Determinants of Deposit Mobilization in Commercial Banks of Ethiopia

(Case study Wolkite Branch)

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Abstract

Deposit mobilization is a fundamental part of banking activity. Hence, deposit mobilization is 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. This paper empirically examines the determinants of commercial banks deposit mobilization in Ethiopia for the periods 2000-2018. From total of seventeen Commercial Banks which are engaged in commercial bank activities, seven selected based on the historical time formation of banks. The researcher adopted Quantitative research approach. Bank specific and macroeconomic variables were analyzed by using the balanced panel fixed effect regressions model.

Keywords: Commercial Banks, Deposit Mobilization, Fixed Effect Model

Acronyms & Abbreviations

CBE	Commercial Bank of Ethiopia
CD	Certificate of Deposit
CLRM	Classical Linear Regression Model
CSA	Central Statistical Authority
DBE	Developmental Bank of Ethiopia
FDI	Foreign Direct Investment
FMOLS	Fully Modified Ordinary Least Square
GTR	Growth Transformation plan
GDP	Gross Domestic Product
MOFED	Ministry of Finance and Economic Development
NBE	National Bank of Ethiopia
OLS	Ordinary Least Square
ROA	Return on Asset
ROE	Return on Equity World development
USD	United State Dollar
WD	World development

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CHAPTER ONE

1. INTRODUCTION

1.1 Background of the study

Deposit mobilization is a fundamental part of banking activity. Mobilization of saving through intensive deposit collection has been regarded as the major tasks of banks. According to (Banson, et al, 2012), Mobilization of deposit of a bank is as essential as oxygen for human being*"*. Deposit mobilization is one of the main functions of banking business and so an important source of working fund for the bank. It's the life blood banking companies. Deposit mobilization is the collection cash or funds by financial institution from the public through its current, savings, fixed, recurring accounts and other banks specialized schemes.

Deposits are the life blood of banking companies. It's similar for resource mobilization but not the same. Resource mobilization is the process of getting resources provider, using different mechanisms, to implement organizations predetermined goals. (Selvarj &Kumar, 2015) State that, 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.

Mobilization of rural savings is one of the important objectives of the Commercial Banks. Its helps to expand banking operations. The successful functioning of commercial banks depends on the extent of funds mobilized. Deposits are the life blood of banking companies. Deposits constitute a vital source of funds required for banking business. There are different types of deposits, with different maturity pattern carrying different rates of interests. Deposit mobilization is depending on the cost of deposits. Mobilization of deposits for a bank is as essential as oxygen for human being.

Mobilizing deposits is one of the essential issues in developing countries as domestic funds provide cheap and reliable source of funds for development, which is of great value to those countries, especially when the economy has difficulty raising capital from international donors, financiers and markets. Deposit mobilization of the banks may be affect by different factors. A

deposit is the most useful liabilities of the bank and it is relevant to assess deposits mobilization of banks and asses their relationship.

In the context of Ethiopia there are a limited number of bank branches to meet the demand of financial services to all its corners, especially in remote rural areas. Financial services are largely concentrated in urban areas. The country's economic growth requires a huge amount of investment and high saving that has been given high attention to encourage and develop domestic saving mobilization culture. (Gering 2015)The deposit mobilization activity is the focus area for both the state & private banks in Ethiopia.

The main objective of this study is the issue of banks deposits and its determinants is critical to the financial sector of developing country like Ethiopia. So the researcher enables banks and regulators to keep control to the issue of deposit which is very important to the security of their operation as well as the economy as a whole in the country. Therefore, this paper aimed to identify and evaluate those factors affecting deposit of commercial banks of Ethiopia.

1.2 Statement of the problem

One of the main objectives of financial institutions deposit mobilization (in particular domestic saving) and channeling these to would –be investors. Deposits are the primary source of funds for a bank, which facilitates the uses of funds (loans and investments). The higher the deposits amount, the bigger the lending and investments portfolio can be maintained by the banks to sustain its expansion and future growth. The banks must have adequate deposits to meet the lending volume required by the public and at the same time maintain extra cash for withdrawals by depositors.

Banks, the world, thrive on their ability to generate income through their lending activities According to (Zewdu, 2014), despite those encouraging changes in its structure, the Ethiopian financial sectors is not diversifies in terms of the type of institutions delivering the service and the type of financial products being delivered. The financial service is dominated by a cash base system. Moreover, there is no market and the financial market comprising the interbank money and foreign exchange markets as well as the bond and TBs market is at an infant stage accommodating limited amount of transactions.

