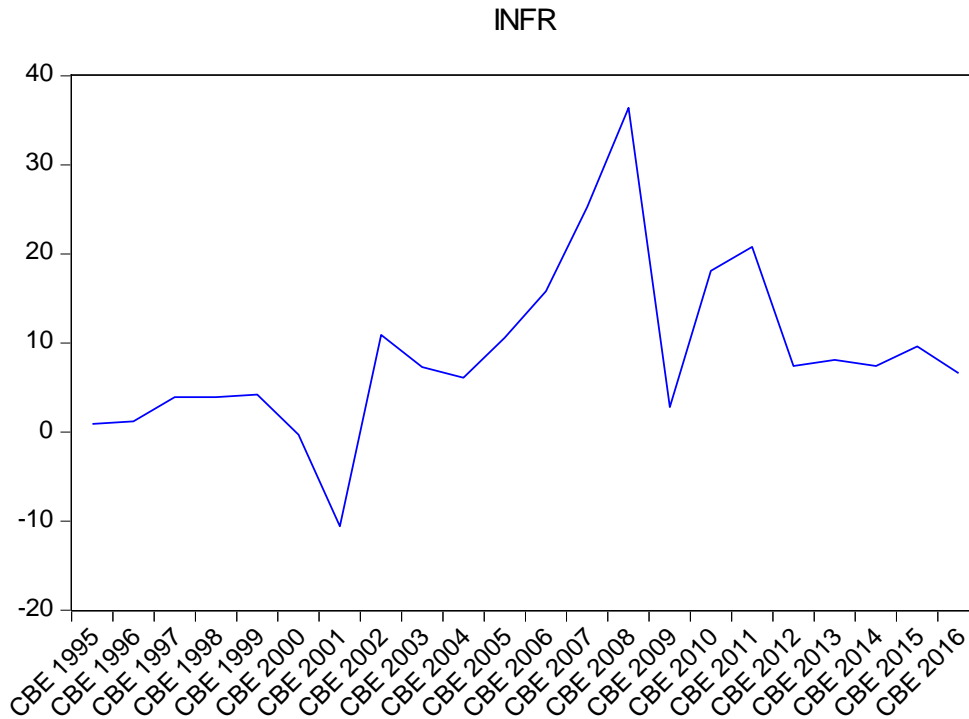
Source: EViews 9 output for the time series data of deposit interest rate

The numbers of observations were 22 that cover from the year 1995 to 2016. The minimum and maximum value of one of the explanatory variable, deposit rate of the bank is 3.08 % and 11% respectively. The mean value of average deposit rate of the bank was 5.03% and the data is deviated by 1.81 % from its mean. The mean is closest to its minimum value that indicates the distribution of the data is normal. This indicates that most of the sample size of the saving deposit rate is in the range of mean (5.03) and minimum value (3.08).

4.1.3 Inflation Rates in Ethiopia

A high rate of inflation has hindered the attainment of positive real deposit rates. The highest inflation rate was recorded with 36.4% in 2008 preceded in the year 2007 inflation rate of 25.3%.

Chart 4.3: The trend of Ethiopian inflation rate from 1995 to 2016



Source: EViews 9 output of Ethiopian inflation rate

The vertical axis measures the average inflation rate whereas the horizontal axis corresponds to the time period. From the graph, we can understand that the inflation rate is fluctuating and reached its maximum value in the year 2008

The descriptive statistics of the independent variable, inflation rate, is displayed by EViews 9 as follows. It contains the minimum value, maximum value, average value of the variable and the standard deviation of the variable.

Table 4.3: Descriptive Statistics on Ethiopian inflation rate

	N	Minimum	Maximum	Mean	Median	Std. Deviation
Inflation Rate	22	-10.6	36.4	8.27	7.3500	9.819
Valid N (list wise)	22					

Source: EViews 9 output for Ethiopian inflation rate

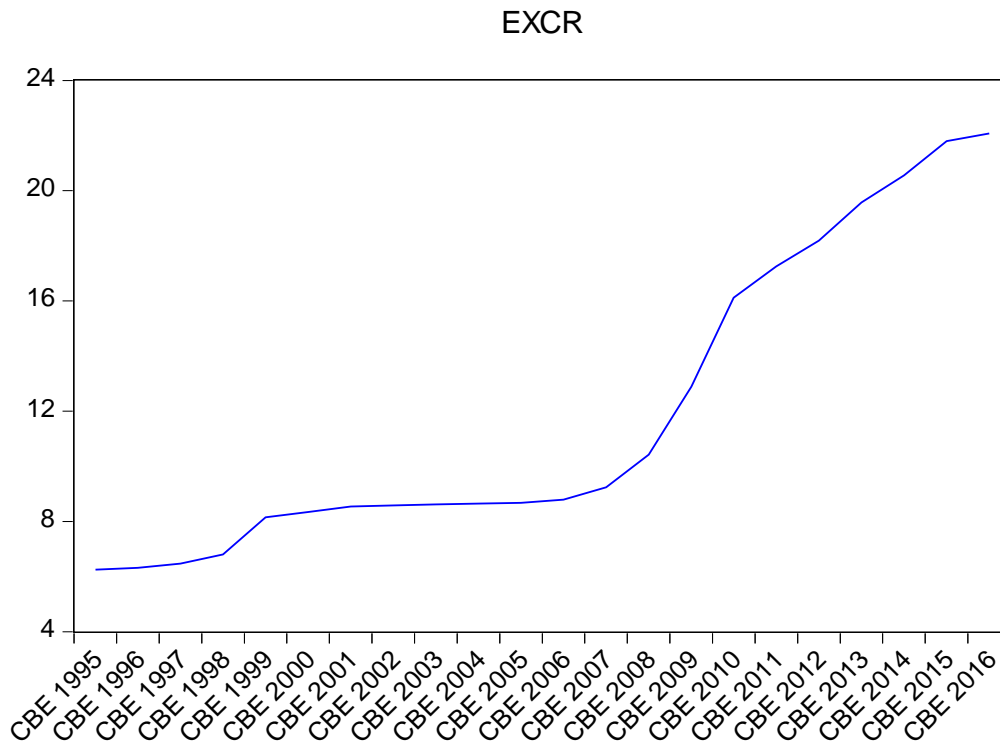
The numbers of observations were 22 that cover from the year 1995 to 2016. The inflation rate is regressed and its minimum and maximum value is -10.6% and 36.4% respectively. The data is deviated by 9.819 % from its mean. The mean and median value of inflation rate in Ethiopia was 8.27% and 7.35% which was closer to its minimum of -10.6%. This shows that average of the data of inflation rate was closer to its minimum value so it indicates the data was normally distributed. This indicates that most of the sample size of the inflation rate is in the range of mean 8.27 and minimum value (-10.6).

