

ADDIS ABABA UNIVERSITY



COLLEGE OF BUSINESS AND ECONOMICS

**What Factors determine Commercial Banks' Deposit?
An Empirical Study on Commercial Bank of Ethiopia**

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Declaration

I hereby declare that this thesis prepared by Wubshet Tadesse Melaku, entitled: What Factors Determine commercial Banks Deposit? : An Empirical study of Commercial Bank of Ethiopia and submitted in partial fulfillment of the requirements for the degree of Master of Business Administration Specialization Finance complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Acronyms

ATM - Automated Teller Machines.

CBE – Commercial Bank of Ethiopia

CLRM - Classical Linear Regression Model

CSA – Central statistics Agency

DEPOt – Total Deposit of Bank

EViews9 - Econometric Views Software version 9

G.C- Gregorian calendar

INFLt – General inflation rate

INTEt – Saving deposit Interest Rate

IT - Information technology

LBRAN – Logarithm of Number of Branch in Commercial bank of Ethiopia

LDEPO – Logarithm of total deposit of Commercial bank of Ethiopia

NBE – National Bank of Ethiopia

OLS - Ordinary least squares

POPUt – Working age population growth

ROA – Return on asset

ROE – Return on equity

SPSS - Statistical Package for Social Science

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Abstract

Deposit mobilization is a fundamental part of banking activity. Hence, deposit mobilization is critical to Banks, understanding the nature of Deposit Mobilization behavior is critical in designing policies to promote savings and investment which in turn enhance economic growth through capital formation. The survival of every commercial bank is highly depends on bank deposit because deposit mobilization is a major activity of all commercial banks. As the result, the issue of banks deposit and its determinants is crucial to the financial sector of developing country like Ethiopia. Therefore, this study aimed to identify and evaluate those factors determining bank deposit in general by taking Commercial Bank of Ethiopia as evidence. The study adopts mixed approach to gather the data. The primary data was gathered using questionnaire and sampling method of the primary data is purposive sampling technique. While the secondary sources of data were extracted from annual reports of Commercial bank of Ethiopia and data from National Bank of Ethiopia (NBE). Regarding the secondary data, the study used time series data from 2008-2017 for analysis using Classical linear regression method. In this research dependent variable (that consists of the total deposit) and the independent variable (that consists of the inflation, working age population growth of the country, number of Bank branches and saving interest rate) studied in detail. The study shows that, working age population growth and branch expansion has the most significant factors of deposit mobilization activity. The other variable such as deposit interest rate and inflation has insignificant power to influence the dependent variable. As a result, the study recommended that, branches should give due attentions for branch expansion of their bank branches to mobilize more deposits. Since there is a positive relationship between deposit and bank branches, banks ought to increase number of branches to mobilize more resources.

Keywords: Deposit Mobilization, Commercial Bank of Ethiopia, Factors Determining Deposit

CHAPTER ONE

INTRODUCTION

The first chapter of this study is prepared in nine parts, each of these parts would be discussed in detail and they consists of background of the study, background of the organization, statement of the problem, general and specific objectives of the study, significance of the study, scope of the study and limitations of the study.

1.1 Background of the study

Economic growth is the common goal of all nations. Everybody lives with more comfortable, better standard of living than before and holding a better welfare because of the surge in economic growth. Government in each country aims to reduce poverty and increase the level of national income. Therefore, to achieve the main target of economic growth, governments may implement various kinds of policies such as encouraging saving, stimulating investment and production in their countries (Pinchawawee, 2011).

To do this, well-developed and efficient financial system is the key driven factor in economic development of countries and it has positive impact on economic growth. The financial system in every economy is dominated by the banking sector. Without banks; financial system cannot undertake the development of economy. In a modern economy, the important activity of the commercial banks is to mobilize deposits from the public. The people with surplus income and savings find it convenient and safe to deposit the amounts with banks. Deposits with the bank grow along with the enhancing interest earned by depositors. Granting of loans and advance and channeling households' savings to corporate sector is mostly possible if the banks have accumulated sufficient deposit from the available market (Selvaraj& Kumar, 2015). Commercial banks are believed to play dominant role of mobilizing financial resource for investment and economic growth (Byusa, 2016).

In Ethiopian context, financial institution system is started with the traditional and informal financial institutions called Equip and Iddir that was organized with a sense of cooperation and risk sharing has enabled Ethiopians to experience saving and financial management (Ayele, 2015). These two traditional financial institution systems have paved a way for the introduction of modern banking system in Ethiopia called Abyssinia Bank in 1906 and later Abyssinia bank

was legally replaced by Bank of Ethiopia by Emperor Haile Selassie in 1931 (Ayele, 2015). Following the release of the Dergue regime in 1991, the Ethiopian People's Revolutionary Democratic Front declared a liberal economy system. In line with this, Monetary and Banking proclamation of 1994 established the national bank of Ethiopia as a judicial entity, separated from the government and laid down the legal basis for Licensing and Supervision private commercial banks in Ethiopia until today (Monetary and Banking proclamation No.83/1994). Accordingly, there are around 17 Private commercial banks currently operating in Ethiopia.

Ethiopia appears was unique for large period of time as compared to its East African neighbors (namely Kenya, Tanzania and Uganda) and many other developing countries because it has not opened its banking sector to foreign participation. The Ethiopian banking sector remains isolated from the impact of globalization in the previous periods. Although Ethiopian policy makers understand the potential importance of financial liberalization, it is widely believed that liberalization may result in loss of control over the economy and may not be economically beneficial. Ethiopia has no capital market and investing in shares of private companies is very limited. But now declared to start selling off a host of state-owned firms, either partially or entirely, as part of a major economic reform drive designed to “unleash the potential of the private sector” with expectation that private sectors to play fundamental role in the development of the economy of the country.

In literature we have two types of source of financing, i.e. debt and equity financing. Organizations have these two alternatives for financing; however the former is mostly used alternative as the latter is used only by share companies. Commercial banks are financial institution that gives financial service to the body 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. According to Mohammad and Mahdi (2010) financial resources of banking system are naturally provided from people's deposit. 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. Given this general facts the bank is expected to manage its deposit. Managing deposits is not possible without knowing and controlling the

factors determining it. In literature there are several factors that are claimed to be determinants of deposits.

The researcher divide factors determining commercial banks deposit into two, namely endogenous and exogenous factors. Endogenous factor includes awareness of the society, and services in the bank. These are the variables that are claimed in the literature to affect the volume total deposit of commercial banks. In this study these variables are studied theoretically and empirically and the relationship between these variables and total deposit of commercial banks is identified. Exogenous factors are the factors that are not controlled by bank and endogenous factors are factors that are controlled by the bank. Exogenous factors further sub divided into two, i.e. country specific factors and bank specific factors.

Country specific factors includes saving interest rate, inflation, real interest rate, population growth of the country, per capita income of the society, economic growth, consumer price index and shocks.

Bank specific factors include liquidity of the bank, number of commercial bank's branches, technology, awareness, transaction cost etc. Some these are the variables that are claimed in the literature to affect the volume total deposit of commercial banks. In this study these variables are studied theoretically and empirically and the relationship between these variables and total deposit of commercial banks is identified.

1.2 Back ground of the organization

The company profile is compiled as follows from the official website of the bank. Commercial Bank of Ethiopia, established in 1942, and is the leading bank in Ethiopia with assets of more than 550 billion Birr as of June 2018. The Bank's corporate strategy for the five years shows that the CBE's deposit position will reach Birr 714.7 billion by 2020 from Birr 241.7 billion in 2015. In addition, the customer base of the bank would reach about 20 million by the end of the strategic period targeting to open additional 2 million new accounts per year. Consequently, realizing Birr 714.7 billion deposit and 20 million accounts are considered as key strategic objectives. The growing financing need of the economy pushed the financial system to respond accordingly, by mobilizing deposits. To this end, banks expanded their outreach towards financially excluded sections of the society through varieties of channels, including physical branches, mobile banking, internet banking, agent banking, etc. Moreover, to accommodate

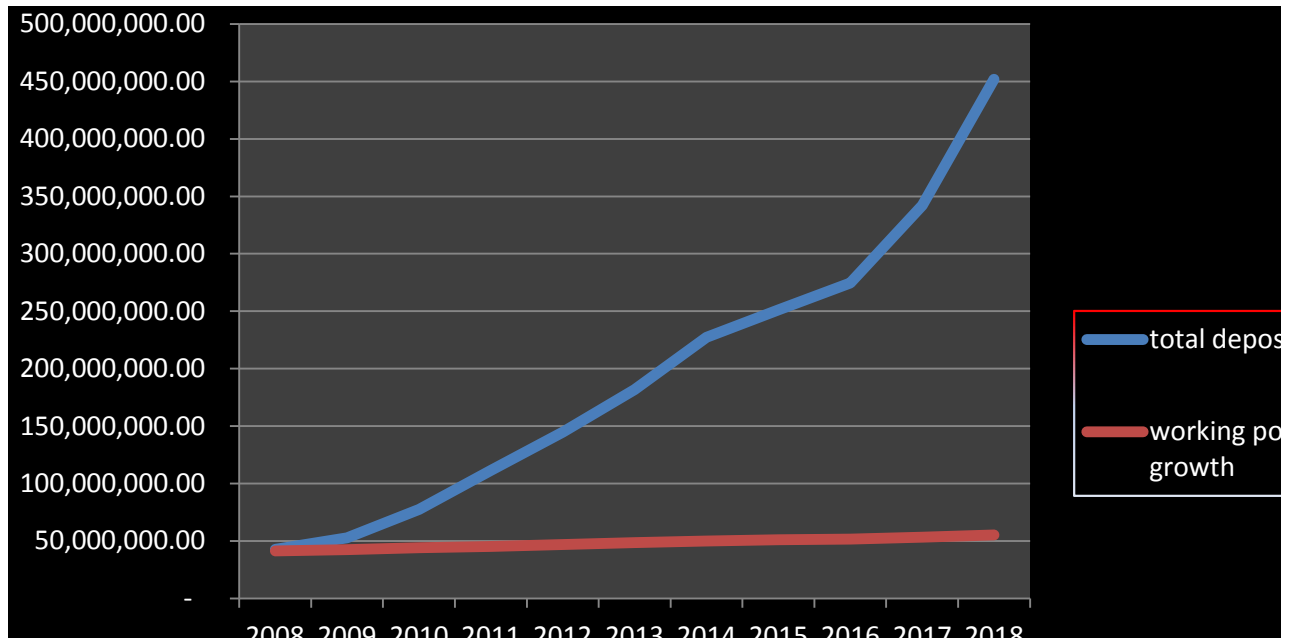
technology savvy sections of the society, internet banking, card banking, etc. have been introduced. In addition, banks strived to develop various savings products to meet the specific needs of some sections of the society.

Branch-based banking has continued to be the major direction of the bank in availing services for the public throughout the country. Ten years back, CBE branches were not more than 200, but jumped to 1,288 by 2018. CBE is also leading the industry in providing technology-based modern payment systems, which in due course fully modernize the local payment system. Currently, CBE has 1,708 ATMs and 11,796 POS terminals deployed at commercial centers and customer-friendly places, and the transaction volume of these channels is growing steadily year after year.

According to data obtained from Ethiopian Bankers' Association, the overall performance of the commercial banks for the fiscal year under review in key performance areas, namely; total asset, capital deposit, loan outstanding and branch networks is summarized as follows .

The total number of commercial banks operating in the country had been eighteen banks but after the merger of construction and business bank with CBE the total number of banks in the country now becomes seventeen. The number of all banks branch in the country reached at 4,424 as of June 30, 2018. It is noted that the share of CBE in terms of branch networks stood at 29.1% which has decreased from its share of 30.8% in the preceding fiscal year.

The total deposit position of all commercial banks reached at Birr728.9 billion as of June30, 2018 showing 28.6% growth against its position of Birr 567 Billion as of June 30, 2017. The market share of CBE's total deposit stood at 62% as of June 30, 2018.This indicates that the Bank had been able to maintain a lion's share in deposit depicting its aggressive efforts in resource mobilization. The outstanding loans and advances of all commercial banks stood at Birr361.7 billion at the end of the fiscal year 2017/18. The share of CBE in outstanding credit as of June 30, 2018 stood at 49.7%. To this end, the banking sector in general and the CBE in particular stretched their goals and services in terms of accessibility and product range.



Graph 1.1 Annual Incremental deposits Vs working age population growth 2008 up to 2018 in millions of Birr

Source : Commercial Bank of Ethiopia and NBE annual report magazines

1.3 Statement of the Problem

Deposit is the most liquid money that is found in the treasury of the bank and which is ready to be borrowed by a body in need of the fund. A deposit of the bank may be affected by different factors. Since a deposit is most useful asset of the bank it is relevant to find out the factors determining it and determining the relationship between them. This study filled this gap by identifying the factors that played great role and determine the deposit of the commercial banks and the extent they are affecting it.

Moreover, in related literatures most of them focuses on the factors that hinders deposit mobilization activity in the country and they don't gives attention for those that contributes for continuous growth of deposit in commercial bank of Ethiopia. In addition to this, since CBE is in the growth stage and currently opening new branches aggressively, the working population growth in the country and Branch expansion were not analyzed well for deposit mobilization purpose. It is essential, identifying the important determinants of bank deposits and its influence on the growth of deposit by making empirical investigation.