Prices (from their own revenue, domestic and external loans). Given the huge magnitude of the required financial resources, the plans to significantly scale up domestic saving mobilization. (African Development Bank group, country strategy paper 2016-2020, pp8) Ethiopian bank industry is still in its growing stage. The deposit generated by the country economy not yet been mobilized as much as expected. NBE indicates that from deposit that should be mobilized by banks only 7% is mobilized as of 2012 (Mamo 2017).

This indicates that from the money that should be deposited in the bank 93% of was not mobilized. Therefore the banking sector in Ethiopia must increase their deposit by overcoming the existing challenges; hence they need to know the factors that determine deposit or financial savings. Various research works are reviewed. The related research has mostly focus on only one public Bank (Commercial Bank of Ethiopia) or Private commercial Banks separately to assess the factors affecting the total amount of deposits of Ethiopian commercial banks.

In addition to this, there is also inconsistency finding among researcher. This inconsistency of results might be attributable to the method of data analysis used by different researchers, the time period used and different category of banks. Determinant variables commonly explained as a factor affecting deposit are Inflation and Interest rate. For instance; Inflation Rate taken as explanatory variable by (Ketema, 2017) the result of his study indicates inflation has a negative relation and insignificant to Commercial Banks Deposit.

(Giragn, 2015) also used the variable in his study to determine the effect of inflation to Commercial Bank Deposit Growth result of the study was positive relation and significant for deposit. Finally (Shemsu, 2015) used Inflation rate as an explanatory variable to determine the effect on the Commercial bank of Ethiopia deposit result was positive relation 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, 2015) the result is positive and insignificant and (Girang, 2015) the result is negative and insignificant and lastly (Wubitu, 2012) result shows positive and insignificant. 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 at Micro level Bank Credit Risk and at Macro level Government Expenditure. Thus 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 affecting deposit mobilization in commercial banks.

1.3 Objective of the Study

The following are the general and specific objectives of the study

1.3.1 General Objective

The general objective of the study is to investigate factors that determine deposit mobilization activity on commercial Banks of Ethiopia.

1.3.2 Specific Objectives of the study

The study will be designed to achieve the following specific objectives

To identify that determines deposit mobilization in commercial banks of Ethiopia.

To analyze the identified factors that significantly affecting the deposit mobilization.

1.4 Researchers questions

The research's questions of this project are attempting to answer the following:

What are the factors that determine deposit mobilization in commercial banks of Ethiopia?

What factors are significantly affecting the deposit mobilization in the commercial banks of Ethiopia deposit mobilization effort?

1.5 Significance of the study

Studying the determinants of deposit mobilization in Ethiopia commercial banks is beneficial for different stake holders. Accordingly, the following are the significances that are attained from the study: This study is helpful to commercial banks to manage their deposit by identifying factors determining deposit mobilization and further identify which variable is the most important so that more emphasis has to be given.

It is also helpful to the regulatory body to take as an additional input for future policy making.

It provides information for all stakeholders especially for boards and management of the commercial banks in order to minimize the impact of factors determining deposits mobilization by making them to design effective strategies.

It serves as source of reference for further studies in the area of deposit mobilization.

1.6 Scope of the study

The work of this research's is delimited to some major bank specific and non-bank specific factors that determine commercial bank deposit mobilization in Ethiopia. The research's is not cover all commercial banks and all factors which affects the deposit mobilization of the commercial banks rather some banks has be selected purposively based on seniority and some factors are selected in the study.

In order to make the scope of the study manageable, this research's focus on some major factors that determine bank deposit and the study is restricted to identify some of the bank specific and non-specific factors affecting deposit of Commercial Banks of Ethiopia. The Ethiopian banking sector currently comprised of central banks (The National Bank of Ethiopia or NBE), two government owned banks and sixteen private banks.

(Ethiopia – Bank system, published 12/11/18). The deposit mobilization activity in Ethiopia is made by the entire nineteen commercial banks and other financial institutions such as microfinance institutions. However, the study used data of only seven oldest commercial banks those commercial banks having at least Eighteen years working experience in Ethiopia (i.e. from 2002/3 to 2015/16) with respect to gathering qualitative data.

1.7 Organization of the study

This research's is organizing in to five chapters. The first chapter contains background of the study, statement of the problem, objective of the study, significance of the study, scope of the study and organization of research. The second chapter reviews literature on both theoretical and empirical studies regarding the bank's deposits and factors that determine deposit mobilization activity.