4.1.4 Exchange Rates in Ethiopia

Exchange rate is one of the indicators that influence economy of a country. The incremental in exchange rate may also well be explained by the power of the local tender. Low economic situation, low balance of payment i.e. when import items are greater by far than export items in a given country that would possibly lead to a low exchange rate weakening the purchasing power of the currency under question. As the graph below shows, over the past 22 years, this indicator reached a maximum value of 22.08 in the year 2016 and a minimum value of 6.25 in the year 1995 purporting that exchange rate is steadily increasing year after year in all the time series.

The vertical axis measures the Ethiopian exchange rate whereas the horizontal axis corresponds to the time period.

Chart 4.4: The trend of exchange rate from 1995 to 2016



Source: EViews 9 output of exchange rate

The descriptive statistics of the independent variable, exchange rate, is displayed by EViews 9 as follows. It contains the minimum value, maximum value, average value of the variable and the standard deviation of the variable.

Table 4.4: Descriptive Statistics of exchange rate

	N	Minimum	Maximum	Mean	Median	Std. Deviation
Exchange Rate	22	6.25	22.08	11.923	8.735	5.523
Valid N (list wise)	22					

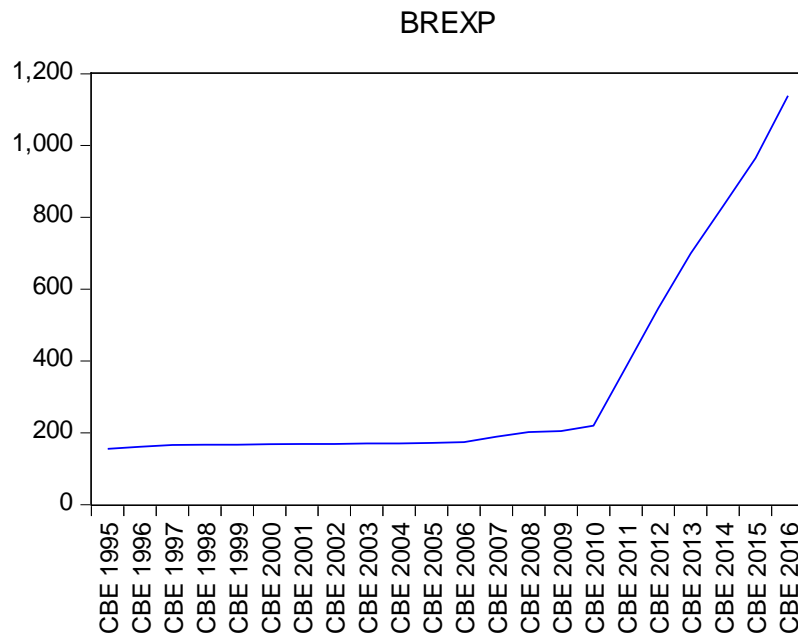
Source: EViews 9 output for exchange rate of Ethiopia

The numbers of observations were 22 that cover from the year 1995 to 2016. The minimum and maximum value of exchange rate is 6.25 and 22.08 respectively. The data is deviated by 5.523 from its mean. Its mean and median value of ETB per USD per period was ETB 11.923 and 8.735 which was closer to its minimum 6.25 this shows that average of the data of exchange rate was closer to its minimum value so it signifies the data was normally distributed. This indicates that most of the sample size of the exchange rate is in the range of mean (11.92) and minimum value (6.25).

4.1.5 Branch expansion

When the number of branches of the bank expands or when a new branch is opened, which shows that the bank approaches or closes to the customer either in working place or dwelling area. So customers can deposit their money to the nearby branch due to convenience. As the graph below depicts over the past 22 years, this indicator reached a maximum number of branches 1133 in the year 2016.

Chart 4.5: The trend of CBE branch expansion from 1996 to 2016



Source: EViews 9 output of CBE branch expansion

The vertical axis measures the number of branches of Commercial Bank of Ethiopia whereas the horizontal axis corresponds to the time period. From the graph, we can understand that the expansion of the branch was increased at stable rate till 2010 but expand the number of branches at a surprising rate owing to the regulatory body policy of branch expansion order to CBES. (National bank of Ethiopia) from 2010 onwards, which was increased from 220 in 2010 reached in 2016 1139 branches across the country.

The descriptive statistics of the independent variable, branch expansion of the bank or newly opened branches in the year, is displayed by EViews 9 as follows. It contains the minimum value, maximum value, average value of the variable and the standard deviation of the variable.