The researcher observed that there is also inconsistency finding among researcher. This inconsistency of results might be attributable to the method of data analysis used by different researchers or the time period of the research. Another determinant variables commonly explained as a factor affecting deposit are branch expansion, Inflation and Interest rate. For instance; Inflation Rate taken as explanatory variable by (Andinet, 2016) the result of his study indicates inflation has a negative relation and insignificant to Commercial Bank deposit. (Giagn, 2015) also used the variable in his study to determine the effect of inflation to Commercial Bank deposit growth and the result of the study was positive and significant .

Finally (Shemsu, 2014) used Inflation rate as an explanatory variable to determine the effect on the Commercial bank of Ethiopia deposit result was positive and insignificant to the dependent variable deposit. Interest rate: was taken as an explanatory variable by (Andinet, 2016), the result is positive and significant to deposit. (Shemsu, 2014) the result is positive and insignificant and (Giang, 2015) the result is negative and insignificant and lastly (Wubit, 2012) result shows positive and insignificant.

The CBE branch expansion was taken as an explanatory variable by (Shemsu 2014) and the result is positive and significant. The study also take the recommendation for further study made by (Andinet, 2016), (Shemsu, 2014) & (Dereje, 2017) to determine the factors affecting the commercial bank deposit by introducing additional variable working age population growth in the country.

This study empirically investigates determinants of deposit mobilizations in financial savings for bank of Ethiopia and which of those factors are influential and also minimize the research gaps on factors affecting deposit mobilization in commercial bank of Ethiopia.

And finally, this study is different from previous works done by others; specifically it examines four determinants (Working age population growth, bank branch, inflation rate and interest rate) and assesses the quantitative data for these determinants based on the context Ethiopia. From the above four determinants the effect of working age population growth was not studied very well and most of the study focuses on the total population growth in the country rather than focusing on the productive working age population growth in the country. But this researcher focuses on the working age population groups which are expected to generate income.

The result of this research is most important for the participants in the industry to exert their effort to explore the deposit market accordingly. Thus commercial banks found in Ethiopia must increase their deposits by overcoming the existing challenges. To do so they have to know the main factors that determines deposit mobilization or financial savings. This study empirically investigates determinants of deposit mobilizations in financial savings for banks in Ethiopia and which of those factors are influential and also minimize the research gaps on factors determining deposit mobilization in commercial banks.

Indeed, there might be researches made on banking and finance area focusing on different points of view. However, getting sufficient research works particularly related to factors determining deposit mobilization in commercial banks particular to this research topic is tiresome. Even the limited available data is not rich enough to provide reliable information on the issue. Therefore, identifying the factors determining deposit mobilization in commercial banks in scientific manner is a critical knowledge gap that needs to be addressed.

PARTICULARS	YEAR ENDED JUNE 30				ANNUAL PERCENTAGE CHANGE		
	2013/14	2014/15	2015/16	2016/17	2014/15	2015/16	2016/17
	(IN MILLIONS OF BIRR)						
Currency in circulation	53,176.0	75,240.70	82,592.7	94,245.5	13.7	10.3	10.8
Banks Deposit	24,967.5	27,227.1	36,572.0	52,012.4	9.1	34.3	42.2

Table 1.1 Source: National Bank of Ethiopia (NBE) (In millions of Birr, where applicable) 2017/18 annual report

1.4 Research questions

The research conducted on the title of What factors determine deposit mobilization?: An Empirical study on Commercial Bank of Ethiopia west Addis Ababa district answers the following questions:-

- What are the variables that can affect the amount deposit in commercial bank of Ethiopia?
- Does inflation rate has an effect on bank's deposit?
- Does saving Interest Rate have an effect on bank's deposit?
- How did working age population growth determine total deposit of commercial bank of Ethiopia?
- Does bank Branch expansion related to Commercial bank's total deposit?
- What should be done to manage total deposit of commercial banks?

1.5 Objectives of the study

1.5.1 General objective

- ✓ The General Objective of this study is to identify the factors determining commercial bank deposit.

1.5.2 Specific objectives

- ✓ To examine the relationship between the commercial banks total deposit and the total working age population growth in the country.
- ✓ To determine the relationship between the commercial bank's total deposit and number of Bank branches.
- ✓ To assess the effect of Inflation rate on total deposit of commercial banks.
- ✓ To evaluate the effect of Interest Rate on total deposit of commercial banks.

Hypothesis of the study

H1: Total working age population growth has significant effect on commercial banks deposit.

According to Hibret (2015) working age population growth would mean an increase in functional labor force that would attract investment and create wealth which would positively affect overall economic growth. As a result deposit will grow because of the more number of populations tend to have more number of income generator and also a more number of saver.

The result of Hibret (2015) revealed that Population growth had positive and significant impact on deposit. And also this is supported by the study of Modigliani (1986).

H2: Deposit interest rate has significant effect on commercial banks deposit.

Interest rate: was taken as an explanatory variable by (Andinet, 2016), the result is positive and significant to deposit. (Shemsu, 2014) the result is positive and insignificant and (Giang, 2015) the result is negative and insignificant and lastly (Wubit, 2012) result shows positive and insignificant

H3: Inflation Rate has no a significant effect on commercial banks deposit.

Banking system was affected by inflation interms of deposit absorption and facilities grant (Mohammad and Mahdi, 2010). As to Mohammad and Mahdi(2010), in developed countries negative correlation between inflation and absorbed deposits and granted facilities has been documented.

H4: Branch Expansion has significant effect on commercial banks deposit.

As banks increase their number of branches and widen the geographical coverage, they can mobilize more deposits. (Tesfahunegn, 2015)

1.6 Significance of the study

The study conducted on the title of what factors determine Commercial Banks Deposit is expected to be used and/or applied by both the academicians and bank managements. Accordingly the following are the significances that are attained by the study.

The study adds knowledge on the field of finance. The studies that are conducted on the factors determining commercial banks deposit are rare; therefore the study will be an important reference material on the field of finance. For bank managers, it provides basic information about the determinants of deposit mobilization and understanding on the activities that enhance their banks performance.

1.7 Scope of the study

In Ethiopia there are seventeen commercial banks under operation. From the number of banks under operation the study uses Commercial Bank of Ethiopia west Addis Ababa district as case study & covers limited geographical location. In order to make the scope of the study manageable, this research focus on some major factors that determine commercial bank deposit and the study is restricted to identify some of the bank specific and macroeconomic factors determining deposit of commercial bank of Ethiopia.

The study uses both primary and secondary data. The secondary data review focuses for the period of 2008-2017 and the primary data is used as a supplementary to strengthen the finding drawn from secondary data. This period will help us to clearly identify the factors that determine the deposit mobilization activity of the bank. Accordingly the questionnaire is used to gather information from the employees of commercial bank of Ethiopia particularly from those employees who actively participated in deposit mobilization tasks in west Addis Ababa district branches.

1.8 Limitations of the study

Due to cost and time reason the researcher does not include branches in the other districts, this study reached only selected grade I, grade II, grade III and grade IV branches in different geographical locations in west Addis Ababa district.

But to overcome this limitation the number of sample in each branch was significant and branches are selected from different geographical locations. In addition to this, west Addis

Ababa district is selected by the criteria that, it has currently more than 120 branches and as compared to other districts it stood first by number of branches. Therefore, since we planned to make our study on one district, it's better to take the one with more branch network, customer base and number of employees.

The researcher only consider limited number of independent variable (that consists of the inflation rate, working age population growth, number of bank branches and Interest Rate) for its study and there may be other that are not included here due to time, cost and lack of data source. At the end this paper the researcher will recommend other researchers to make study on the remaining variables.

In addition, this study does not consider other private commercial Banks and uses only commercial bank of Ethiopia for its study.

1.9 Organization of the study

The final paper for the study is organized into Five chapters including the introduction part of the study.

Chapter one deals with the background of the study, statement of the problem, research questions, the general and specific objectives of the study, hypothesis of the study, the significance of the study and limitation and delimitation of the study.

The second chapter literature review, deals with the theoretical and empirical literature review on factors determining commercial bank deposit. The first part is theoretical review that explains what the literature says about the relationship between the total deposit of commercial banks and the factors affecting it. Moreover, the theoretical part deals with the difference between saving and spending, the role of banks in the economy, the importance of deposit for commercial banks, about the banking sector in Ethiopia and a brief profile of commercial bank of Ethiopia.

The third chapter deals with Research Methodology, research design and Research methods. Research Methodology represents “a theory and analysis of how research does or should proceed.” Methodology encompasses our entire approach to research. Our assumptions about what we believe knowledge embedded in methodological discussions and therefore have consequences for how we design and implement research studies.

This chapter presents the descriptive and statistical data analysis for the variables as well as the test for heteroskedasticity, autocorrelation and normality testing to know if the assumptions of CLRM violated or not.

The fifth chapter deals with analysis of the data and presentation of the output.

CHAPTER TWO

LITERATURE REVIEW

2 Introduction

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

2.1 Theoretical Review

1.9.1 2.1.1 The function of banks in financial systems

Understanding the main roles that banks play in the financial system is one of the fundamental issues in theoretical economics and finance. The efficiency of the process through which savings are channeled into productive activities is crucial for growth and general welfare. Banks are one part of this process. Lenders of funds are primarily households and firms. These lenders can supply funds to the ultimate borrowers, who are mainly firms, governments and households, in two ways. The first is through financial markets, which consist of money markets, bond markets and equity markets. The second is through banks and other financial intermediaries such as money market funds, mutual funds, insurance companies and pension funds. Financial sector is broad which consists of the banking sector and other financial institution (such as insurance corporations and pension funds, brokers, public exchange and securities markets etc.), however in the context of African continent the banking industry carries the greater share of the financial system (Sheku, 2005). Most of the business relies on banking sector as a source of financing (Medhat, 2004). Banks have historically been viewed as playing role in financial markets for two reasons. One is that they perform a critical role in facilitating payments. Commercial banks, as well as other intermediaries, provide services in screening and monitoring borrowers; and by developing expertise as well as diversifying across many borrowers, banks reduce the costs of supplying credit (Samolyk, 2004). The main providers of additional

financing are domestic commercial banks (Herald & Heiko, 2008). Banks perform various roles in the economy (Franklin & Elena, 2008) :-

They improve the information problem between investors and borrowers by monitoring the latter and ensuring a proper use of the depositors' fund.

They provide inter temporal smoothing of risk that cannot be diversified at a given point in time as well as insurance to depositors against unexpected consumption shocks. Because of the maturity mismatch between their assets and liabilities, however banks are subject to the possibility of runs and systematic risk.

Banks contribute to the growth of the economy. Commercial banks are institutions that engage in two distinct types of activities, one on each side of the balance sheet deposit-taking and lending. So that banks are playing mainly intermediation function, this is supported by (Russell & Bamindele, 2009). (Mahendra, 2005)

Also states banks as the backbones of the trade and commerce playing the intermediary role of capital formation and supply. Even if other financial institutions are available banks play a major role in facilitating the way the financial sector operates. Therefore banks are important of all other financial institutions. Banks influence macroeconomic environment, as to (Adam, 2005), bank failures involve significant macroeconomic costs. (Adam, 2005), has developed evidence that bank failures have significant and apparently permanent effects on real economic activity. Therefore banks are also important influencers in macroeconomic environment. Banks mobilize, allocate and invest much of society's savings. Households and businesses are mainly using banks to save their money to get loan for their project undertakings. (Kelvin, 2001), said that commercial banks are important financial intermediaries serving the general public in any society. In most cases commercial banks hold more assets than any other financial institutions. Apart from their many functions, commercial banks facilitate growth and development. Banks lend in many areas or sectors of the economy. Moreover commercial banks will affect the overall economy of the specific country both in a good way or bad way. Commercial banks represent a vital link in the transmission of government economic policies (particularly monetary policy) to the rest of the economy.

So the event in the commercial banks will affect the country's economy in general. 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 (Kelvin, 2001). Commercial banks are critical to the development process. By granting loans in areas such as agriculture, manufacturing, services, construction and energy sectors, banks contribute to the development of the country. Not only commercial banks are affecting the economy but also the economy affects the function of commercial banks. Bank loan portfolio including volume, tenor and structure may be generally influenced by their expectations of the performance of economy both in terms of stability and level of performance. As cited by banks make out more loans during periods of boom and reduced level of macroeconomic uncertainty and curtail lending when the economy is in recession.

1.9.2 2.1.2 Deposit in In Commercial Banks

The major 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 (N. 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.

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

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. Some banks may charge a fee for this service, while others may pay the customer interest on the funds deposited. The account holder has the right to withdraw any deposited funds, as set forth in the terms and conditions of the account. The following are most common type of bank deposit.

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

Importance of Deposit mobilization

A. As source of Fund for 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 financial source

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. A 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.