The third chapter deals with methodology of the study that includes, research design, sampling analysis technique, source of data, data collection technique and data analysis technique, the fourth chapter concerned with findings and discussion of the study. The fifth chapter which is focused on conclusions, limitations and recommendation of the study and reference.

CHAPTER TWO

2. LITERATURE REVIEW

2.1Introduction

Review is prepared in two parts, the theoretical parts and the empirical part. In the theoretical review part the researcher has reviewed related literature regarding the of financial system for economic development of a country and included certain explanations as to what deposits are and the types of deposits. In the empirical review part the researcher also discusses past studies that were conducted on the area of factors determining commercial banks deposits.

Theoretical literature review

Development of any country depends on the economic growth the country achieves a period of time. Economic growth deals about investment and production and the extent of Gross domestic product in a country. Only when this grows, the will experience growth in the form of improved standard of living, namely economic development. Also the economic development of any country is dependent on its financial system which includes its banks, stock markets, insurance sector, pension fund and the like.

These sectors influence a nation's currency and interest rates. In developed countries, they work together to promote growth and avoid runaway price inflation. When a country is still in a developing stage, the lack of a strong, sound financial system generally works against the national economy. The financial system acts as a mediator between those in need of finance (borrowers) and those who have excess funds (lenders).

This type of transaction can be done straight forward by engaging in direct lending or indirectly via organized markets (stock markets) or financial intermediaries like banks. The financial system plays an important role in the allocation of resources in any economy. Since it helps in the channeling of money from the saving portion of the population to the corporate sector. It also assists in the allocation of investment funds among companies and enables the sharing of risks between firms and the household sector.

In the context of African continent, financial institutions in particular the banking industry carries the greater share of the financial system (Sheku, 2005). Most of the businesses rely on banking sector as a source of financing (Medhat, 2004). It is no exception to Ethiopia where the others like insurance companies and microfinance institution (MFI) are led by banks in terms of capital size, total assets, employment capacity and profits. (NBE Report, 2011/12) There has been a debate in the academic world as to whether the efficiency of financial sector really plays a role in economic development in the country.

A great number of authors such as (Baghehot, 1873: Schumpeter, 1912: Hicks, 1969 and Miller, 1998) have concluded that finance is the strong contributor to growth. Arrests et al. (2001) use both bank and stock market to assess the finance and growth relationship using quarterly data on a sample of developing countries. They find a positive and significant association between finance growths, with the larger impact from banking sector measures.

However, for few such as Robinson (1952) suggest that growth leads to financial development and Lucas (1988) show that finance is overstressed in explaining growth. In Ethiopian context, Ethiopia is low income country has been the reason for reliance on foreign debt and aids from international community, in general, the rate of investment in Ethiopia has remained very low. For the past few years, the government has recognized the importance of mobilizing domestic savings for huge investments.

According to Ethiopian Country Commercial Guide (2018), Under the Growth and Transformation Plan II (GTP II), NBE increased the minimum capital for banks to operate to 2 billion Birr ($90 million) and requires all sixteen currently operating private banks to increase their paid up capital to that amount by 2020. As of mid-2018, foreign banks are not permitted to provide financial services in Ethiopia and the market is closed to foreign retail banks, but the sector may be subject to reforms as the government of Prime Minister Ably Ahmed pursues broad economic reforms.

Currently, Ethiopia has allowed some foreign banks to open liaison offices in Addis to facilitate credit to companies from their countries of origins. Chinese, German, Kenyan, Turkish, and South African banks have opened liaison offices in Ethiopia. Based on the most recently data, the Commercial Bank of Ethiopia (CBE) mobilizes more than 60 percent of total bank deposits, bank loans and foreign exchange. NBE controls the bank's minimum deposit rate, which now

stands at 5 percent, while loan interest rates are allowed to float. Real deposit interest rates have been negative in recent years mainly due to inflation. (Ethiopia Country Commercial Guide, 2018). The state-owned Commercial Bank of Ethiopia (CBE) dominates the market in terms of assets, deposits, bank branches, and total banking workforce.

The other government-owned bank is the Development Bank of Ethiopia (DBE), which provides loans to investors operating in priority sectors. DBE extends short, medium, and long-term loans for viable development projects, including industrial and agricultural projects. DBE also provides other banking services such as checking and saving accounts to its clients. (Ethiopia Country Commercial Guide, 2018). NBE aims to foster monetary stability and a sound financial system, maintaining credit and exchange conditions conducive to the balanced growth of the economy.