Table 4.5: Descriptive Statistics of CBE branch expansion

	N	Minimum	Maximum	Mean	Median	Std. Deviation
Branch Expansion	22	155	1139	336	173	299
Valid N (list wise)	22					

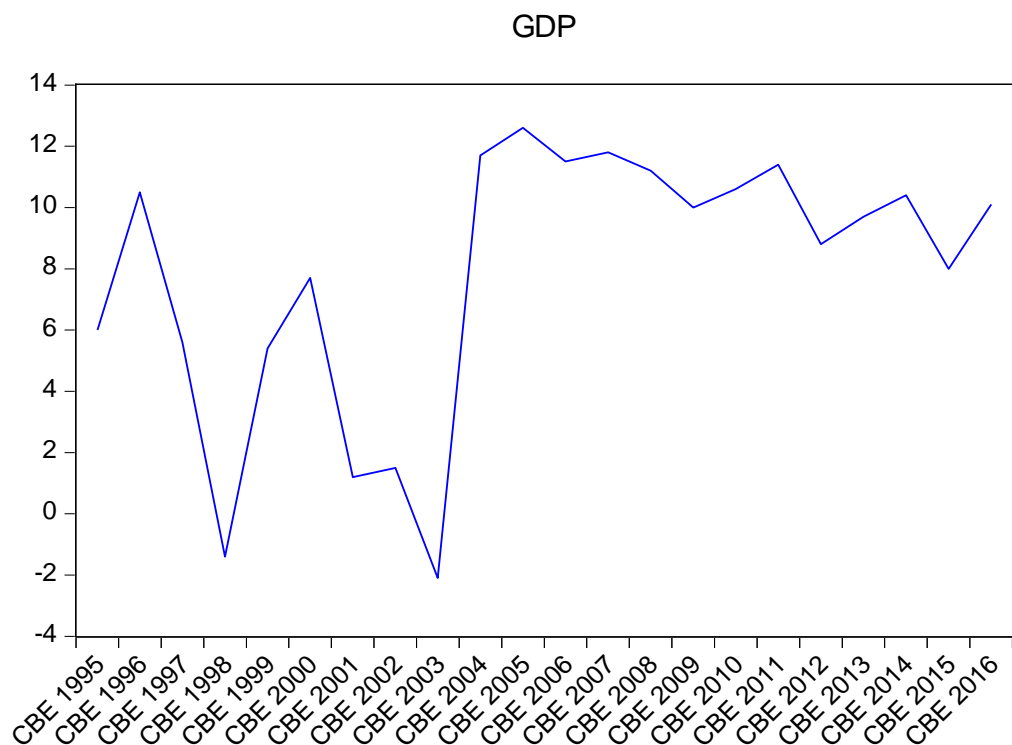
Source: EViews 9 output for CBE branch expansion

The numbers of observations were 22 that cover the study period. The branch expansion was used for regression and its minimum and maximum number of newly opened branches was 155 and 1139 respectively. The data is deviated by 299 from its mean. The mean and median value of number of branch expansion per year was 336 and 173 branches. Owing to the NBE regulation of expansion of branches to come up 33 percent increase annually from the year 2011 onwards the rate of change of branches in CBE is highly increased from 220 in 2010 to 1139 in the year 2016.

4.1.6 GDP of the country

The growth in the economy of a country is represented by GDP. As it is preconceived by the model of the research that when a given economy or GDP is moving up, the ability of the people living under the economy under question will be lifted up and this has been observed in the regression that GDP has a positive coefficient in the regression. GDP has a positive coefficient of 0.011998 i.e. 0.011998 changes in the GDP will yield to one percent change in the total saving deposit of CBE.

Chart 4.6: The trend of GDP from 1995 to 2016



Source: EViews 9 output of real GDP of the country

The vertical axis measures the real GDP of Ethiopia whereas the horizontal axis corresponds to the time period. From the graph, we can understand that the GDP is varied but reached its maximum value in the year 2005.

The descriptive statistics of the GDP is displayed by EViews 9, which contains minimum, maximum, average and standard deviation value of the variable.

Table 4.6: Descriptive Statistics of GDP

	N	Minimum	Maximum	Mean	Std. Deviation
GDP	22	-2.1	12.6	7.8	4.4
Valid N (list wise)	22				

Source: EViews 9 output for GDP

The numbers of observations were 22 that cover the study period. The GDP was used for regression and its minimum value was -2.1% and in 2003 during the transition period and maximum value of GDP of the country was 12.6% in 2005. The mean value of average deposit rate of the bank was and the data is deviated by 4.4 from its mean.

4.2. Correlation analysis

Correlation is a way to index the degree to which two or more variables are associated with or related to each other. The most widely used bi-variant correlation statistic is the Pearson product-movement coefficient, commonly called the Pearson correlation which was used in this study. Correlation coefficient between two variables ranges from +1 (i.e. perfect positive relationship) to -1 (i.e. perfect negative relationship). The sample size of the study was one column of dependent variable and 22 rows (1*22 matrixes), which is 22 observations or sample size. Table 4.7 below shows the correlation coefficient between the dependent variable and independent variables.

Table 4.7 Correlation result

Ltsdbrexp	sir	infr	excr	gdp
1.000000	0.930180	0.979849	-0.093066	0.398165
0.930180	1.000000	0.902049	0.091489	0.239862
0.979849	0.902049	1.000000	-0.010581	0.362626
-0.093066	0.091489	-0.010581	1.000000	-0.010653
0.398165	0.239862	0.362626	-0.010653	1.000000
0.239427	0.008496	0.179602	-0.249158	0.461295

Source: EVIEWS 9

As Table 4.7 depicts that there is strong positive relationship between branch expansion and total saving deposit, unlike the theoretical assumption the result reveals that there is negative correlation between saving interest rate and total saving deposit. Same is true for the relationship between inflation rate and total saving deposit i.e. the theoretical assumption was that as inflation increases, total saving deposit will decline but the result purports otherwise, exchange rate is negatively

correlated as it is presupposes by the model.gdp as well is correlated with total saving deposit positively as it is conceived by the model of the research.

There is strong positive association (correlation) between Commercial Bank of Ethiopia saving deposit and saving interest rate, inflation rate, exchange rate, branch expansion and gross domestic product.