1.9.3 2.1.3 The Role of Bank Deposit on the Economy

Faure (2013a) stated the indispensable role of banks in the economy. For him banks are the only intermediaries between the ultimate lenders and borrowers and all other nonbank financial intermediaries. They perform vital functions including providing the means of payments. In fact, they are such significant intermediaries that their very survival is in the interests of the country; there exists social costs to their failure. (Faure, 2013a)

Increase in domestic savings in the long term also unties an economy from knots of increasing foreign debt. With the decline in capital supply to the government in the form of foreign loans, the government will be forced to cut down spending and delegate developmental projects to local industry. This will in turn focus attention of domestic lending by banks to local industry.

Joseph (2011) “Consequently, local industry will begin to flourish since access to credit and cost of credit is its major problem. Inflation figures will also reduce owing to cut in government spending thus creating a conducive environment for transacting business and at the same time putting the government in a good position for regulating the system and improving institutions to succor industrial growth.” (Joseph, 2011)

Keatinge (2014) strengthened the importance of banks by stating that “expanding the banking system will create greater savings opportunities that will in turn boost funding via savings.... A developed domestic savings market can be controlled and managed within a country and create a much more stable base from which investment can be made.” (Keatinge, 2014)

2.1.4 Factors Affecting Commercial Banks Deposits

Deposit mobilization is very difficult task. It depends up on various factors exogenous as well as endogenous, to the banking system (N. Desinga, 1975). Exogenous factors are the general economic environment of the region, the volume of business transaction of the region, the confidence of the people on the banking system, the banking habit of the people and the saving potential of the region. Even when exogenous factors are more conducive for deposit mobilization, banks may fail because of unfavorable endogenous factors such as location, type of building and window dressing(furniture, cheque books, vouchers, pay slips etc), which assure the customers about the physical fitness of a bank (N. Desinga, 1975). As (N. 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.

2.1.5 Country specific factors

Includes saving interest rate, inflation, saving interest rate, population growth of the country, saving culture of the society, per capita income of the society, economic growth, monetary policy of the government, consumer price index and shocks. Let's discuss some of them.

a. Saving Interest rate

Consultative Group to Assist the Poorest, (1998) stated that saving interest rate is another factor which can be defined as an incentive or benefit made to savers on the money saved for various purposes. When saving interest rate is relatively high, people encouraged to save their money instead of hoarding or holding with physical assets. It has positive relationship with savings. Although there is evidence that rural savings takes place even under negative real returns offered by the informal sector, evidence from different countries has shown that the demand for savings products by all savers, including the poor, increases as interest rates increase. Haron and Azmi (2006) cited Loayza et al. (2000a) that financial liberalization is detrimental to private saving rates because greater credit availability reduces saving rate and similarly larger financial debt and higher real interest rate do not increase saving. A study made in Ghana by Eric, Li and Victor (2015) recommended that the interest rate product of bank customers is influenced by:

- i. Customers conscious of the investment risks and returns;
- ii. Customers aim of earning returns on bank deposits;
- iii. Macroeconomic conditions prevailing in the country.

Other findings put their justification for nonexistence of direct relationship between deposit volume and interest rate. Giragn (2015) conducted study on determinants of deposit

mobilization the quantitative study reveals the deposit rate as having a negative relation with the deposit volume.

b. Inflation Rate

It is defined as the persistent increase in the general prices of goods and services within an economy over a given period. It is generally assumed that the growth of total deposits is to be negatively related with inflationary expectation. As the rate of inflation increases, people will be tempted to divert their savings from bank deposits to any other kind of tangible assets because these assets act as hedge against. To effectively mobilize savings in an economy the deposit rate must be relatively high and inflation rate stabilized to ensure a high positive real interest rate, which motivates investors to save from their disposable income. According to McKinnon (1973) and Shaw (1973), financial repression arises mostly when a country imposes ceiling on deposit and lending nominal interest rates at a low level relative to inflation. The resulting low or negative interest rates discourage saving mobilization and channeling of the mobilized savings through the financial system. This has a negative impact on the quantity and quality of investment and hence economic growth. Therefore, the expectation of interest rate reform was that it would encourage domestic savings and make loanable funds available in the banking institutions. (Tafirei, Rabson and Gumbo, 2014) Opoku (2011) stated that in a period of high inflation, hedging is inevitably a prudent measure depositors pursue in order to enjoy future appreciation of value. Thus, more deposits are redirected into the purchase of real estate properties. Another research outcome indicated as inflation was found to have a positive impact on saving thus supporting the precautionary motive for saving. (Haron and Azmi (2006) cited Loayza et al. (2000a)

c. 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 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 loan-able 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.

d. Saving culture of the society

Awareness is a social component which increases the collective consciousness among the people and generates confidence in the industrial to face problems confidently. However, the success of the banks depends on to which extent people in the particular country aware about the banking activities. When considering about the deposit mobilization, customer awareness is a key element to absorb high amount of deposits. Customer awareness about the services depends upon many factors such as return on investments, promptness, care, security, convenience, growth, flexibility etc. hence integral part of banks is deposit mobilization, therefore banks should pay attention to attract more deposits by giving knowledge and promoting them (Kanthi, Singu, 2015).

Richard, Akoto and Nabieu, 2014 found out that illiteracy rate in Nigeria which has made many liquid cash holders not to maintain an account in the bank and this group of illiterate Nigerians have control over large amount of liquid cash in the economy which has rendered interest rate incapacitated in realizing the macroeconomic objectives and also banks inability to extend their branch network to places where rural dwellers can access it and facilitate savings mobilization, this constraint is due to lack of structural facilities like good road network, power supply and majorly security.

e. Economic Growth and Political Stability

David (2011) cited the definition of economic growth from Global One's states that "economic growth refers to an increase in the real output of goods and services which leads to increased income, savings and investment." The implication seems economic growth of a country contributes to the increase of savings of individuals in Nigeria. Correspondingly, deposits help in improving the economy of the people as well the economy of the country. A statement dictates the influence of politics on savings said that when there is uncertainty about the future, people prefer non-financial assets as hedges against instability. (CGAP, 1998) Haron and Azmi

(2006) cited Loayza et al. (2000a) positive saving rates with the level and growth rate of real per capita income and the influence of income is larger in developing than in developed countries.

f. Monetary Policy

Monetary policy to be “a policy used by a government or central bank to influence the supply of money and credit in private hands, used for controlling inflation. In Ethiopia the government controls money supply through the central bank unlike in the United Kingdom where the Bank of England is independent of the government in pursuing monetary policies. The central bank being the main actor in this respect uses monetary tools such as reserve ratios, discount rates, and open market operations to control money supply and inflation in the economy. Control of money supply has a direct relationship with deposit mobilization and inflation control of the Government.

2.1.6 Bank Specific Factors

The Bank specific factors are factors that are related to internal efficiencies and managerial decisions. Include liquidity of the bank, profitability of the bank, security of the bank, number of commercial bank's branches and Operational Excellence, Foreign Remittance, bank size, reserves and transaction cost.

a. Liquidity of the Banks

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 (Devinga, 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).

Liquidity can be defined as a measure of the relative amount of asset in cash or which can be quickly converted into cash without any loss in value available to meet short term liabilities. The liquidity measure provides suggestions about the level of liquidity on which the commercial banks are operating.

According to (Olagunju, Olanrewaju, Olabode and Samuel 2011) Liquidity involves three elements or characteristics namely Marketability, Stability and Conservatism. Liquid assets should be more marketable or transferable. That means, they are expected to be converted to cash easily and promptly, and are redeemed prior to maturity. All assets that cannot be redeemed at maturity are said to be illiquid. The fact that the prices of the former are fixed and have lesser variability than the prices and value of the later that experience considerable fluctuation.

Conservatism quality of liquidity refers to the ability of the holders of liquid assets to recover the cost of the asset on the time of resale. On the basis, common stocks are not considered highly liquid asset despite its ready marketability. This can be attributed to the fact that on certain periods, the current prices are lower than their initial or original prices. In consideration of these qualities, people and firms decide to hold cash which is the only perfectly liquid asset. Another quality of liquid asset is price stability. Based on this characteristic, bank deposits and short term securities are more liquid than equity investments such as common stocks and real estate's due to Banking liquidity is the ability to meet obligations when they come due without incurring unacceptable losses.

b. Profitability of the Bank

Many researchers have found return on asset to be significantly related to commercial banks deposit mobilization. The known measures of banks deposit performance over the years have been either based on return on assets or return on equity. However, in the measuring these performance, many researchers have argued for the return on assets (ROA) as against return on equity (ROE). According to (Hassan & Bashir 2003), "ROA shows the profit earned per dollar of assets and most importantly, it reflects the management's ability to utilize the bank's financial and real investment resources to generate profits. For any bank, ROA depends on the bank's policy decisions as well as on uncontrollable factors relating to the economy and government regulations".

Rivard and Thomas (1997) suggest that "bank deposit performance is best measured by ROA in that ROA is not distorted by high equity multipliers and ROA represents a better measure of the ability of a firm to generate returns on its portfolio of assets". ROE on the other hand, "reflects

how effectively a bank management is in utilizing its shareholders funds. Since ROA tend to be lower for financial intermediaries, most banks heavily utilized financial leverage heavily to increase their ROE to competitive levels”(Hassan and Bashir, 2003).

c. Security of the Bank

Security of banks matters in mobilizing deposit. Riskier banks would be able to attract deposits only by 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

d. Branch Expansion

Branch expansion is opening new branches or service outlets in and outside the country. A smaller bank has to generate less deposit in absolute terms to achieve the same deposit growth than a large bank, 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. Daniel (2005) suggest that the lack of widespread branching bank networks hindered the development of large-scale industrial firms

The transaction costs e.g., the cost of making a deposit and of liquidating it; Time spent traveling to the financial institution, waiting in line, and on paperwork can represent such high costs that a seemingly positive real rate of return becomes negative and small savers will rather turn to informal means of savings. (CGAP,1998) Typical to Ethiopian case, Getnet (2014) briefed the situation of financial inclusion by stating “Financial inclusion is on progress albeit from weak base. One important aspect of this trend is the progress achieved in expanding bank branches and areas of coverage. But a lot remains to be desired. Access is still a national issue. Banks use branches as a means for deposit mobilization. And so, as banks increase their number of branches and widen the geographical coverage, they can mobilize more deposits.(Tsfahunegn, 2015) .

e. Volume of 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.

f. Bank image

Customers select a bank to deposit their money based on several determinants as attractiveness of the deposit interest rate, attractive advertising on mass media, minimum loan conditions and also sometimes customers assumed that state-owned banks are more reliable than the private banks. Moreover, some customers assume that when banks have wide branch network then that bank is good for their deposits. Although all the aforementioned factors are important when depositing money, among them bank image is the most important factor of choosing a secured place to deposit valuable deposits of customers. Bank image can be determined through the financial business and the management information about the business activities of the bank. Therefore, one of the most significant factor affecting for deposit mobilization is bank image. Since customers always expect a secured place for their deposits, most of the time they tend to deposit money in the institutions or banks which have a positive image (Samarasiri, 2014).

According to Telatela (2013), bank image is determined by the reliability, responsiveness, assurance and empathy. Savers are always nosy about the safety of their funds, recurring cases of forgeries, theft and bankruptcies occurred. Therefore, they always deposit more money in banks which have good bank image.

g. Service of the Bank

It is known that banks are service oriented organizations and the service delivery can affect all the activities that a bank performs. According to Khalily (1987), indicates that Mckinnon and

Shaw have largely concentrated on two variables affecting for deposit mobilization in their models in which services to customers considered as a significant and positively related to each other.

The study by Goiteom (2011), on the bank selection decisions customers more emphasize on factors such as convenience, service provision, employers influence and bank image. Therefore, banks should consider these factors when implementing their market strategies to absorb more deposits. Generally, banks are providing services but competitions among banks are determined by the quality of the banking services. According to Khalily (1987), there should be strategy requires as policy and procedural changes, development of innovative programs and improvement in the quality of services provided to the depositors. Furthermore, the quality of banking services mainly depends on several factors as, Branching Policy: The expansion of banking facilities is the key factor for deposit mobilization and when providing facilities accessibility is the most important factor, Innovative approaches, Interest rate policy, more incentives to depositors, more incentives to bank employee when achieving targets on deposit mobilization, Training for bank employees and Expansion of infrastructure.

However similar studies have carried out by Hooman et al. (2016), regarding the factors affecting for quality of services. The phenomenon of quality of banking services can be obtained only by ensuring the quality of e-banking services, employee's competence and skills, reliability of the banking system, an impeccability banking system integrity and accountability measurements are the effective factors that make the quality service.

h. 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)

i. Convenience of banks branch office

This article is written in 1965 G.C by Bruce C. Cohen and George G. Kaufman. It identifies the factors determining bank deposit growth and empirically analyzes them. Finally it describes the

result of the study and recommends how states realize deposit growth. In the study of Bruce and George (1965), the following variables are mentioned and claimed to have effect on the banks' deposits.

Banking industry is one of the service giving industries. Consequently, a major factor influencing decisions of whether to hold commercial bank deposits is convenience of bank offices (Bruce and George, 1965). It is argued that population growth and shifts necessitate corresponding growth and shift in banking offices if banks are to both continue servicing their old customers and attract new ones.