NBE may engage with banks and other financial institutions in the discount, rediscount, purchase, or sale of duly signed and endorsed bills of exchange, promissory notes, acceptances, and other credit instruments with maturity periods not exceeding 180 days from the date of their discount, rediscount, or acquisition by the bank. The bank may buy, sell, and hold foreign currency notes and coins and such documents and instruments, including telegraphic transfers, as they are customarily employed in international payments or transfers of funds.

Lack of access to finance is a significant constraint for local businesses. In 2015, NBE allowed commercial banks to provide mobile banking service and agent banking. Pursuant to NBE‟s permit, many of the commercial banks added mobile and agent banking in their line of services. (Ethiopia Country Commercial Guide, 2018).

2.2.1 Commercial Banks Deposit

Commercial banks are the most dominant depository institution. They serve investors by offering a wide variety of deposit accounts, and they transfer deposited funds to deficit units by providing direct loans or purchasing debt securities. Commercial banks serve both the private and public sectors, as their deposit and lending services are public sectors, as their deposit and lending service are utilized by households, business and government agencies.

(Ketema 2017) The three types of deposits, namely saving, demand deposit and term of fixed time deposits accounts services, are provided by all the commercial banks in Ethiopia. Although the forms of the three deposits and how they are being opened and used differ, they are all installed to mobilize deposits to the banks. The definitions of the three deposits types are mentioned as followed.

1) Time or term deposits: These deposits are kept by the bank for specified period of time per the agreement between the bank and depositor. Higher interest rate are paid by the banks for such kinds of deposits depending upon the amount of deposits and the length of period for keeping the deposits provided there is no breach of the agreement.

2) Saving deposits: These accounts are opened by many people who need to save their wealth usually beyond current consumption and in anticipation of future investment such as building own house, buy car and to self-sponsor education etc. In doing so the account holder earns interest on the saving balance. Saving accounts are the most favored deposit account for commercial banks as they are cheap and are usually stable in nature. They are the services with which banks reach out the broad mass of people.

3) Current deposits: These deposits are generally used by business persons to settle debts usually through use of cheques. They are most often ready for payment upon demand anytime and usually no interest are paid on these accounts. (Giragn 2015)

2.2.2 Importance of deposit Mobilization

Deposit mobilization has so many uses. Some of them are the following

A. **source of investment**

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

B.Low cost

According to (Shettar & Sheshgiri, 2014) the success of the banking greatly lies on the deposit mobilization. Performances of the bank depend on deposits, as the deposits are normally considered as a cost effective source of working fund. Elser, Henning, &Wisniwski, (1999) savings are a source of funds with low financial costs i.e., interest costs, Compared to other commercial funds. With regard to financial costs, most of the institutions apply a differentiated interest rate schedule, compensating for the higher administrative costs with no or low interest rates on small savings and increasing them according to the size of the deposit.

C. source of profit

According to (Varman, 2005) the ability of a bank's management and staff to attract checking and saving accounts from business and individuals is an important measure of the bank's acceptance by the public. Deposits provide most of the raw materials for bank loans and thus represent the ultimate source of bank profits and growth. Tuyishime, Memba, &Mbera, (2015) also affirmed that, Deposits are an indispensable tool commercial banks use to enhance its profitability through advancing deposits mobilized to its customers in form of loans which make in return interest to commercial banks.

D.Economic Growth and Development

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

2.3 Empirical Literature Review

Various numbers of studies have examined the determinants of deposit mobilization in many countries around the world. Most of the studies considered banks specific internal factor and external factors and examine either a particular country or a number of countries and number explanatory variables have been proposed three categories, according to the nature and purpose of each study.

Azmi & Haron (2006) this study investigates the structural determinants of deposits level of commercial banks in Malaysia, using counteraction techniques. The results suggest that determinants such as rates of profit of Islamic bank, rates of interest on deposits, Base Lending Rate, Kuala Lumpur Composite Index, Consumer Price Index, Money Supply and Gross Domestic Product have significant impact on deposits. We also find that in most cases, customers of conventional system behave in conformity with the savings behavior theories.

This is a seminal work, which attempts to identify factors that influence depositors‟ behavior in Malaysia. Both financial and economic variables are introduced and their long- and short-run relationships examined using counteraction techniques. The researcher considers in this research analysis a number of factors that have been identified in the economic literature as potential determinants of savings.