Saving interest rate (sir) had negative coefficient unlike the theoretical assumption of the model and significant relationship even at 1 percent significance level. Therefore, saving interest rate had negative relationship with Commercial bank of Ethiopia saving deposit meaning that as the saving interest rate increase, the possibility of decline in total saving deposit is presumed. In economics assumption, it is unacceptable to argue that when deposit interest rate increases, the total saving deposit will decline. However when we see the analysis results in the table above , it indicates that whenever the deposit interest rate is decreased , the total saving deposit is rising. From this we can infer that there are no better alternative or market opportunities in the external market environment to opt investment than saving. (Deposit mobilization strategy of CBE, 2016 PP 86)

Again when we look at the table above, it shows that Inflation rate (INFR) has positive coefficient estimates and significant relationship even at 1% significance level. Unlike the theoretical assumption of the model, from such analysis results we can infer that there is possibly a **precautionary savings** culture among the individuals' consumers. Meaning that there is a fear by the individuals' consumers with their given /fixed income, they could not entertain or satisfy their future basic needs due to the alarming rate of inflation / expectation Of high costs of living .Deposit mobilization strategy of CBE (2016 PP 94)

Branch expansion (BRE) had positive coefficient estimates and significant relationship even at 1% significance level. Therefore, branch expansion has statistically positive relationship with Commercial bank of Ethiopia saving deposit meaning that as the number of newly opened branches increase, the possibility of incremental of saving deposit volume is conceived.

Gross domestic product (GDP) had positive coefficient estimate and significant at 5% significance level. Therefore, Gross domestic product has statistically positive and significant relationship with Commercial bank of Ethiopia saving deposit meaning that as the gross domestic product increase, the possibility of incremental of saving deposit volume is assumed.

The adjusted R square tells that 90% percent of the dependent variable is explained by independent variables taken in the model.

between inflation rate and total saving deposit i.e. the theoretical assumption was that as inflation increases, total saving deposit will decline but the result purports otherwise, exchange rate is negatively correlated as it is presupposes by the model. GDP as well is correlated with total saving deposit positively as it is conceived by the model of the research.

4.3. Tests of the classical linear regression model

In this part, the researcher used econometric model of multiple regression. The model contains one dependent variable, five independent variables and the error term (residual). The ordinary least square (OLS) method is used to come up with the econometric results to determine the number of minimum sample size and explanatory variables. For the test statistics 5% (0.05) significant level is used whether to accept or not the null hypothesis. The first test the researcher tests are diagnostic tests because they are the means to continue with the regression analysis if the model is valid.

4.3.1. Diagnostic Test

Before regression analysis and hypothesis testing undertaken, diagnostic testing such as heteroskedasticity test, autocorrelation test, non-normality test and multicollinearity are tested to know if the assumption of CLRM violated or not. Accordingly, the outputs of the tests which are displayed by EVIEWS 9 are interpreted.

4.3.1.1. Heteroskedasticity Test

The test of heteroskedasticity is a test of the assumption of OLS estimator which is used to check whether the standardized residual of the regression model has heteroskedasticity or not. If there

is heteroskedasticity, we can't accept the model. So, the researcher used white test to test for heteroskedasticity. Table 4.8 shows the test result for the assumptions under the null hypothesis of homoskedasticity.

Heteroskedasticity Test: White

F-statistic	10.42542	Prob. F(20,1)	0.2400
Obs*R-squared	21.89499	Prob. Chi-Square(20)	0.3462
Scaled explained SS	21.49395	Prob. Chi-Square(20)	0.3686

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 11/12/19 Time: 10:42

Sample: 1 22

Included observations: 22

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.28E+10	1.83E+10	-0.699464	0.6114
BREXP^2	-41730.39	16099.93	-2.591961	0.2344
BREXP*EXCR	5090548.	1986824.	2.562153	0.2369
BREXP*GDP	-5088497.	1828262.	-2.783242	0.2196
BREXP*INFR	-2688518.	970660.2	-2.769783	0.2206
BREXP*SIR	25415269	29232176	0.869428	0.5444
BREXP	-87041518	1.54E+08	-0.564727	0.6727
EXCR^2	-2.64E+08	97228149	-2.717540	0.2245
EXCR*GDP	1.87E+08	66604970	2.803219	0.2181
EXCR*INFR	86909184	31189764	2.786465	0.2194
EXCR*SIR	-5.66E+08	2.58E+08	-2.192092	0.2725
EXCR	5.01E+09	2.13E+09	2.345428	0.2566
GDP^2	-11236473	4136829.	-2.716205	0.2246
GDP*INFR	12228958	4707311.	2.597865	0.2339
GDP*SIR	1.13E+08	40426895	2.791124	0.2190
GDP	-1.07E+09	3.88E+08	-2.764444	0.2210
INFR^2	-6702325.	2344073.	-2.859265	0.2142
INFR*SIR	20340473	9260427.	2.196494	0.2720
INFR	-3.67E+08	1.31E+08	-2.794348	0.2188
SIR^2	-79735759	33629231	-2.371025	0.2541
SIR	3.40E+08	3.55E+09	0.095623	0.9393
R-squared	0.995227	Mean dependent var	90796181	
Adjusted R-squared	0.899765	S.D. dependent var	1.79E+08	
S.E. of regression	56686743	Akaike info criterion	37.36203	
Sum squared resid	3.21E+15	Schwarz criterion	38.40348	
Log likelihood	-389.9823	Hannan-Quinn criter.	37.60736	
F-statistic	10.42542	Durbin-Watson stat	3.143536	
Prob(F-statistic)	0.240014			

Source: EViews 9 output of heteroskedasticity(whitetest)

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.900913	Prob. F(5,16)	0.5042
Obs*R-squared	4.833090	Prob. Chi-Square(5)	0.4366
Scaled explained SS	2.604390	Prob. Chi-Square(5)	0.7607