Therefore, beside the convenience of the office the commercial banks deposits can also be affected by the population growth. New bank offices are believed to increase total deposit of banks in an area by capturing some funds which otherwise would have either been placed in banks outside the area or escape the banking system (Bruce and George, 1965). As to them other things being equal deposit growth may be expected to be positively associated with increases in the number of banking offices. Moreover, they concludes that other things being equal states permitting branch banking would experience faster deposit growth than states which forbid branch banking and the more liberal the branching regulations, the faster the deposit growth. Other things equal, the alternative offering higher returns would be expected to attract the greater amount of funds (Bruce and George, 1965). Therefore, they state that deposits may be expected to grow faster in those states where banks offer higher returns than in other states.

2.2 Empirical Review

Hereafter, published articles which are written on the area of Factors Determining Commercial Banks Deposits are presented. These will help us to see where the literature on this area is helpful and how this study will add to the existing literature. Accordingly, the articles will be discussed below one by one:

2.2.1 Working age population Growth and Total deposit

According to Hibret (2015) working age population growth would mean an increase in functional labor force that would attract investment and create wealth which would positively

affect overall economic growth. As a result deposit will grow because of the more number of populations tend to have more number of income generator and also a more number of saver.

The result of Hibret (2015) revealed that Population growth had positive and significant impact on deposit. And also this is supported by the study of Modigliani (1986).

2.2.2 Number of bank branch and Total deposit

There is a relationship between branch expansion of banks and deposit growth of banks (Banqui, 1987). Banks make their expansion decisions based on level of competition, deposit potential, regional income and development of infrastructure (roads). However, since deposit mobilization is the main role of banks, branch expansion also decided on the level of deposit mobilization (Samuel, 2014). According to the study of Bhattacharjee (2012), reveal that branch expansion is a significant factor affecting for deposit mobilization. According to kebede (2016) the main reasons of Branch expansions is to mobilize deposits and to increase customer base.

2.2.3 Inflation rate and Total deposit

It is defined as the persistent increase in the general prices of goods and services within an economy over a given period. It is generally assumed that the growth of total deposits is to be negatively related with inflationary expectation. As the rate of inflation increases, people will be tempted to divert their savings from bank deposits to any other kind of tangible assets because these assets act as hedge against. According to Choi, Smith and Boyd (1996), higher inflation can be linked to decrease in earnings that accrue to savers and investors in financial markets. This is said traceable to two rationales: First, to demonstrate the variability, the savings function would have to shift behind. This first rationale has virtually few or no observed documentation to support the validity scientifically. Secondly, almost all scientific documentation is of the proposition that savings is not adequately responsive to rates of earnings to justify large inflationary effect. Bruno and Easterly (1995) supports this assertion when they demonstrated that a many economies have suffered prolonged inflations of between 20 and 30 percent without severe negative results.

Two theories have attempted to explain inflationary impact on economies, the monetary theory and Keynesian theory of inflation. Monetarisms who are those lending support to M. Friedman

(19122006) proposed that “only money matters”, hence monetary policy is useful as instrument in economic stability than the fiscal policy. They are of the view that money supply is the “controlling factor, though not exclusive” in determining the level of short-run production and prices as well as the level of prices of goods and services at long run. However, the long-run production output is not affected by the volume of money (Friedman and Schwartz, 1963). But generally, the monetarist stresses the role of money in the economic activities. The Milton Friedman led School-of-Thought (modern theorists) opines that “inflation remains and has always been a monetary process that results from expansion of volume of money as opposed to total level of production output. Its earliest review was to be found in the simple quantity theory of money. According to the Keynesian theory of inflation, John Maynard Keynes (1883-1946) and his supporters stressed emphasized that the demand-pull inflation is as a result of the rise in aggregate demand. In Keynesian model, the aggregate demand comprises consumption, investment and government expenditure. Keynes believes that inflation originates from expansory forces, rise in input prices (Cost Push Inflation) and concentrated industries (Profit inflation).

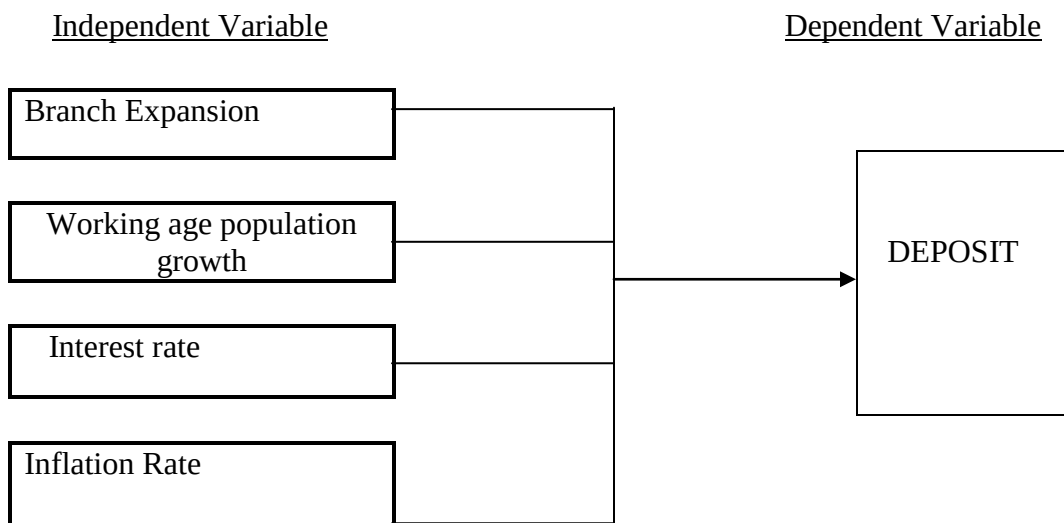
2.2.4 Saving interest rate and Total deposit

Deposit interest rate can be defined as the reward or profit has been paid to depositors with respected to their deposited money. This reward is for sacrificing present consumption for the future consumption (Garo, 2015). Economists, mainly conventional economists, believe that depositors are decided to deposit their money in banks because of the opportunity cost of holding cash in hand is high when the interest rate is also high (Athukorala and Sen, 2003). This can easily be explained by the utility maximization (cost minimization) premise, as a depositor will choose an action that will maximize their welfare or satisfaction. As to Richard (1971), regulation of the commercial banking industry affects the returns that expected by depositors. That is although deposits are the source for profit of banks it is influenced by regulation of the country. Accordingly, the higher profit rate on demand deposits is the result of the prohibition against the payment of interest on these deposits. Therefore, depositors are motivated by returns. Using an adaptive expectation model, it is founded that depositors are indeed motivated by returns in Malaysia (Erna and Ekki, 2004). On the other hand, Erna and Ekki (2004) state that Gafoor (2003) shows that the rate of interest does not have influence on the volume of the

deposits. Interest rate was also taken as an explanatory variable by (Andinet, 2016), the result is positive and significant to deposit. (Shemsu, 2014) the result is positive and insignificant and (Giang, 2015) the result is negative and insignificant.

2.3 Conceptual framework

The research describes factors that determine commercial bank of Ethiopia deposit. There are independent variables (factors) that affect the dependent variable deposit mobilization such as number of bank branches, working age population growth, deposit interest rate, inflation rate etc. Commercial bank of Ethiopia has more branch than the private banks and it is assumed as more reliable for customers in its branch network. In line with this and other factors the total deposit of commercial bank of Ethiopia is growing continuously. According to the five years strategic plan of the bank, CBE opens 100 branches and recruits two million customers annually. While doing so the working age population growth in the country should be given attention.



CHAPTER THREE

RESEARCH METHODOLOGY, DESIGN AND METHODS

Introductions

This chapter describes the Research Methodology research design and Research methods. Research Methodology represents “a theory and analysis of how research does or should proceed.” Methodology encompasses our entire approach to research. Our assumptions about what we believe knowledge embedded in methodological discussions and therefore have consequences for how we design and implement research studies. But a method is a particular Research technique or way to gather evidence about a phenomenon. Therefore, methods are the specific research tools we use in research projects to gain fuller understanding of phenomena. That is, the range of approaches used in research to gather data which are to be used as a basis for inference and interpretation, for explanation and prediction.

3.1 Research Methodology

This section illustrates the methodology that has been pursued to obtain the desired results as per the stated general and specific objectives. Research methodology is the theoretical framework that helps us to produce valid knowledge about the particular study that the researcher already proposed to engage, and shall be clearly present appropriate information on the basis of understanding the existing reality of Challenges of deposit mobilization in Commercial Bank of Ethiopia. Besides, this section shows us the ways or procedures that how data were collected and the analytical tools to interpret and analyze data. For this study thirteen Commercial bank of Ethiopia branches in West Addis Ababa district were selected using purposive sampling techniques method. The main reason for using purposive sampling technique is to include only those employees of the bank which are the member of the branch deposit mobilization team. The technique used to elicit primary data is questionnaire. The design of the questionnaire was guided by the objectives of the study and the literature review. The secondary data was gathered from review of organizational documents such as reports, surveys, and periodicals. And also other published documents, books, magazines, and journal articles also reviewed. Therefore,

since the study being requires careful selection of methodologies to produce reliable information, the entire research process is guided by the following methodological components.

3.2 Research Design

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 determining the outcome having numeric value, it is quantitative approach. Therefore 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 three macroeconomic variables Inflation, working population growth and Interest Rate and the three bank specific variable number of bank branch were employed. It uses time series data covering the period from 2008 through 2017.

3.3 Research Methods

The researcher adopted a quantitative research approach to achieve the objective of the study. Both primary and secondary data were collected and balanced panel data were used for multiple regression model. Panel data can better detect and measure effects that simply cannot be observed in pure cross-section or pure time series data Gujarati (2004).

In this study, quantitative data collected by using questionnaires organized, coded and then analyzed. Specifically, simple statistical analysis like percentage, frequency, and tabulation were used in order to analyze the data easily. IBM SPSS statistics 22 has been applied for producing charts and to simplify the calculation.

3.3.1 Source of Data

3.3.1.1 Primary Data

The reasons of using this method are to get original information from the field which is very useful in addressing the problem under this study. This is the best way of knowing how the situation is in the field, and unlike the published information, this source will give valid

information which is specifically collected for purpose of this study. Primary data was collected through a questionnaire that was distributed to employees of commercial bank of Ethiopia.

3.3.1.2 Secondary Data

Secondary data was gathered from documentary source like, journals, books, articles, official bank's reports, collective agreements, and central Statistics agency, National Bank of Ethiopia annual reports and online source and magazines.

3.3.2 Methods of Data collection

This study will involve in a number of techniques of data collection in order to achieve both primary and secondary data. This study will adopt self-administered questionnaires, whereby lists of questions will be given to a number of persons for them to answer and give their opinions accordingly. Questionnaires secure standardized results that can be tabulated and treated statistically. The questionnaire will be pre-tested for accuracy and completeness. The pre- test of the questionnaire will intend to enable the researcher to improve the questions as their accuracy will be essential in collecting good quality information. It involves distributing self-administered questionnaires for the resource mobilization team members, branch managers and line managers in the branch and collecting various secondary data from the annual reports of National bank of Ethiopia, Commercial bank of Ethiopia, Central Statistics agency and other relevant documents.

3.3.3 Sampling technique's

The study will apply a purposive sampling technique to select a sample of 155 respondents. The sampling here is confined to specific types of people who can provide the desired information, either because they are the only ones who have it, or conform to some criteria set by the researcher. This type of sampling design is called purposive sampling, and the two major types of purposive sampling—judgment sampling and quota sampling. In this study the researcher used a Judgment sampling technique which involves the choice of subjects who are most advantageously placed or in the best position to provide the information required. The study will carry out in the commercial bank of Ethiopia west Addis Ababa district branches that are found within Addis Ababa city. West Addis Ababa district is one of the four districts that are located in Addis Ababa and surrounding areas. It is selected using convenience sampling method; the reason for selection of this method is due to economical and fastest way to get a quick response

from the respondents. Branches which are found under this district are classified as grade I, grade II, grade III, and grade IV based on their banking performance. This research only considered city branches due to branches location from Addis Ababa city. To this end, the researcher targets grade I, II, III and grade IV branches of west Addis Ababa district with a total population of 253 employees which involves in deposit mobilization activities and member of the resource mobilization team in their branch (**Data Source; West Addis Ababa District Resource mobilization Department**). From total population of 253 employees the researcher selected 155 sample employees at 95% confidence level and 5% error. The sample population is calculated from the total population of Commercial Bank of Ethiopia West Addis District deposit mobilization team member Employees that are found in Addis Ababa city branches.

$$S = \frac{N}{1 + N(e)^2}$$

N= is population size

S= is sample size

e=error

$$253 / (1 + 253(0.05)^2) = 155$$

Source: Yamane Taro, (1967)

3.4 Operational Definitions of variables

i. Dependent Variable operational definition

a. Total deposit

According to Mohan (2012), Bank deposit mobilization is the Acts or methods of rising or collecting money from the individuals, organizations or government agencies in the form of saving is called deposit mobilization. The nature of the deposit can be saving deposit, demand deposit and time deposit. But, this study was used total deposit mobilized by sampled commercial bank of Ethiopia in west Addis Ababa district.