This includes rates of return, inflation, money supply and GDP. New variables, namely base lending rate and composite index were introduced as a factor believed to have an influence on the level of deposits in Malaysia. In most cases, the behavioral patterns of Malaysian depositors are in conformity with the existing saving theories. However, there are also deviations from these theories. For example, both inflation and returns on deposit are supposed to have a positive relationship but this study found otherwise.

Similarly, instead of an inverse relationship, both composite index and money supply have positive sign with savings account. For each of the deviation found, an explanation has been put forward. Finally, this study does not differentiate the behavioral pattern of different classes of depositors. It is interesting to examine whether different types of depositors have the same long-run influencing factors. In view of this, it focuses this subject matter in the future research agenda.

Andinet (2016) the aim of this study is to examine factors influencing deposit mobilization in private commercial banks in Ethiopia. In doing so, the study adopted quantitative methods research approach using secondary data. The study had found variables that can affect the total deposits of the banks. Seven variables are regressed with the dependent variable i.e. total deposit. The explanatory variables are number of bank branches, deposit interest rate, liquid asset to deposit ratio, lagged value of bank deposits, net interest margin, inflation rate and economic growth (GDP).

The data for these variables were collected from the respective private commercial banks‟ financial statements, national bank of Ethiopia, central statistical authority and MOFED of the sample year 2000 up to 2018. Different diagnostic test were performed to know whether the model is valid or not. All the tests were valid and eventually regression analysis was performed using E view statistical package.

The result from regression analysis showed that number of bank branches, deposit interest rate, net interest margin and GDP were significantly and positively correlated with the explained variable. Lagged value of bank deposit was significantly and negatively correlated with total deposit. However, liquid asset to deposit ratio and inflation rate were insignificantly negatively correlated with bank deposit. Finally the study had recommended what should be done to mobilize more deposits.

Dereje (2017) the purpose of his study is to investigate determinants of deposit mobilization in private commercial banks of Ethiopia using panel data of six private commercial banks from year 2000 to 2018. The study used both quantitative and qualitative research approach. Secondary financial data are analyzed using multiple linear regressions models for the six bank's deposit. Fixed or random effect regression model was applied to investigate the impact of bank branches, exchange rate, Real Gross domestic product, Capital Adequacy and Liquidity on private commercial banks deposits.

Besides, the study used primary data analysis to solicit managers‟ perception towards the determinants of private commercial banks deposit mobilization. The empirical results from regression analysis showed that bank branches, exchange rate, and real gross domestic product affects deposit of the bank positively whereas, capital adequacy and liquidity affects the deposit of the private banks negatively. This implication show that better capitalized banks tend to create less liquidity that leads to mobilize little deposit amount.

On the other hand the feedback of respondents depicted that managerial efficiency, government policy, convenience of bank office, technology, bank size and awareness of savings by society affected deposit level of the banks significantly. Thus, management bodies of private commercial banks should strive to strengthen the identified significant factors and government bodies should also see the adverse effect of tight polices imposed on the existing private commercial banks as well as for the new entrant banks.

2.3.1 Factors affecting Deposit mobilization of commercial Banks

An important indicator of the success of any resource mobilization agency, which is also a banking institution is, the extent to which it is able to mobilize the resource of the community in the form of customer deposits. Though deposits have great significance to the banks in developing world, few have been studied as the factors that have an impact on it. Study made by Kose et al (1999) indicates that developing economies are characterized by unstable macroeconomic environments such as inflation, inappropriate fiscal and monetary policies, interest rate controls.

The net effect is the change in liquidity which affects savings and capital formation. Where the macroeconomic environment is favorable to savings then the commercial banks are in a better position to increase savings. On the contrary, where macroeconomic policies erode liquidity from the hands of the people then deposits reduce and may negatively impact on capital growth and investment in the country. According to Giragn (2015) the determinants of deposit mobilization of commercial banks are classified in to two- bank specific factors and non- bank specific factors.

2.3.2 Bank Specific factors for deposit mobilization

2.3.2.1 Liquidity of the Bank

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.

Therefore; bankers are always sensitive to the issue of liquidity and liquidity risk and the central bank is also there to monitor that banks are liquid enough to meet their respective obligations when the public demands. The more liquid the banks are, the better they attract deposits. Higher liquidity buffers tend to signal greater bank soundness, which could be a factor favoring deposit demand (Herald and Heiko, 2009).

2.3.2.2 Bank profitability, size, and security and number of bank branches

Herald and Heiko (2009) state that higher bank profits would tend to signal increased bank soundness, which could make it easier for these banks to attract deposits. Erna and Ekki (2004) find that there is a long run relationship between commercial banks deposits and the profitability of the banks. One of the reason as to why people deposit in banks is to ensure a feeling of security of their money. Larger banks in terms of total assets or capital attract better deposit amounts than smaller ones in absolute terms (Herald and Heiko, 2009).