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 11/16/19 Time: 10:37

Sample: 1 22

Included observations: 22

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.001635	0.008739	-0.187048	0.8540
BREXP	-2.71E-05	1.62E-05	-1.673863	0.1136
EXCR	0.001142	0.000906	1.260272	0.2256
SIR	0.000441	0.001117	0.394592	0.6984
INFR	-0.000314	0.000237	-1.324342	0.2040
GDP	0.000468	0.000523	0.895182	0.3840
R-squared	0.219686	Mean dependent var	0.005947	
Adjusted R-squared	-0.024162	S.D. dependent var	0.008688	
S.E. of regression	0.008792	Akaike info criterion	-6.402849	
Sum squared resid	0.001237	Schwarz criterion	-6.105292	
Log likelihood	76.43134	Hannan-Quinn criter.	-6.332753	
F-statistic	0.900913	Durbin-Watson stat	2.466229	
Prob(F-statistic)	0.504195			

As shown in the table 4.10 above, the test of autocorrelation of the residuals and several lagged value of it, Breusch-Godfrey test is used and fails to reject the null hypothesis due to the probability χ^2 of 0.4366 is greater than 0.05. Therefore, based on these two test results we can deduce that there is no evidence for the existence of autocorrelation. Hence, we can conclude that the assumption of CLRM is not violated.

4.3.1.2. Autocorrelation test

The Durbin-Watson test is used to test whether there is serial correlation or not. For further test of autocorrelation, Breusch-Godfrey test is required if the autocorrelation that are detected by Durbin-Watson are not well defined. If DW is in the neighborhoods of 2 or equal to 2, then there is no evidence of autocorrelation. As DW moves towards 0, then evidence of positive autocorrelation and as it moves towards 4, there is evidence of negative autocorrelation. The assumption of the hypothesis is as listed below.

Ho: There is no serial correlation

Table 4.9: Autocorrelation test of multiple regression

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0.997080	0.99417	0.9923157	1.034	2.27

a. Predictors: (Constant), GDP, DEPR, INFR, BRE, EXCR

b. Dependent Variable: Total Deposit

Source: EViews 9

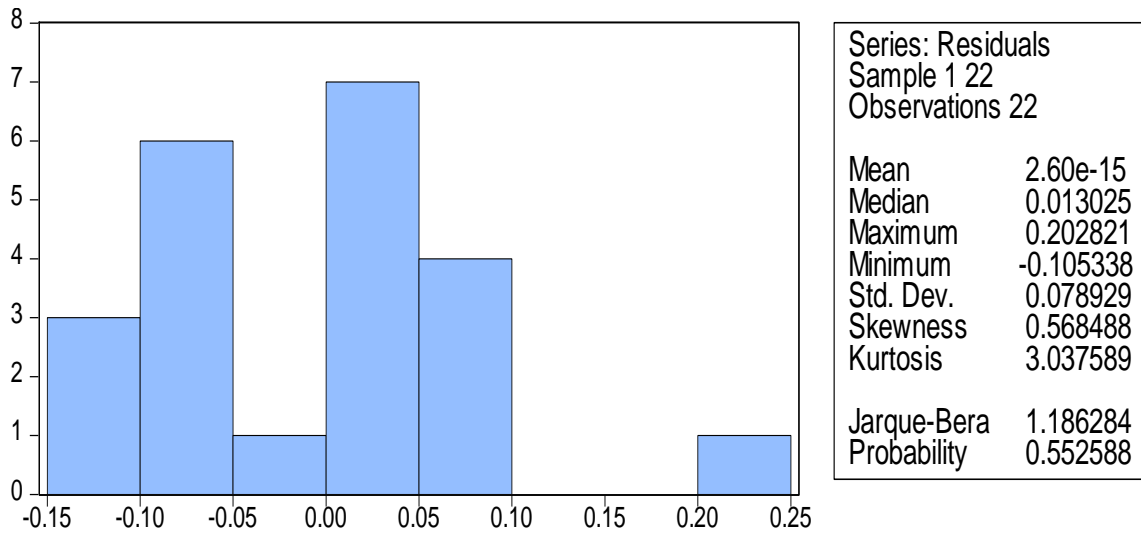
From the table 4.9 above, the DW test from the regression has a value of 2.27 which is closest to 2 since the value is in between 1.5 to 2.5 and closest to 2 that leads us to conclude there is no evidence for the existence of autocorrelation. Moreover, for further detection, BG test was used to test the autocorrelation of the residual and several lagged values of it.

4.3.1.3. Normality test

A normal distribution is not skewed and is defined to have a coefficient of kurtosis 3. normality test was applied to determine whether the data was well modeled by normal distribution or not, and to compute how likely an underlying random variable is to be normally distributed.

Ho: Residuals are normally distributed

Figure: Skewness/kurtosis tests for normality



Source: EVIEWS 9

Relying on the particular statistic sample, the p-value of skewness and kurtosis 0.568488 & 3.037589 which shows asymmetrically normally distributed. Both skewness and kurtosis has been adjusted with two degree of freedom has a probability χ^2 of 0.7607 is greater than 0.05, So we can conclude that the data are normally distributed.

4.3.1.4. Multicollinearity test

When a particular model is affected by multicollinearity, the standard error of that estimated variable goes up. To check whether there is multicollinearity problem or not among explanatory variables; average deposit rate, inflation rate, exchange rate, branch expansion and gross domestic product included in this study, we used variance inflation factor (VIF) for multicollinearity test. The assumption of the hypothesis test is as listed below.

Ho: There is no multicollinearity problem between explanatory variables.

Table 4.10: Multicollinearity test using VIF

Variable	VIF	1/VIF
Excr	2.51	0.397853
Bre	1.97	0.506406
Gdp	1.28	0.783961
Depr	1.17	0.851270
Infers	1.07	0.932298
Mean VIF	1.60	

Source: EVIEWS 9 output

As we can see the results of the table above, the VIF's column results has shown that all the values are below 10(ten) and it indicates that there is no multi-co linearity effect between the explanatory variables.