Variable	Definition	Notations	Expected Signs
Deposit mobilization of commercial bank of Ethiopia	The annual growth of the total amount of deposit	LDEPO	

Table 3.1 Dependent Variable operational definition

ii. Independent variables operational definitions

a. Branch Expansion

Branch expansion is opening new branches or service outlets in and outside the country. A smaller bank has to generate less deposit in absolute terms to achieve the same deposit growth than a large bank, 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. Daniel (2005) suggests that the lack of widespread branching bank networks hindered the development of large-scale industrial firms.

b. inflation

Inflation is explained as continuous rise over time in the prevailing price level of goods and services in an economy. This rise in prevailing prices of goods and services translates to the monetary unit purchasing less goods and services. Hence it can be concluded that inflation mirrors decreasing purchasing power per unit of the country's currency, reduced value of goods and services in the medium of exchange and unit of account within the economy (Fischer, 1993). Fisher further mentioned that a key evaluation of price inflation is the inflation rate, which is measured by the percentage increase or decrease in a general price index annually (proxied by the consumer price index) over time.

The effect of inflation is not disturbed evenly in the economy, and as a consequence there are hidden cost to some and benefit to other from this decrease in the purchasing power of money. Inflation can have negative or positive effect (Orjakor, 1999). Higher inflation and interest rates may depress the demand for bank deposits, causing banks to restrict the supply of credit and thereby inducing declines in spending (Kamin and Roger, 2000: 92). High inflation has adverse effects on economic performance either by creating distortions, encouraging rent seeking

activity, or by raising risk premia, one would expect central bank independence to improve economic performance (Alesina and Summers, 1993: 152). Higher inflation implies less long-run financial activity. In economies with high inflation, intermediaries will earn less and allocate capital less effectively, and equity markets will be smaller and less liquid (Boyd et al., 2001: 223).

c. Interest Rate

Interest is an inseparable part of today's economic activities and it is also the main reason of fluctuation and hurdles in economic development because of interest rate money is considered as commodity rather than medium of exchange and it creates unequal distribution of wealth within the society as concentration of money remains in few hands hence rich becomes richest and poor becomes poorer (Mohammad Farooq, 2012). If we define interest rate then it is the amount of money that lender receives or borrower pays in excess of actual money or we can say it cost of capital.

d. Working age population growth

According to Hibret (2015) working age population growth would mean an increase in functional labor force that would attract investment and create wealth which would positively affect overall economic growth. As a result deposit will grow because of the more number of populations tend to have more number of income generator and also a more number of saver.

The result of Hibret (2015) revealed that Population growth had positive and significant impact on deposit. And also this is supported by the study of Modigliani (1986).

3.5 Model Specification

The nature of data used in this study enabled to use time series data. Quantitative data received are described through multiple regression technique. It contains one dependent variable, four independent variables, the constant term and the error 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.

Accordingly the econometric estimation technique that is used by this study is Ordinary Least Square (OLS). Different diagnostic tests are exercised to know whether the model is valid or not, having the model is valid the regression analysis and hypothesis testing is performed using EViews9 software.

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

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \dots + \beta_k X_k + u \dots \dots \dots (1)$$

Where Y is dependent variable, X are explanatory/independent/ variables, α is constant β_1 is intercept, and β is the parameter associated with X_1 , β_2 is the parameter associated with X_2 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 X_1 , X_2 and X_k 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:

$$LDEPO = \alpha + \beta_1 LPOPU_t + \beta_2 INTE_t + \beta_3 LBRAN_t + \beta_4 INFL_t + \varepsilon$$

Whereas;

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

LPOPU_t: refers to the total working age population growth in Ethiopia by the year t`

LBRAN_t: is the number of new branch opening in CBE by the year t`

INFL_t: is the overall inflation rate in Ethiopia by the year t`

INTE_t: the overall interest rate in Ethiopia by the year t`

Table 3.2 Independent Variables, definitions, notations and expected signs.

Variable	Definition	Notations	Expected Signs
Interest Rate	The rate of interest paid on saving deposit given by commercial banks	INTE	+ve
Inflation	The overall inflation rate in Ethiopia	INFL	-ve
Working Population Growth	This is the total growth of working population in the country	LPOPU	+ve
Branch expansion	opening new branches or service outlets in and outside the country	LBRAN	+ve

3.6 Validity and reliability of data

It is well known that secondary data are vulnerable to some errors by data collection process. This definitely affects the outcome of the study. But the methodology used for this study was selected because of its suitability in its dependence 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. In the preceding chapters, we are going to see the result of the analysis that is the effect of each independent variable on the dependent variable.

CHAPTER FOUR

Data Presentation, Analysis and Discussion

4. Introduction

This chapter consists of the analysis of quantitative and qualitative data identified in the previous chapter. It presents the descriptive and statistical data analysis for the variables as well as the test for heteroskedasticity, autocorrelation and normality testing to know if the assumptions of CLRM violated or not.

4.1 Descriptive Data analysis

The researcher had summarized the information gained from questionnaires and analyzed using descriptive analysis techniques. The researcher had used SPSS software to analyze the questionnaires and describe the result. Accordingly 155 questionnaires are analyzed and interpreted using the statistic result that is SPSS displays. So as to show the trend of total deposit of commercial banks, the researcher had analyze the data using Microsoft excel and SPSS as a result the graph of total deposit of commercial banks trend for the year 2008GC up to 2017GC and its descriptive statistics are displayed and interpreted. The descriptive statistics for the dependent variable (total deposit of commercial banks) and the independent variables (Interest rate, working population growth, inflation rate, branch expansion of commercial bank) is displayed by EViews9 and the results are interpreted.

4.2 Diagnostic test methods

The econometric estimation technique that is used by this study is ordinary least square (OLS). There are five assumptions made in relation to the classical linear regression model (CLRM). The researcher has tested if there exists the violation of these assumptions. The method used to test these assumptions by the researcher is described as follows:-

4.2.1 The average value of the error is zero

This assumption is not violated as the regression line did not force through the origin to pass. This assumption is violated if the model does not have constant term since the line will be forced to pass through the origin, however in our case the model have constant term which will prove

that the line did not pass through the origin and the first assumption of CLRM is not violated. Therefore the variation in the dependent variable, total deposit of commercial banks, is explained by the independent variables.

4.2.2 The Assumption of Homoscedasticity

The variance of the errors should be constant; this assumption is called homoscedasticity assumption. If the errors do not have a constant variance, they are said to be heteroscedastic. The researcher uses Breusch Godfrey test(BG test) for heteroskedasticity. In this test the null hypothesis is that there is no evidence for the presence of heteroskedasticity (homoscedasticity does exist) and the alternate hypothesis is that there is evidence for the existence of heteroskedasticity. Therefore, if this hypothesis is rejected it is said to be the variance of the errors are no longer constant or the assumption of homoscedasticity is violated. On the other hand there is evidence for the existence of heteroskedasticity.

4.2.3 The Assumption of Autocorrelation

Covariance between the error terms overtime (or cross-sectional, for the type of data) is zero. It is assumed that the errors are uncorrelated with one another. If the errors are not uncorrelated with one another, it would be stated that they are autocorrelated or that they are serially correlated. The study uses Durbin-Watson test (DW test) to test autocorrelation. The null hypothesis for this test is the error at the current time and the error at previous time is independent of one another(there is no autocorrelation) and the alternative hypothesis is that the error at the current time is dependent on the error of the previous time(there is evidence for the presence of autocorrelation). Therefore if the null hypothesis is rejected then it is said that there is an evidence for the presence of autocorrelation. Durbin-Watson test(DW test) only tests the correlation between the error and its immediate previous value(first order autocorrelation). For further test of autocorrelation the researcher uses Breusch-Godfrey test so that the autocorrelation that are not detected by DW test will be found.

4.2.4 The Independent Variables are Non Stochastic

OLS estimator is consistent and unbiased in the presence of stochastic regressors, provided that the regressors are not correlated with the error term of the estimation equation. However, if one

or more of the explanatory variables is contemporaneously correlated with the disturbance term, the OLS estimator will not even be consistent.

The regressors (independent variables) are not correlated with error term of the estimation equation is the assumption that is violated if the constant term does not exist. This study has a constant term in its model, therefore it can be concluded that it protected from the violation of assumption number one and four.

4.2.5 The Assumption of Disturbance is Normally Distributed

The study uses Bera Jarque(BJ) normality test for non-normality. From the result the study uses the value of kurtosis and p-value to identify whether normality exists or not. The null hypothesis is that the distribution is normal and the alternate hypothesis is that the distribution is not normally distributed. Therefore if the null hypothesis is rejected then the distribution is not normally distributed. The researcher had also used kurtosis value to test for non-normality and from the literature the normal distribution had a kurtosis value of 3. A normal distribution is not skewed and is defined to have a coefficient of kurtosis of 3(Brooks, 2008). For the residuals to be normal jarque bera value should not be significant.

4.3 Statistical analysis of the dependent and independent variables

The descriptive statistics gives a broader picture that the residuals from the regression using these variables were expected to follow a normal distribution for efficient and unbiased estimators. It includes mean, median, maximum, minimum, standard deviation and others statistics value. The table below shows the descriptive statistics of the variables used in the model and its interpretations are presented as follows.

Table 4.1 The statistical analysis of the variable

Variables	DEPO	BRAN	INFL	POPU	INTE	DV1
Mean	8.125471	2.745835	0.224400	7.671184	0.049000	0.250000
Median	8.176641	2.830006	0.210000	7.672089	0.050000	0.000000
Maximum	8.655138	3.109579	0.320000	7.741939	0.070000	1.000000
Minimum	7.575188	2.303196	0.120000	7.583199	0.040000	0.000000
Std. Dev.	0.335282	0.294476	0.058169	0.042838	0.008412	0.438529
Skewness	-0.198263	-0.375417	0.061205	-0.159817	1.235264	1.154701
Kurtosis	1.758979	1.613703	1.849916	1.948454	4.498425	2.333333
Jarque-Bera	2.828944	4.142614	2.229462	2.013192	13.91463	9.629630
Probability	0.243054	0.126021	0.328003	0.365461	0.000952	0.008109
Sum	325.0189	109.8334	8.976000	306.8474	1.960000	10.00000
Sum Sq. Dev.	4.384150	3.381924	0.131964	0.071568	0.002760	7.500000
Observations	40	40	40	40	40	40

Source: Research Data from Eview 9

The summary descriptive statistics of the variables used is presented in table 4.1 shows us over the study period, the average total CBE deposit grew by 812.54 percent whereas the average branch expansion, inflation, working age population growth and deposit interest rate growth rate was 274.58, 22.44, 767.11 and 4.9 percent respectively. The skewness which measures the asymmetry of the distribution around its mean has values less than zero 0 in three occasions except deposit interest rate and inflation. This is an indication that the distribution has a long Left

tail. The kurtosis measures the flatness of the series. The result shows that all variables have values less than 3 except interest rate. The structure of all except deposit interest rate is **Platykurtic** while it is **leptokurtic** for deposit interest rate. The result from the Jarque-Bera test indicates an acceptance of the null hypothesis that the random variables are normally distributed because the JB statistics are greater than critical values at 5% level. The probability value of the model also conform that the null hypothesis of variables being normally distributed as the result there is no reject region.

4.4 Econometric analysis and results interpretation

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, four independent variables, the constant term and the error term. The ordinary least square (OLS) method is used to come up with the econometric results. The model specified follows a log relationship, in order to show the elasticity of the dependent with respect to the explanatory variables. For the test statistics 5 % (0.05) significant level is used to reject or not to reject the null hypothesis. In view of that before running the regression equation the following tests were carried out; non-normality using Bera-Jarque normality tests, multicollinearity using the correlation matrix and Heteroskedasticity using Breusch-Pagan Godfrey. As these tests prove the validity of the model, the study had continued into regression analysis. Accordingly, the output of the tests which are displayed by EViews9 software are presented and interpreted as follow.