This is largely because of the bigger banks have many branches, huge capital and or assets and provide a better sense of security to savers apart from their low transaction costs due to economies of scale. According to the study made by CGAP, 2010, Financial Access 2010, Ethiopia has low geographic and demographic penetration of bank branches in the sub-Saharan Africa. The population is hugely unbanked and there is only 1.39 branches open for every 100,000 adults whereas 5.11, 4.38 and 2.25 for Ghana, Kenya and Uganda respectively.

Most banks are head quartered in Addis Ababa and their branches too are concentrated in the capital (Muluneh, 2012). 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).

2.3.2.3 Credit Risk (Proxies by the loans-to-asset ratio)

Rodrik and Subramanian (2008) argue that an improvement in financial intermediation, which raises domestic saving and enhances access of firms to domestic finance in an investment constrained economy. A higher degree of intermediation may signal a bank's success in generating income as well as a need for it to attract more deposits to support its increased lending activities.

According to (Oise, 2015) "institutional governance, ownership and reputation of the financial institutions is key factors for successful deposit mobilization. Prior to offering voluntary deposit services, Financial Institutions must ensure that they have the institutional structures that allow them to mobilize savings legally. "Institutional capacity requires that adequate governance, management, staff and operational structures are in place to provide savings services". (Ledger wood, 1998) Moreover, (Klaehn et al, 2002) expound that the "Vision, commitment and disposition of the pro poor institutions are critical in successfully mobilizing deposit from the public".

2.3.3 Non-Bank Specific Factors for Deposit Mobilization

Ketema (2017) states that the external or macro determinants are variables that are not related to bank management but reflect the economic and legal environment that affects the operation and deposit positions of Banks. Non-bank specific factors are defined for this research as factors that have an impact on deposit mobilization that are beyond the control of the banks themselves. The macroeconomic factors that can affect bank's deposit include factors such as; Exchange Rate, Inflation and GDP among others.

2.3.3.1 Economic growth

Economic performance is generally being measured through GDP (Gross Domestic Product), a variable that has also become the de facto universal metric for 'standards of living. It is univ3ersally applied according to common standards, and has some undeniable benefits mainly due to its simplicity. According to (Herald & Heiko, 2008), growth is one of the determining factors for commercial banks deposits. GDP is calculated by adding up the value-added at each stage of production (deducting the cost of produced inputs and materials purchased from an industry's suppliers.

(Erna & Ekki, 2004), finds four variables, GDP, number of Islamic bank's branch offices, profit sharing rate, and interest rate that are thought to have influence on the volume of deposits. So, GDP can influence the growth of commercial banks deposits.

2.3.3.2 Inflation

Banks in their quest to boost deposits and increase self-sufficiency must analyze the behavior of depositors in a period of inflation. The latter is the persistent increase in the general price level for a specified period of time. Thus, it is a fall in the market value of money (purchasing power) as a result of persistent rise in prices. Real value of money declines resulting in benefit to debtors and loss to creditors" (Brealey and Myers 2003). "From the monetarist point of view inflation is demand pull and an exogenous rise in money supply is the causality. In the short run an increase in money supply induces demand above supply of goods and services which causes prices to rise until the market adjusts to the equilibrium.

The structuralism, however, argues from the effect of changes in the socio-political, economic and institutional structures with the view to increasing growth in the economy of marketfailures".

(Kirkpatrick and Nixon, Beim 2001) expresses the most popular view held by economists by characterizing on int1ationary period as the period of uncertainty. Distortion of capital gains and negatively impacts on the real interest rates making markets difficult to allocate resources efficiently (Beim et al., 2001).

Investors with surplus funds hold on to assets which can appreciate in value rather than money whose value are frequently eroded away. Empirical evidence from Latin American countries as stated in the World Development Reports indicates that inflation is an implicit tax on depositors and has the capacity to reduce profits through low deposit rates. A strong correlation exists between real interest rates and inflation as both can impact on deposits and savings

2.3.3.3 Exchange Rate

Exchange rates are quoted as foreign currency per unit of domestic currency or domestic currency per unit of foreign currency (Bishop, 2006). Exchange rate allows denominating the cost or price of a good or service in a common currency. As Thomas (2014) explanation, the term depreciation and appreciation is used to show the decrease and increase in the value of currency. Depreciations a decrease in the value of currency relative to another currency. Appreciations and increase in the value of a currency relative to another currency.