4.4. Regression Analysis and results

The researcher wants to know the effect of five explanatory variables on one dependent variable by regressing using econometric software called EViews9. The dependent variable is private saving deposit of CBE (DEP) and the five explanatory variables are saving deposit interest rate (sir), inflation rate (INFR), exchange rate (EXCR), branch expansion of CBE per year (BRE) and real gross domestic product (GDP) of the country. The regression is obtained by ordinary least square method using the data of successive 22 years from the period 1995 to 2016 GC.

Table 4.11: The regression output of CBE deposit against independent variables

Dependent Variable: LTSD
Method: Least Squares
Date: 11/16/19 Time: 10:32
Sample: 1 22
Included observations: 22

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.994677	0.089879	88.94899	0.0000
BREXP	0.001366	0.000167	8.187174	0.0000
EXCR	0.110391	0.009320	11.84480	0.0000
SIR	-0.058291	0.011485	-5.075421	0.0001
INFR	0.008545	0.002437	3.506038	0.0029
GDP	0.011998	0.005380	2.230119	0.0404
R-squared	0.994177	Mean dependent var	9.646229	
Adjusted R-squared	0.992357	S.D. dependent var	1.034290	
S.E. of regression	0.090424	Akaike info criterion	-1.741613	
Sum squared resid	0.130824	Schwarz criterion	-1.444056	
Log likelihood	25.15774	Hannan-Quinn criter.	-1.671517	
F-statistic	546.2988	Durbin-Watson stat	2.274342	
Prob(F-statistic)	0.000000			

The F statistics, p value is 0.00 that is obtained by using regression model and residual (error) and adjusted R^2 value, the Probability $> F$ becomes 0.000, which indicates the significance of the model in explaining the determinants that influence jointly on the Commercial Bank of Ethiopia saving deposit, the independent variables are jointly significant meaning that the model was fit at 99% confidence level. The R^2 and Adjusted R^2 values are 99.42% and 99.24% respectively. This shows 99.24% of the variation of the dependent variables explained by the variation of the independent variable jointly. The remaining 0.76% of the variability in the dependent variable is left unexplained by the explanatory variables used in the study. This means that the remaining 0.76% of the changes was explained by other variables which are not included in the model.

The regression had 22 observations. The title of the regression includes the variables, coefficient, standard deviation, test statistics, probability value and confidence interval. The coefficients of independent variables are mentioned in the regression table.

The coefficient estimate of the regression shows that if all independent variables have zero balance, the growth of saving deposit amount of the bank becomes positive, that is **7.994677**. When we come to individual coefficient among the explanatory variables, all the independent variables with the exception of one variable i.e., SIR, had positive coefficient as shown in the table above. The positive coefficient shows when the independent variable increases, it affects the dependent variable positively and vice versa. Whereas negative coefficient shows the decrease of the independent variable will lead to an increase in CBE total deposit and vice versa. The coefficient of SIR, INFR, EXCR, BREXP & GDP was -0.058291, 0.008545, 0.110391, 0.001366 and 0.011998 respectively.

Saving deposit rate (SIR) has negative coefficient and significant even at 1% probability error. So, SIR has statistically negative significant effect on CBE saving deposit.

Inflation rate (INFR) had positive coefficient estimates and significant even at 1% significance level. Therefore, inflation rate has statistically positive significance effect on Commercial bank of Ethiopia saving deposit.

Exchange rate (EXCR) had positive coefficient estimates and significant even at 1%

probability error. Therefore, exchange rate has statistically positive significant effect on Commercial bank of Ethiopia saving deposit.

The number of newly opened CBE branches (BRE) per year had positive coefficient estimates and significant at 1% significance level. Therefore, branch expansion has statistically positive significance effect on Commercial bank of Ethiopia saving deposit.

GDP had positive coefficient estimate and significant at 5% probability error. Hence, Gross domestic product (GDP) has statistically positive and significant effect on Commercial bank of Ethiopia saving deposit.

4.5. Hypothesis test/Discussion of the research Findings

The study used factors affecting deposit mobilization in financial institutions taking the case of CBE and sought to investigate some of the determinants of deposit mobilization. This is necessitated by the fact that with financial savings, financial institutions redirect surplus funds into deficit and also funds receivable from external sources like from foreign donors are unpredictable and fluctuating so dependence on external sources to fill the saving-investment gap is not a reliable. Commercial bank of Ethiopia mobilize its funds from the government budget (since the bank is owned by the government), from profit of its operation and deposit of the people. The research on the title of "determinants of deposit the case of Commercial bank of Ethiopia" had gone through empirical analysis only on the factor that variability between different conditions i.e. private saving deposit. As a result of the regression analysis and hypothesis test results, the following are the summary of the findings.

H₁: Saving interest rate has positive effect on CBE deposit.

The hypothesis states that deposit interest rate has positive effect on CBE saving deposit. Confidence interval for SIR at 95% shows that the p value in the regression result is 0.0001 which is less than 0.05 showing that SIR has effect on CBE deposit. In addition, it is significant even at 1% significance level. The estimate of the coefficient of interest rate indicates that a 0.058291 unit change (decline) in the rate of interest either by market forces or monetary authority regulation; it will bring about a one percent positive change in TSD on average.

H₂: Inflation rate has negative effect on CBE saving deposit.

The hypothesis states inflation rate has negative effect on CBE deposit or there is direct relationship between inflation rate and deposit. The p value of inflation rate is 0.0029 which shows that it is below 0.05 which in turn purports that the inflation rate has positive effect on total saving deposit at 95 percent confidence interval but the result 0.0029 is accepted even at 99 percent confidence interval for it is less than 0.01. So inflation rate has strong relation with total saving deposit.