4.4.1 Test for Non-normality test

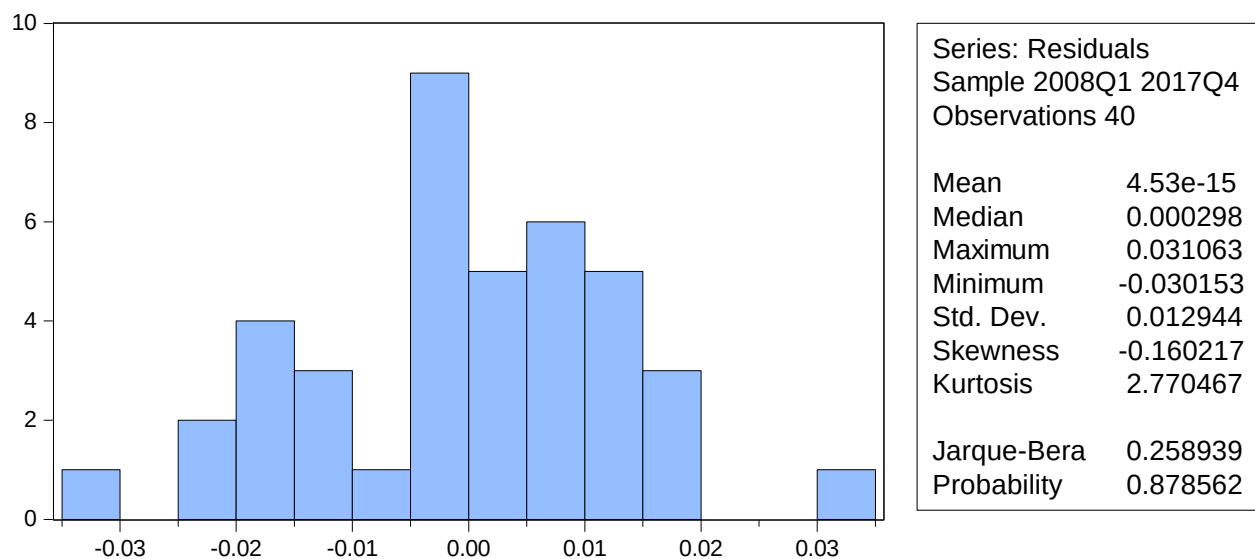
To testing the Normality Assumptions, graphical methods, such as histograms and normality plots, can be conducted to provide a visual inspection of the normal distribution of a data set prior to further interpretation of the regression analysis. Histograms can provide important information about the shape of a distribution. If most of the scores are gathered around the middle of the continuum and a gradual, symmetric decrease of frequency on either side of the centre score occurs, it is considered a normal distribution. However, if the scores are not symmetric and are spread out away from the majority it is considered skewed. If the 'tail' (a small number of the distribution) is spread out to the right, it is considered positively skewed,

and if the ‘tail’ is spread out to the left, it is considered negatively skewed. Kurtosis is the shape of any or lack of peaks within a distribution. Though no distribution can be considered ‘perfect’, a distribution is regarded as normal when the value of skewness is 0 and of kurtosis is 3.

Ho: The residuals are normally distributed

H1: The residuals are not normally distributed

Chart 1: Non normality test of the multiple regression models



Source: EViews9 output for normality test

Bera-Jarque normality tests have been used for normality test. The kurtosis value is around 2.78 which is related to 3. Jarque-Bera’s also indicates that the residuals are normally distributed having the value 0.258939 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 (Brooks, 2008). The p-value 0.878562 which is greater than 0.05 had failed to reject the null hypothesis of normality presence.

4.4.2 Test for Heteroskedasticity

The test of heteroskedasticity is a test of the second assumption of OLS estimator that says the variance of errors term is constant. The researcher uses Breusch Godfrey test (BG test) to test for heteroskedasticity.

Ho: The assumption that there exists homoscedasticity

H1: There is no homoscedasticity (there is Heteroskedasticity)

Table 4.2: The Heteroskedasticity test of the multiple regressions.

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.461387	Prob. F(4,35)	0.2348
Obs*R-squared	5.724539	Prob. Chi-Square(4)	0.2207
Scaled explained SS	5.602431	Prob. Chi-Square(4)	0.2309

Source: EViews9 output

In this study as shown in table 4.2, 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 heteroskedasticity, since the p-values were in excess of 0.05. The explained sum of squares from the auxiliary regression, also gave the same conclusion that there is no evidence for the presence of heteroskedasticity problem, since the p-value was considerably in excess of 0.05. Therefore, EViews displays three different type of tests for heteroskedasticity and all fails to reject the null hypothesis of homoscedasticity presence. So it can be concluded that the variance of error term is constant or the second assumption of CLRM is not violated

4.4.3 Autocorrelation test

The Durbin-Watson test only tests the first order autocorrelation. For further test of autocorrelation the researcher uses Breusch-Godfrey test so that the autocorrelation that are not detected by DW test will be found. Moreover, BG test tests the autocorrelation of the residual and several lagged values of it.

Ho: There is no autocorrelation

H1: There is autocorrelation

Table 4.3: Autocorrelation test of multiple regressions

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.059792	Prob. F(2,32)	0.9421
Obs*R-squared	0.148922	Prob. Chi-Square(2)	0.9282

Source: Eviews9 output

According to the DW result of the study, there is no autocorrelation which occurred between the variables and their respective lagged value. As (Brooks, 2008) stated, implication of DW taking one of three important values (0, 2, and 4):

$P = 0$, $DW = 2$ this is the case where there is no autocorrelation in the residuals. So roughly speaking, the null hypothesis would not be rejected if DW is near 2 $\rightarrow$ i.e. there is little evidence of autocorrelation.

$P = 1$, $DW = 0$ this corresponds to the case where there is perfect positive autocorrelation in the residuals.

$P = -1$, $DW = 4$ this corresponds to the case where there is perfect negative autocorrelation in the residuals.

Therefore, DW test from the regression have a value of 1.866607 which is related to 2 and that leads us to conclude there is little evidence of the presence of autocorrelation. The test of autocorrelation of the residuals and several lagged value of it, Breusch-Godfrey test(BG test), presents with two type of test and both fails to reject the null hypothesis of no autocorrelation. Therefore, given these result it can be concluded that there is no evidence for the existence of autocorrelation.

4.4.4 Test for Multicollinearity

The results of correlation tests are depicted by a correlation matrix table:

Table 4.4 : Correlation matrixes

Variables	DEPO	BRAN	INFL	POPU	INTE	DV1
DEPO	1.000000	0.991254	0.175490	0.992629	0.815979	0.144321
BRAN	0.991254	1.000000	0.111995	0.974949	0.779187	0.126933
INFL	0.175490	0.111995	1.000000	0.203954	0.275406	0.157813
POPU	0.992629	0.974949	0.203954	1.000000	0.799068	0.077602
INTE	0.815979	0.779187	0.275406	0.799068	1.000000	0.486534
DV1	0.144321	0.126933	0.157813	0.077602	0.486534	1.000000

Source: EViews9 output

The correlation matrix presented in Table 4.4 indicates a positive relationship between Total deposit growth (dependent) with explanatory variables (Working population growth, average deposit interest rate, inflation rate and number of branches). As expected, all explanatory variables are positively related or correlated to the explained variable. And also there is no higher correlation between independent variables. Therefore it can be concluded that there is no correlation between the explanatory variables.

4.5 Regression Analysis

The relationship between one variable and four independent variables is regressed using econometric software called EViews9. The dependent variable is total deposit of commercial banks(DEPO) and the four independent variables include deposit interest rate rate(INTE), inflation rate(INFL) and number of commercial bank branches(BRAN) and Working age Population growth in the country(POPU). The regression by ordinary least square method with the data of successive 10 years from the 2008GC onwards, i.e. 2008GC-2017GC.

Table 4.5 Regression analysis

Dependent Variable: DEPOMethod: Least SquaresDate: 05/09/19 Time: 08:19Sample: 2008Q1 2017Q4Included observations: 40

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BRAN	0.507902	0.039825	12.75318	0.0000
INFL	0.027181	0.044114	0.616146	0.5419
POPU	4.213607	0.309511	13.61377	0.0000
INTE	0.779732	0.640041	1.218252	0.2315
DV1	0.027263	0.007722	3.530470	0.0012
C	-25.64362	2.253637	-11.37877	0.0000
R-squared	0.998510	Mean dependent var		8.125471
Adjusted R-squared	0.998290	S.D. dependent var		0.335282
S.E. of regression	0.013863	Akaike info criterion		-5.581694
Sum squared resid	0.006534	Schwarz criterion		-5.328362
Log likelihood	117.6339	Hannan-Quinn criter.		-5.490097
F-statistic	4555.628	Durbin-Watson stat		1.834858
Prob(F-statistic)	0.000000			

Source: Eview9 output

4.6 Results interpretations

A) Coefficient of determination of the model

The above table (Table 4.5) shows the results of regression analysis. An F statistics of 4555.46 (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 goodness of fit measure R^2 is a measure of the extent to which the variation of the dependent variable is explained by the explanatory variable(s). The formula for it is $R^2 = 1 - \frac{\text{sum of squared errors}}{\text{sum of deviations from mean}}$ $R^2 = 1 - \frac{\sum_i (y_i - \beta_0 - \beta_1 x_i)^2}{\sum_i (y_i - \bar{y})^2}$ where $\bar{y}$ is the average value of y

sum of squared errors sum of deviations from mean is the amount of the total variation of y that is unexplained by the regression, so $1 - \text{sum of squared errors} / \text{sum of deviations from mean}$ is the amount which is explained by the regression. Clearly R^2 will be between 0 and 1, values close to 1 indicate good explanatory power. Based on this the coefficient of determination of R^2 0.998510 means that 99.85% 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.

Durbin-Watson stat, its value is 1.835 in the regression. Since the value of DW is near 2 rather, it can be concluded that there is little evidence for the existence of autocorrelation.

B) Coefficient of determination of the constant term

The coefficient estimate of the constant of the regression is -25.64362 shows that the value of dependent variable if all independent variable becomes zero. This indicate that the total deposit of commercial banks will be decreased by the unit 25.64362 given all independent variable zero and this indicate that the dependent variables in the model is highly depends on the dependent variable. Then again the probability of 0.000 showed that this variable was significant.

C) Coefficient of determination of Branch expansion

Ceteris paribus, a regression coefficient of 0.507902 means that 1% increase in Number of Branch's results in 0.507902 units increase in CBE deposits. There is also a positive relationship between deposits and Branch expansion; then again the probability value of 0.000 indicated that this variable is significant for the deposit growth in CBE.

D) Coefficient of determination of Inflation rate

Ceteris paribus, a regression coefficient of 0.027181 means that 1% change in inflation rate results in 0.027181 units change in CBE deposits. There is also a positive relationship between deposits and inflation rate; then again the probability value of 0.5419 indicated that this variable is insignificant for the deposit growth in CBE.

E) Coefficient of determination of working age Population growth

Ceteris paribus, a regression coefficient of 4.213607 means that 1% change in working age population growth results in 4.213607 units change in CBE deposits. There is also a positive relationship between deposits and working age population growth; then again the probability value of 0.0000 indicated that this variable is significant for the deposit growth in CBE

F) Coefficient of determination of 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 4.5 above. And also probability value of 0.2315 is greater than 0.05 critical value showed that this variable was insignificant in assessing the research problem.

4.7 Hypothesis Test

Wald test have been used to test the multiple hypothesis. The null hypothesis is rejected with p-value of zero to four decimal places.

Table 4.6 The hypothesis test for the coefficient of the independent variables

Wald Test:

Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	2294065.	(6, 34)	0.0000
Chi-square	13764391	6	0.0000

Source: EViews9 output of the hypothesis test (Wald 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. Working age population growth, inflation rate, interest rate and branch expansion positively affects the total deposit of commercial banks.

4.8 Analysis of qualitative data

The researcher thought that, some of the qualitative data in this study cannot be described and manipulated numerically. Based on this, the researcher had analyzed some of the most relevant data which were not covered by qualitative analysis. The study uses questionnaires to collect qualitative data. The questionnaires are distributed to the employees of commercial bank of Ethiopia (CBE) in selected Addis Ababa city branches in west Addis Ababa District. The study had used the frequency distribution output from SPSS software to analyze questionnaires. There are 155 questionnaires analyzed through SPSS software. Accordingly, the result of the frequency distribution as displayed by the software is mentioned and interpreted as follows

4.8.1 The frequency distribution

A) General information of the respondents

In this section the researcher tries to include educational level, work experience and current job title of the respondents. The following table depicts about the information received from the respondents

Table 4.7: The frequency distribution for gender of the respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
MALE	113	72.9	72.9	72.9
Valid FEMALE	42	27.1	27.1	100.0
Total	155	100.0	100.0	

Source: SPSS output of frequency distribution of the respondents

From the total number of the respondents 72.9%(113) of the respondents are male respondents and the other 27.1%(42) are female respondents.

Table 4.8: The frequency distribution for Age of the respondents

Age	Frequency	Percent	Valid Percent	Cumulative Percent
BELOW 25	13	8.4	8.4	8.4
26-35	98	63.2	63.2	71.6
36-45	41	26.5	26.5	98.1
46-55	2	1.3	1.3	99.4
ABOVE 55	1	.6	.6	100.0
Total	155	100.0	100.0	

Source: SPSS output of frequency distribution of the respondents

Based on the above table 8.4 %(13) of the respondents are below 25 years old, 63.2%(98) of them are age between 26-35 years old, 26.5%(41) of them are between the age of 36-45 years' 13%(2) of them are 46-55 years and the other 6%(1) of them is above 55 years old.

Table 4.9: The frequency distribution for academic qualification of the respondents

Academic Qualification	Frequency	Percent	Valid Percent	Cumulative Percent
DIPLOMA	1	.6	.6	.6
DEGREE	91	58.7	58.7	59.4
MASTERS AND ABOVE	63	40.6	40.6	100.0
Total	155	100.0	100.0	

Source: SPSS output of frequency distribution of the respondents

Based on the above table 6 %(1) of the respondents is diploma holder , 58.7%(91) of them are first degree holder and 40.6%(63) of them are Masters and above holders.

Table 4.10: The frequency distribution for Job experience of the respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 2-5 YEARS	5	3.2	3.2	3.2
5 -10 YERAS	111	71.6	71.6	74.8
10-15 YEARS	33	21.3	21.3	96.1
ABOVE 15 YEARS	6	3.9	3.9	100.0
Total	155	100.0	100.0	

Source: SPSS output of frequency distribution of the respondents

Based on the above table 32 %(5) of the respondents have below 2-5 years of experience in the bank, 71.6%(111) of them have between 5-10 years' work experience , 21.3%(33) of them have work experience between 10-15 years' and 3.9%(6) of them have above 15 years job experience in the bank.