The main factors that influence exchange rate are: inflation, interest rate, speculation, and change in competitiveness, balance of payment, government debt, government intervention and Economic growth / recession. According to (Nugel 2012) as currencies depreciated in one country deposit will be reduced since investors tend to withdraw deposit and exchanged to keep it by appreciating currency (Hard currency) or invest in another form of investment rather than bank deposit. (Alemayehu 2015) also confirms that for developing country in general saving is negatively correlated with unstable exchange rate.

2.4 Knowledge Gap

Evidence from prior studies, various external and internal factors has effect on commercial bank deposits. However, the significance of each factor differs across continent, countries and time period. For instance, the study made by Erna & Ekki (2014) in Indonesia, Mohammed & Mansur (2014) in Malaysia and Giragn (2015) in Ethiopia indicated that GDP has not significant influence on the volume of commercial bank deposits. While, Mohammed (2014) in Bahrain and

Shemsu (2015) in Ethiopia revealed that GDP has positive influence on the volume of commercial bank deposit.

Moreover, the study made by Ngula (2012) in Ghana, Prema-chandra and Kunal (2001) in India, Shemsu (2015) in Ethiopia, Wubitu (2012) in Ethiopia and Giragn (2015) researches showed that inflation has significant effect on the deposits of commercial bank. However, Hussein & Ali (2014) in Iran and Orji (2012) in Nigeria showed that inflation has a negative influence on the commercial bank deposits. These contradictory findings revealed that there is inconsistency among research findings on factors affecting deposit.

Many literatures consider mainly quantitative factors other qualitative factors are not yet investigated well. As there is no comprehensive study that include various determining factors of deposit in the country, this study is initiate to fill the research gaps by taking appropriate variables which can go with the condition and situation in Ethiopian banking industry role on deposit to come up with concrete result.

2.5 Conceptual Framework

From the above theoretical and empirical literature reviews the main factors that determine the deposit growth of financial institution specifically banks is divided by mainly by both macro and micro economic factors. This study used both macro and micro determinants of bank deposit that includes Inflation rate, GDP, Exchange rate, Bank profitability, bank liquidity and Bank credit risk. The study has quantified how these variables are determining the deposit of commercial banks in Ethiopia. The conceptual schema of the relationship between the dependent variable (commercial banks deposit) and independent (GDP, Inflation, exchange rate, bank profitability,

bank liquidity and bank credit risk) variable are depicted here below

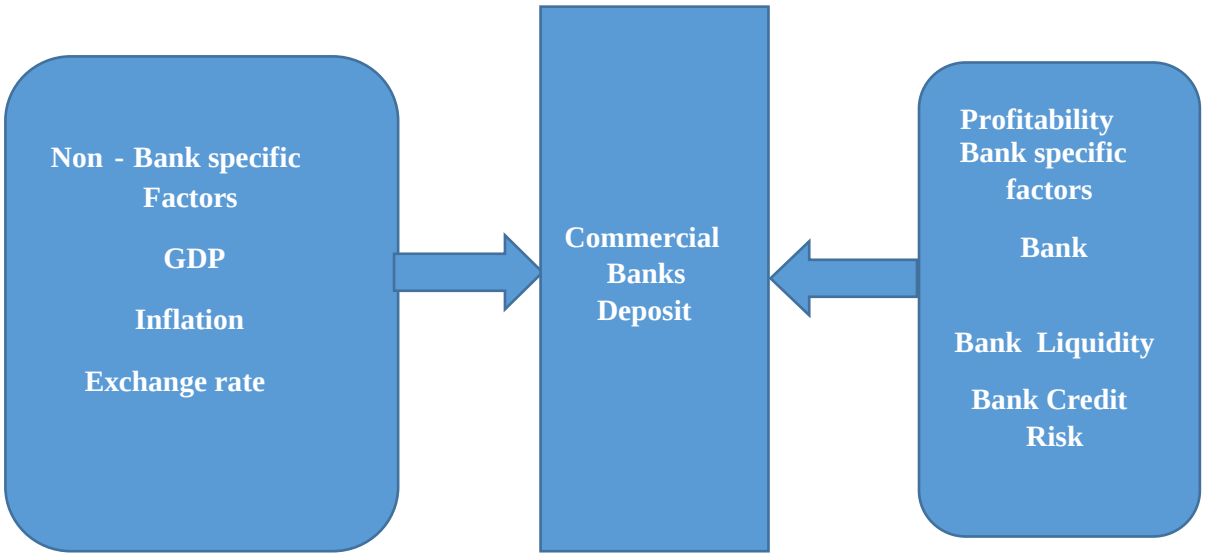


Fig3.1Conceptual framework of the study

CHAPTER THREE

3. Research Methodology

3.1 Introduction

This chapter covers the research approach, the type and source of data, the research design, it explains the type of data used for the study and the techniques employed in identifying the factors that influence the mobilization of deposits, identifies the challenges facing commercial banks in deposit mobilization and offers recommendation. The validity and reliability of the data and description variable were also high –light