H₃: Exchange rate has negative effect on CBE deposit.

The hypothesis states that exchange rate has a negative effect on CBE deposit.

The p value of the exchange rate is 0 which is less than 0.05 which shows that there is relationship between exchange rate and total saving deposit or exchange rate has negative effect on total saving deposit. Moreover, the result purports that the p value of =0 is even less than 0.01 which shows that exchange rate has effect on total saving deposit even at 99 % confidence interval which in turn reveals the exchange rate has strong effect on total saving deposit of CBE. The coefficient shows that there is direct positive relation between exchange rate and total saving deposit.

H₄: Branch expansion has positive effect on CBE deposit.

The hypothesis states that branch expansion has positive effect on total saving deposit of commercial bank of Ethiopia.

The p value of the branch expansion is 0 which is less 0.05 which shows that there is relationship between branch expansion and total saving deposit or branch expansion has positive effect on total saving deposit.

H₅: Gross domestic product has positive effect on CBE deposit.

The hypothesis states that GDP has positive effect on CBE deposit.

The p value of the GDP is 0.04 which shows the gross domestic of the country is relevant and has positive effect on total saving deposit on 95 % confidence interval and the coefficient

reveals that as GDP increases so do total saving deposit.

CHAPTER FIVE

5 CONCLUSIONS AND RECOMMENDATIONS

This chapter discusses the conclusions drawn from the study and provides recommendations.

5.1 Conclusions

The main source of capital for commercial banks is deposit. Although banks can use other source of funds such as shareholders equity, profit of its operation and customer deposit. Factors which affect deposit mobilization in CBE based on the trend covering the period from 1995 to 2016 are identified and included; deposit rate, inflation rate, exchange rate, branch expansion and gross domestic product. Given the summary result of econometric time series analysis and its trend, the study had concluded the following to Commercial banks by taking CBE as evidence of the study.

From the regression model and correlation matrix results concerning the study finds on the determinants of mobilizing CBE private saving deposits;

Branch expansion contributes a significant positive effect and strong positive relationship to private savings of CBE. Therefore, as the bank increases the number of branches, the saving volume of the bank raises.

The theoretical or rationale basis on interest rate was raised in the financial sector; the possibility of participants in the financial system increase thereby increasing total saving volume of same industry will be lifted. Nonetheless, the statically regression reveals that otherwise to the theoretical assumption and showed that total saving deposit and interest have inverse relation and this might be pertained with the fact that as banks reducing interest rate does not necessarily end up with the raise of total saving deposit for there could be no alternative for private savers (depositors) to invest in the market. The other rationale behind inverse relation between total saving deposit and interest rate is that people living in a developing country like Ethiopia would only care for security of funds than following and acting macroeconomic indicators

The theoretical assumption that High inflation rate may cause to low savings deposit because it

forces people to invest cash in other assets rather than deposit it in banks has been refuted by regression analysis of the research there by indicating high inflation rate results in total saving deposit is not always guaranteed. From such analysis results we can infer that there is possibly a precautionary savings culture among the individuals' consumers. Meaning that there is a fear by the individuals' consumers with their given /fixed income, with a view that they might not entertain or satisfy their future basic needs due to the alarming rate of inflation (high costs of living).

Because exchange rate has strong positive association, it has a positive effect on Commercial Bank of Ethiopia saving deposit. Thus, it is better to appreciate the purchasing power of Ethiopian birr since a weaker exchange rate could be seen as a threat to inflation because it raises the prices of imported goods and services due to the purchasing power of the local tender depreciates. Otherwise, savers want to save in kind rather than deposit in bank due to the fact that the direct exchange rate is declining and what a saver saves today with local currency will have less value in the future if the direct exchange rate fall therefore savers tend to purchase import goods today with a view that the price of import goods raises in the future than save their fund.

Since gross domestic product have direct association and positive effect on CBE saving deposit, maximizing the Bank's role in national development by ensuring to channel the mobilized resources to those sectors which can boost economic growth is vital

5.2 Recommendations

Ethiopia the since 1995 has made some progress in liberalizing its economy and this has played a vital role in the opening of the financial institution to private investors and this in turn has made the competition in the sector stiff and cumbersome. Banks were obliged to develop different strategies to remain in the industry. In early times, the main parameter to evaluate banks on their success was profit made annually but when the market is open to private owners and competition gets stiff, a new strategy named by deposit strategy came to the picture and become a parameter for evaluation of a given bank as successful or failure therefore budgeting total deposit (collection) from the public and evaluating the actual performance became part and parcel of the banking industry. As discussed in other parts of the research, CBE provides funds

for the government projects and for private vendors therefore CBE is curdled responsibility from two directions this indicates the CBE has to make big strive to enable executing its responsibility.

Because GDP has a positive impact on deposit mobilization, endeavor has to be exerted to provide fund for those industries, firms, or organizations which are capable of employing many people there by alleviating unemployment and raising depositors (deposits).

Because branch expansion has positive impact on total saving deposit, endeavor has to be made to open many more branches to let depositors feel at ease, convenient and reach unbanked society there by enabling total saving deposit lifted up.

CBE is business partner and advisor to NBE as both are government owned institution, it has to play its part in controlling the direct exchange not to lift up as it happens in different times the devaluation of local currency especially without valid cause.

With regard to interest, the regression analysis reveals the fact that it is unlike the model assumption that people in the country does not scrutinize interest rates (interest payments) rather are more concerned with safety, security and bailment is there priority in depositing in banks

Inflation also holds the same result in contradicting the hypothesis therefore until time lets little attention should be given to the two factors when dealing with deposit mobilization strategy

Additional recommendation

The developmental role of Commercial Bank of Ethiopia includes, among others, financing priority sectors and supporting extensive public investment to fulfill the country GTP. To accomplish this, the bank should increase the number of branches in order to increase saving deposits.