Table 4.11: The frequency distribution for position in the bank of the respondents

Position of respondents	Frequency	Percent	Valid Percent	Cumulative Percent
Valid BM (BRANCH MANAGER)	35	22.6	22.6	22.6
MBB (MANAGER BRANCH BUSINESS)	24	15.5	15.5	38.1
MBO (MANAGER BRANCH OPERATION)	26	16.8	16.8	54.8
BBO (BANKING BUSINESS OFFICER)	34	21.9	21.9	76.8
CSO (CUSTOMER SERVICE OFFICER)	36	23.2	23.2	100.0
Total	155	100.0	100.0	

Source: SPSS output of frequency distribution of the respondents

From the 155 respondents 22.6%(35) of them are branch managers,15.5%(24) of them are manager branch business,16.8%(26) of them are manager branch operation,21.9%(34) of them are Banking Business officers and the remaining 23.2%(36) of them are customer service officers.

B) Bank specific information of the respondents

In order to see the information about bank deposit and its determinants of deposit, as it is presented in the methodology part, the researcher tries to collect data from the eligible bank staff.

Table 4.12: The frequency distribution for main depositors of the bank as per the respondents

Main Depositors	Frequency	Percent	Valid Percent	Cumulative Percent
INDIVIDUAL CUSTOMERS	78	50.3	50.3	50.3
BUSINESS CUSTOMERS	23	14.8	14.8	65.2
GOVERNMENTAL ORGANIZATIONS	3	1.9	1.9	67.1
ALL	51	32.9	32.9	100.0
Total	155	100.0	100.0	

Source: SPSS output of frequency distribution of the respondents

As we can find it on the above table 50.3%(78) of the respondents respond that commercial bank of Ethiopia collects its deposit from individual customers, 14.8%(23) of them says it is mobilizing its deposit from business organizations, 1.9%(3) of the respondents says that the government is the main depositor of the bank and 32.9%(51) of the respondents says that the bank is mobilizing its deposits from all the individual customers, business organizations and government.

Table 4.13: The frequency distribution for types of deposit in bank as per the respondents

Types of deposit		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	SAVING	112	72.3	72.3	72.3
	CURRENT	41	26.5	26.5	98.7
	FIXED	2	1.3	1.3	100.0
	Total	155	100.0	100.0	

Source: SPSS output of frequency distribution of the respondents

72.3%(112) of the respondents respond that saving deposit is the main deposit source of bank, 26.5%(41) of the respondents respond that current account is the main deposit source the bank and the remaining 1.3%(2) of them respond that fixed time deposit is the main source of deposit.

Table 4.14: The frequency distribution for why deposit grow year after year in CBE.

Why deposit grow year after year		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Working age Population growth	25	16.1	16.1	16.1
	Branch expansion	66	42.6	42.6	58.7
	GOOD SERVICE	51	32.9	32.9	91.6
	AWARNESS OF THE SOCIETY	13	8.4	8.4	100.0
	Total	155	100.0	100.0	

Source: SPSS output of frequency distribution of the respondents

As we can find on the above respondents statistics 16.1%(25) of the respondents agree that the Population growth in the country can be the main reason for deposit volume growth in commercial banks of Ethiopia, 42.6%(66) of them agree that branch expansion is the main reason for deposit growth and 32.9%(51) of them and 8.4%(13) of them responded that Good service in the commercial bank of Ethiopia and awareness of the society about saving respectively are the main reason for the growth of deposit in commercial bank of Ethiopia.

Table: 4.15 The frequency distribution of the most determining factors of CBE's deposit

Most determinant factor of deposit growth		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	SAVING INTERSET RATE	4	2.6	2.6	2.6
	INFLATION	7	4.5	4.5	7.1
	NUMBER OF BRANCHES	100	64.5	64.5	71.6
	SERVICE GIVEN BY THE BANK BRANCH	31	20.0	20.0	91.6
	CONVINENCE	13	8.4	8.4	100.0
	BRANCH OFFICES FOR CUSTOMERS				
Total		155	100.0	100.0	

Source: SPSS output of frequency distribution of the respondents

From the literature review part is mentioned that bank deposit can be affected by bank specific factors. Based on this fact, the respondents were asked to know whether these factors really have an impact on bank deposit. Their responses were presented in the table 4.13, indicates that 64.5%(100) of the respondents agree that branch expansion can be the main determinants for deposit growth in Commercial Bank of Ethiopia, 2.6% (4) of them claims that interest rate is the most determinants of bank deposit, 20% (31) of them responded that service given by the bank branch can be the main determinant of bank deposit and the rest of the respondents says that the convenience of branch office for customers can be determining factors of deposit.

Table: 4.16 The frequency distribution effect of interest rate in CBE's deposit/does it has an impact

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid YES	59	38.1	38.1	38.1
NO	96	61.9	61.9	100.0
Total	155	100.0	100.0	

Source: SPSS output of frequency distribution of the respondents

From the Table 4.13 we found that 38.1% (59) respondents agree that deposit is determined by the interest rate of the bank, while 61.9%(96) of the respondents are not agreed with interest rate as determinant factor of deposit

Table: 4.17 The frequency distribution the level of effect of interest rate in CBE's deposit

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid VERY HIGH	7	4.5	12.1	12.1
HIGH	28	18.1	48.3	60.3
MODERET	14	8.4	22.4	82.8
LOW	7	4.5	12.1	94.8
VERY LOW	3	1.9	5.2	100.0
Total	59	37.4	100.0	
Missing System	96	62.6		
Total	155	100.0		

Source: SPSS output of frequency distribution of the respondents

From the 59 respondents that agreed that interest rate is the determinant factor of deposit 4.5%(7) of them agree that the level of the effect of interest rate is very high, 18.1%(28) of them agreed that the level of its effect is high, 8.4%(14) of them agreed that the level of its effect is moderate, 4.5%(7) of them agreed the effect of interest rate is low and the remaining 1.9%(3) of them agreed that the effect of interest rate on deposit is very low.

Table: 4.18 The frequency distribution of effect of working age population growth in CBE's deposit

Working age population		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	YES HAS EFFECT	134	86.5	86.5	86.5
	NO EFFECT	21	13.5	13.5	100.0
	Total	155	100.0	100.0	

Source: SPSS output of frequency distribution of the respondents

From the total of 155 respondents 86.5% (134) of them agreed that working population growth is the determinant factor of deposit and it has an impact in banks deposit while the remaining 13.5%(21) of the respondents don't agree working age population growth is a determinant factor of deposit.

Table: 4.19 The frequency distribution of determinant level of working age population growth in CBE's deposit.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	VERY HIGH	44	29.7	33.3	33.3
	HIGH	63	41.9	47.1	80.4
	moderate	26	16.8	18.8	99.3
	LOW	1	.6	.7	100.0
	Total	134	89.0	100.0	
Missing	System	21	11.0		
Total		155	100.0		

Source: SPSS output of frequency distribution of the respondents

From the 134 respondents that agreed that working age population growth is the determinant factor of deposit 29.7%(44) of them agree that the level of the effect of working age population growth on deposit is very high, 41.9%(63) of them agreed that the level of its effect is high, 16.8%(26) of them agreed that the level of its effect is moderate ,6%(1) of the respondent agreed

the effect of working age population growth on deposit and the is no respondent that agree that the effect of working age population growth on deposit is very low.

Table: 4.20 The frequency distribution of the determinant effect of Branch expansion in CBE's deposit

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid YES	149	96.1	96.1	96.1
NO	6	3.9	3.9	100.0
Total	155	100.0	100.0	

Source: SPSS output of frequency distribution of the respondents

Out of the 155 respondents 96.1 % (149) of them agreed that branch expansion has a determining effect on deposit , while the remaining 3.9%(6) of them don't agree that branch expansion has determining effect on deposit mobilization.

Table:4.21 The frequency distribution shows to what level of Branch expansion determinant CBE's deposit

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid VERY HIGH	66	42.6	43.7	43.7
HIGH	73	48.4	49.7	93.4
MODERATE	7	4.5	4.6	98.0
LOW	3	1.9	2.0	100.0
Total	149	97.4	100.0	
Missing System	6	2.6		
Total	155	100.0		

Source: SPSS output of frequency distribution of the respondents

AS we can find on Table 4.16, from the total of respondents that agreed Branch expansion has determinant effect on deposit 42.6%(66) agreed that it has very high determining effect, 48.4%(73) of them agreed it has high determining effect,4.5%(7) of them agreed it has moderate

determining effect and the remaining 1.9%(3) of them agreed that branch expansion has low determining effect on banks deposit.

Table:4.22 The frequency distribution shows why CBE Makes Branch expansion year after year.

	Frequency	Percent	Valid Percent	Cumulative Percent
DEPOSIT MOBILIZATION	91	58.7	58.7	58.7
TO HAVE LARGE NUMBER OF BRANCH	12	7.7	7.7	66.5
TO MAKE ITSELF ACCESSABLE TO CUSTOMERS	41	26.5	26.5	92.9
TO GIVE LOAN FACILITY	2	1.3	1.3	94.2
TO INCREASE CUSTOMER BASE	9	5.8	5.8	100.0
Total	155	100.0	100.0	

Source: SPSS output of frequency distribution of the respondents

58.7%(91) respondents agreed that CBE makes branch expansion for deposit mobilization purpose, 7.7%(12) of the respondents agreed that CBE makes branch expansion to have larger number of branches, 26.5%(41) of the respondents agreed that CBE makes branch expansion to make itself accessible to its customers, 1.3%(2) of the respondents agreed CBE makes branch expansion to give Loan facility for its customers and the remaining 5.8%(9) of them responded CBE makes branch expansion to increase its customer base.

Table:4.23 The frequency distribution shows does inflation rate determine CBE deposit.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid YES	144	92.9	92.9	92.9
NO	11	7.1	7.1	100.0
Total	155	100.0	100.0	

Source: SPSS output of frequency distribution of the respondents

As we can find on Table:4.18 92.9%(144) of the respondents agreed that inflation rate determine CBE deposit, while the remaining 7.1%(11) respondents don't agree that inflation rate determine CBE deposit.

Table:4.24 The frequency distribution shows to what level inflation rate determine CBE deposit.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid VERY HIGH	23	14.8	15.8	15.8
HIGH	34	21.9	23.3	39.0
MODERATE	62	45.8	48.6	87.7
LOW	15	9.7	10.3	97.9
VERY LOW	3	1.9	2.1	100.0
Total	144	94.2	100.0	
Missing System	11	5.8		
Total	155	100.0		

Source: SPSS output of frequency distribution of the respondents

From the Table:4.19 14.8%(23) respondents agreed that the determining effect of inflation rate on deposit is very high ,21.9%(34) of them agreed that the level is high,45.8%(62) of them agreed the determinant effect of inflation on deposit is moderate,9.7%(15) of the respondents agreed that inflation rate determining effect on deposit is low, and the remaining 1.9%(3) of the respondents agreed that the determining effect of inflation on banks deposit is very low.

CHAPTER FIVE

Summary of Research Findings, Conclusions and Recommendations

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

5.1 Summary of the findings and Conclusions

Deposit mobilization is critical issue for banks. Cognizant of this, in depth analysis is done based on secondary data and primary data (questionnaire). The main objective of this study was to investigate the determinants of deposit of Commercial Bank of Ethiopia. Specific objectives were to determine and evaluate the effects of bank specific factors and macroeconomic factors. Accordingly the study reveals certain basic facts about CBE's deposit along with factors determining bank deposit. As a result of the analysis and interpretation, the following are the summary of the findings:-

- The study empirically ascertains that, managing deposits is not possible without knowing and controlling the factors affecting it. It is well known that deposit mobilization is the major services of commercial bank of Ethiopia. In view of that without having deposit CBE can't survive as a bank. For the reason that, the bank management, the staff and stakeholders of the bank has concerned about the deposit and the determining factors of deposit.
- The study finds that CBE has capacity and willingness to contribute to economic growth of the country by mobilizing more deposit. Again the study finds the sources and types of CBE's deposit. Accordingly there are three types of deposits: demand, savings and time deposits. The sources of bank deposit are from all economic agents including individuals, private and the government. While the bigger share deposit in CBE is currently from individuals and private saving 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 branch expansion, working age population growth in the country and the service given by the banks.

- Commercial Bank of Ethiopia has larger number of branches and they are increasing their number of branches year to year.
- The main reason of branch expansion in commercial bank of Ethiopia is for deposit mobilization and to make it accessible for its customers.
- Branch expansion is an important strategy for deposit mobilization, and it significantly increases deposit.
- Although it is insignificant, interest rate and inflation rate can increase commercial bank's deposit in Ethiopia. Therefore, inflation rate and deposit interest rate have positive impact on commercial banks' deposit.
- Based on economic analysis model result working age population growth in the country has Positive and significant impact on commercial bank deposit.
- The findings by Shemsu .B (2015) & Wubit (2012) has similar result with this study. Their study concluded that inflation rate has positive and insignificant impact on deposit while branch expansion has significant and positive impact. Whereas study made by Ketema(2017) showed that inflation rate has negative impact on the rate of deposit and he concluded that increase in inflation rate hinders deposit mobilization in banks.
- Working age population growth in the country has positive correlation and has significant impact in bank deposit in this study and the result was similar with the study made by Hibret(2015)
- And finally the study finds out some policy adjustments on widening network of the bank by aggressively opening new branches and giving extensive training for the staff about deposit mobilization and the factors that determine deposit.

5.2 Recommendations

Based on the research findings and conclusions the followings are recommended for commercial banks of Ethiopia as a way to mobilize more deposits than before.

- Since branch expansion has positive and significant effect on total deposit of commercial banks, commercial banks should expand their branches and reach their customers in order to increase their deposit.
- Managing deposits is not possible without knowing and controlling the factors determining it. Thus CBE should have identified the sources of deposit by considering the determining factors of bank deposit.
- Banks should increase their service quality and convenience of their office to their customers because, one of the main factors that affect the deposit mobilization is service quality given by the banks and the convenience of their branch offices for the customers. The more the offices are convenient for customers and quality service exists the higher will be the savings mobilization.
- The study found that working age population growth has positive correlation with deposit mobilization, with respect to this while branch opening commercial bank of Ethiopia has to use working age population growth statistics as an input in to select branch opening geographical locations of the bank.
- It is well known that mobilizing deposit is a core activity of all commercial banks. By the same analogy CBE's major activity is mobilizing deposit. Therefore the bank should give due emphasis to its deposit mobilizing tasks by considering mobilizing deposit is a way to survival

5.3 For further research

This study has covered some of the factors that determining deposit mobilization activity of Commercial Bank of Ethiopia and some recommendations are made based on the findings and conclusions. Yet factors such as government policies , availability of credit facilities,,

geographical locations of branches, competitive advantages of private or public banks, demographic characters of people, investing huge amount of money for promotional activities, culture and values of the society, access to infrastructures and others may be determinant to deposit mobilization. Thus other future studies and researchers should further identify and measure the degree of such variables significance to deposit mobilization using different models.

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Appendices

Appendices Part I

Questioner



Addis Ababa University

Collage of Business and Economics

Questionnaire to be filled by Commercial Bank of Ethiopia Employees

Dear respondent,

The purpose of this questionnaire is to collect firsthand information for a study being conducted on the topic, "Factors determining Deposit Mobilization in Commercial bank Ethiopia case study in West Addis Ababa district." as partial fulfillment of Master's of Business Administration (MBA) specialization in Finance. To this end, I kindly request you to provide me genuine information, to the best of your knowledge, so that the findings of the study would be legitimate. The study is purely academic research.

Therefore, for sure, all your responses will be kept confidential. I would like to thank you for your willingness, effort and sharing precious time to fill the questionnaire and returning it the earliest possible.

General Instruction:

Please use tick mark (✓) or mark (X) in the boxes provided to choose from the options given and answer in writing where appropriate. You don't have to write your name.

Part I: General Information

1. Gender: ☐ Male ☐ Female ☐ other
2. Age: ☐ Below 25 ☐ 26-35 ☐ 36-45 ☐ 46-55 ☐ Above 55
3. Academic Qualification:
☐ Diploma ☐ Degree ☐ Master's and above
4. How many years have you been working in the bank?
☐ 2-5 years ☐ 5-10 years ☐ 10-15 Years ☐ Above 15 years
5. Position In the bank
☐ Branch Manager ☐ Manager Branch Business
☐ Manager Branch Operation ☐ Customer service officer
☐ Banking Business officer

Part II: Bank Specific Information's

1. Which group of customers are the most significant depositors of your bank in terms of the size of deposits?
☐ Individuals ☐ All
☐ Business Organization
☐ Governmental Organization
2. Which deposit type has the most significant deposit volume in your branch?
☐ Savings account deposits ☐ Fixed time deposits
☐ Current account deposits

3. To what level commercial Bank of Ethiopia given attention for deposit mobilization?
- ☐ Very high ☐ high ☐ Moderate ☐ low ☐ very low
4. What do you think is the cause for the difference in deposit mobilization among branches?
- ☐ Working age population growth
- ☐ Branch expansion
- ☐ Good Service ☐ Awareness of the society
5. Does the volume of deposit mobilized by your bank grow year to year?
- ☐ Yes ☐ No ☐ I don't know
6. If your answer for question 13 is 'yes', what could be the reason?
- ☐ Attractive interest rate. ☐ The service given by the bank
- ☐ Literacy about saving. ☐ working age population growth in the country.
- ☐ Branch expansion ☐ The citizens' per capita income increased
7. Which of the following factors do you think affect the volume of deposits of the bank?
(Multiple answers can be given)

- ☐ Saving interest rate
- ☐ Inflation Rate
- ☐ Services given by the Bank Branch
- ☐ Convenience of Bank branch office for customers
- ☐ The Number of branches opened

8. Does the interest rate paid affects your branch deposit mobilization activities

- ☐ Yes ☐ No ☐ I don't know

9. If the answer for Qn 8 is "yes" to what level it affects the deposit mobilization activity?

- ☐ Very high ☐ High ☐ Moderate ☐ Low ☐ very Low

10. Does the Working age population growth in the country have an impact on your deposit mobilization activity?

- ☐ Yes ☐ No ☐ I don't know

11. If your answer for question No.10 is "yes" to what level it affects your deposit mobilization activity?

- ☐ Very high ☐ high ☐ Moderate ☐ low ☐ very low

12. Does the number of bank branch positively affect the overall deposit mobilization activity?

- ☐ Yes ☐ No ☐ I don't know

13. If the answer for Qn 12 is "yes", to what level the number of bank branches positively affects its deposit mobilization activity?

☐ Very high ☐ High ☐ Moderate ☐ Low ☐ very Low

14. Does commercial bank of Ethiopia make branch expansion year after year?

☐ Yes ☐ No ☐ I don't know

15. . If your answer for Number 14 above is 'Yes' what do you think is the main reason for the branch expansion? (More than one answer possible)

☐ Deposit mobilization

☐ To Give Loan facility

☐ To have a large number of branches

☐ To increase customer base

☐ To make itself accessible for its customers

☐ Other reasons (specify)

16. What is the impact of working age population growth on your deposit mobilization activity?

☐ Very high ☐ high ☐ Moderate ☐ low ☐ very low

17. Does the volume of deposit mobilized by respective branches of your bank differ?

☐ Yes ☐ No ☐ I do not know

18. Does inflation rate have an impact on your branch deposit mobilization activity?

☐ Yes ☐ No ☐ I do not know

19. If your answer for question number 18 is "yes" to what level inflation rate affects your branch deposit mobilization activity?

☐ Very high ☐ High ☐ Moderate ☐ Low ☐ very Low

Thank you

Appendices Part II

1. Autocorrelation Output

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.059792	Prob. F(2,32)	0.9421
Obs*R-squared	0.148922	Prob. Chi-Square(2)	0.9282

Test Equation:

Dependent Variable: RESID

Method: Least Squares

Date: 05/09/19 Time: 08:22

Sample: 2008Q1 2017Q4

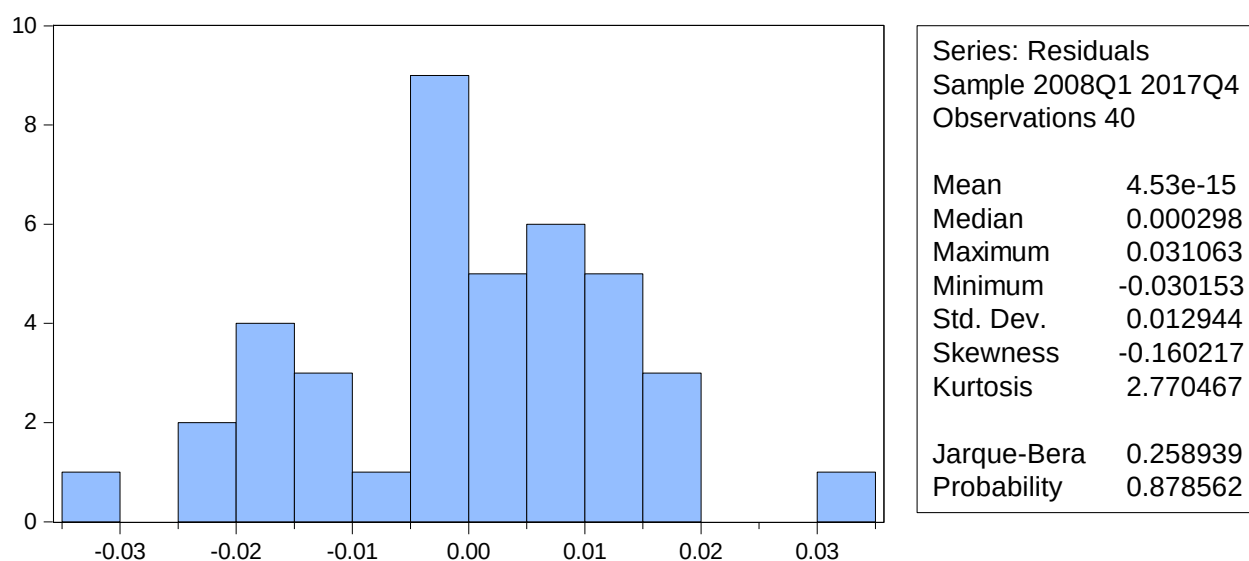
Included observations: 40

Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BRAN	0.001590	0.041449	0.038363	0.9696
INFL	0.002938	0.046222	0.063571	0.9497
POPU	-0.014456	0.323351	-0.044708	0.9646
INTE	0.013239	0.662914	0.019970	0.9842
DV1	1.54E-05	0.008192	0.001880	0.9985
C	0.105186	2.354368	0.044677	0.9646
RESID(-1)	0.003183	0.183700	0.017325	0.9863

RESID(-2)	-0.064016	0.185689	-0.344750	0.7325
R-squared	0.003723	Mean dependent var	4.53E-15	
Adjusted R-squared	-0.214213	S.D. dependent var	0.012944	
S.E. of regression	0.014263	Akaike info criterion	-5.485424	
Sum squared resid	0.006510	Schwarz criterion	-5.147648	
Log likelihood	117.7085	Hannan-Quinn criter.	-5.363295	
F-statistic	0.017083	Durbin-Watson stat	1.866607	
Prob(F-statistic)	0.999995			

2. Normality Test



3. Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.461387	Prob. F(4,35)	0.2348
Obs*R-squared	5.724539	Prob. Chi-Square(4)	0.2207
Scaled explained SS	5.602431	Prob. Chi-Square(4)	0.2309

Test Equation:
 Dependent Variable: RESID^2
 Method: Least Squares
 Date: 05/12/19 Time: 15:38
 Sample: 2008Q1 2017Q4
 Included observations: 40

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.060806	0.048581	1.251626	0.2190
BRAN	0.000493	0.000945	0.521993	0.6050
INFL	0.000545	0.001108	0.492422	0.6255
LPOPU	-0.008180	0.006677	-1.225083	0.2287
INTE	0.014104	0.011435	1.233454	0.2256
R-squared	0.143113	Mean dependent var	0.000223	
Adjusted R-squared	0.045184	S.D. dependent var	0.000361	
S.E. of regression	0.000353	Akaike info criterion	-12.94242	
Sum squared resid	4.37E-06	Schwarz criterion	-12.73131	
Log likelihood	263.8485	Hannan-Quinn criter.	-12.86609	
F-statistic	1.461387	Durbin-Watson stat	2.090893	
Prob(F-statistic)	0.234846			

4. Test for Multicollinearity

	DEPO	BRAN	INFL	POPU	INTE	DV1
DEPO	1.000000	0.991254	0.175490	0.992629	0.815979	0.144321
BRAN	0.991254	1.000000	0.111995	0.974949	0.779187	0.126933
INFL	0.175490	0.111995	1.000000	0.203954	0.275406	0.157813
POPU	0.992629	0.974949	0.203954	1.000000	0.799068	0.077602
INTE	0.815979	0.779187	0.275406	0.799068	1.000000	0.486534
DV1	0.144321	0.126933	0.157813	0.077602	0.486534	1.000000

5. Wald Test

Wald Test:
 Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	2294065.	(6, 34)	0.0000
Chi-square	13764391	6	0.0000

6. regression

Dependent Variable: DEPO

Method: Least Squares

Date: 05/12/19 Time: 15:51

Sample: 2008Q1 2017Q4

Included observations: 40

Variable	Coefficient	Std. Error	t-Statistic	Prob.
BRAN	0.507902	0.039825	12.75318	0.0000
INFL	0.027181	0.044114	0.616146	0.5419
LPOPU	4.213607	0.309511	13.61377	0.0000
INTE	0.779732	0.640041	1.218252	0.2315
DV1	0.027263	0.007722	3.530470	0.0012
C	-25.64362	2.253637	-11.37877	0.0000

R-squared	0.998510	Mean dependent var	8.125471
Adjusted R-squared	0.998290	S.D. dependent var	0.335282
S.E. of regression	0.013863	Akaike info criterion	-5.581694
Sum squared resid	0.006534	Schwarz criterion	-5.328362
Log likelihood	117.6339	Hannan-Quinn criter	-5.190007

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