The bank strengthen providing of credit to productive investment sectors (Manufacturing, Agriculture, hotel and tourism and Export) to enhance foreign currency earnings through mobilizing deposit

CBE should Maximizing the Bank's role in national development by ensuring that mobilized resources are channeled to those sectors which can boost economic growth.

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APPENDIX

Annex 1

Bank/Year	TSD	INFR	EXCR	BREXP	SIR	GDP	TSDG
CBE 1995	4584.80	0.90	6.25	155.00	11.00	6.00	
CBE 1996	5090.20	1.20	6.32	161.00	7.00	10.50	0.110234
CBE 1997	5623.10	3.90	6.47	166.00	6.00	5.60	0.104691
CBE 1998	6000.10	3.90	6.80	167.00	6.00	-1.40	0.067045
CBE 1999	6648.80	4.20	8.15	167.00	6.00	5.40	0.108115
CBE 2000	6672.13	-0.30	8.34	168.00	6.00	7.70	0.003509
CBE 2001	7500.46	-10.60	8.54	169.00	3.08	1.20	0.124148
CBE 2002	8117.55	10.90	8.58	169.00	3.08	1.50	0.082274
CBE 2003	8727.41	7.30	8.62	170.00	3.08	-2.10	0.075129
CBE 2004	9327.98	6.10	8.65	170.00	3.08	11.70	0.068814
CBE 2005	10630.30	10.60	8.68	172.00	3.08	12.60	0.139614
CBE 2006	11841.44	15.80	8.79	174.00	3.08	11.50	0.113933
CBE 2007	13081.38	25.30	9.24	189.00	4.08	11.80	0.104712
CBE 2008	15138.93	36.40	10.42	202.00	4.08	11.20	0.157288
CBE 2009	17711.84	2.80	12.89	205.00	4.50	10.00	0.169953
CBE 2010	21816.43	18.10	16.12	220.00	5.38	10.60	0.231743
CBE 2011	31095.93	20.80	17.25	383.00	5.38	11.40	0.425345
CBE 2012	41903.05	7.40	18.19	547.00	5.38	8.80	0.347541
CBE 2013	53163.37	8.10	19.57	700.00	5.38	9.70	0.268723
CBE 2014	81040.95	7.40	20.56	832.00	5.38	10.40	0.524376
CBE 2015	109491.81	9.60	21.80	965.00	5.38	8.00	0.351068
CBE 2016	142533.13	6.60	22.08	1139.00	5.38	10.10	0.30177

Annex 2

Deposit balance of Commercial bank of Ethiopia

(in Million birr)

Year	Fixed time deposit	Savings deposit	Demand deposit	Total deposit
1994/95	445.50	3,649.30	5,503.50	9,598.30
1995/96	570.50	4,584.80	6,038.20	11,193.50
1996/97	546.70	5,090.20	7,067.90	12,704.80
1997/98	697.50	5,623.10	9,197.50	15,518.10
1998/99	437.30	6,000.10	8,579.50	15,016.90
1999/00	406.20	6,648.80	9,862.00	16,917.00
2000/01	504.00	7,494.00	9,474.00	17,472.00
2001/02	493.00	8,138.00	9,899.00	18,530.00
2002/03	420.00	8,745.00	10,357.00	19,522.00
2003/04	383.00	9,347.00	12,716.00	22,446.00
2004/05	413.00	10,653.00	14,319.00	25,385.00
2005/06	324.00	11,870.00	15,955.00	28,149.00
2006/07	304.60	13,111.90	19,584.10	33,000.60
2007/08	332.50	15,185.00	21,489.13	37,006.63
2008/09	521.00	17,761.00	25,207.00	43,489.00
2009/10	994.00	21,886.00	31,798.00	54,678.00
2010/11	1,565.00	31,163.00	52,071.00	84,799.00
2011/12	7,409.76	42,087.00	70,618.75	120,115.51
2012/13	8,790.27	53,407.10	92,240.90	154,438.27
2013/14		810,40.95		-
2014/2015		109,491.81		
2015/2016		142,533.13		

Source: Commercial Bank of Ethiopia various annual report

Annex 3

Macroeconomic variables

Year	General Inflation (year average)	Exchange rate (ETB per USD year average)	Saving Interest rate		
			Minimum	Maximum	Average
1994/95	13.4	5.77	10	10	10
1995/96	0.9	6.25	11	11	11
1996/97	1.2	6.32	7	7	7
1997/98	3.9	6.47	6	6	6
1998/99	3.9	6.8	6	6	6
1999/00	4.2	8.15	6	6	6
2000/01	-0.3	8.34	6	6	6
2001/02	-10.6	8.54	3	3.15	3.08
2002/03	10.9	8.58	3	3.15	3.08
2003/04	7.3	8.62	3	3.15	3.08
2004/05	6.1	8.65	3	3.15	3.08
2005/06	10.6	8.68	3	3.15	3.08
2006/07	15.8	8.79	3	3.15	3.08
2007/08	25.3	9.24	4	4.15	4.08
2008/09	36.4	10.42	4	4.15	4.08
2009/10	2.8	12.89	4	5	4.5
2010/11	18.1	16.12	5	5.75	5.38
2011/12	20.8	17.25	5	5.75	5.38
2012/13	7.4	18.19	5	5.75	5.38
2013/14	8.10	20.56			5.38
2014/15	7.40	21.80			5.38
2015/16	9.6	22.08			5.38

Source: NBE annual Bulletin and MoFED

Annex 4

Number of branches Commercial Bank of Ethiopia every year

Year	No. of branches
1995	161
1996	165
1997	167
1998	168
1999	169
2000	169
2001	171
2002	172
2003	173
2004	173
2005	177
2006	184
2007	200
2008	205
2009	209
2010	330
2011	500
2012	608
2013	700
2014	832
2015	965
2016	1139

Source: Commercial Bank of Ethiopia various annual report