3.2 Research Approach and 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 affecting 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 non-bank specific variables Inflation, GDP and Exchange rate and three bank specific variables Bank profitability, bank liquidity and bank credit risk were employed. It uses time series data covering the period from 2002/03 through 2015/16. The types of data used in this study are quantitative data type in nature it can be best fit to the panel data analysis.

The Panel data involves the pooling of observations on a cross section of units over several time periods and provides results that are simply not detectable in pure cross sections or pure time series studies Brooks, (2008). In addition Hsiao, (2003) described panel or a longitudinal data set is one that follows a given sample of individuals over time, and thus provides multiple observations on each individual in the sample.

Brooks (2008), states that, panel date set has two major advantages; first, it can address a broader range of issue and tackle more complex problem than pure time series or pure cross

sectional data alone and by structuring the model in appropriate way, the researcher can remove the impact of certain forms of omitted variable bias in the regression result. Second, it is often examined how the relationships between variables change. Hence, by combining cross-sectional data and time series data, the researcher can increase the number of degree of freedom, and thus the power of test, by employing information on the dynamic behavior of a large number of entities at same time.

To comply with the research objectives, the researcher is focus on both primary and secondary data. The study was got the secondary data for the numerical expressed variables from the annual reports of the regulatory body of the banks in Ethiopia i.e. the National Bank of Ethiopia (NBE), the reports of the Central Statistical Authority, Ministry of Finance and Economic Development and from others that are as secondary data sources from the eight commercial banks of Ethiopia for the period of fourteen years (2000/1 to 2017/18) The expected total number of observation is 98 (7*14).

The data includes the following:

a) Year-end total volume of deposits in all commercial banks in Ethiopia,

b) Average annual year on year general inflation rates,

c) Average annual exchange rate of Ethiopian Birr to USD,

d) Real per capita GDP growth rate,

e) Return on asset

f) Bank liquidity (Total deposit divided by total asset)

g) Loan to asset ratio of the banks

3.3 Data collection method /Source data

The data for this study where gathered from both primary and secondary data sources. Here the primary data were gathered using questionnaire. While the secondary sources of data were extracted from annual reports of all private commercial banks and government banks. Data of ninths years were gathering including the year fro2009/10 to 2017/18 of all Ethiopian commercial banks are used for the study.

3.3.1 Data collection instruments

Ninety years of annual data were collected to explore the significance of the quantitative factors through time series analysis.

3.4 Sample and Population

As to June of 2018 there are eighteen banks in Ethiopia, these are Commercial bank of Ethiopia, Awash International Bank S.C, Bank of Abyssinia S.C, Wegagen Bank S.C, United Bank S.C, Nib International Bank S.C, Dashen Bank S.C, Development Bank of Ethiopia, Cooperative Bank of Oromia S.C, Lion International Bank S.C, Zemen Bank S.C, Oromia International Bank S.C, Buna International Bank S.C, Berhan International Bank S.C, Abay Bank S.C, Addis International Bank S.C, Debub Global Bank S.C, and Enat Banks S.C. However, from all the above listed banks, Development Bank of Ethiopia is not commercial bank.

Among the total eighteen banks, two of them are owned by the government and the remaining sixteen are privately owned (Birritu 2015) Hence, The main objective of the study is to investigate the determinant of commercial banks deposit in Ethiopia, the seventeen commercial banks can be treated as population of the study.

In line with balanced panel data approach, to meet the desired objective of this study and to make generalization from sample to population, the researcher used maximum combination of years and number of banks and achieved the maximum number of observations through purposive sampling technique. Thus, out of seventeen commercial banks that are registered and operated in Ethiopia, seven are selected due to their long term experience.

Therefore, the matrix for the frame is 14*7 that includes 98 observations. The sampled commercial Bank are Commercial Bank of Ethiopia, Awash International Bank S.C, Bank of Abyssinia S.C, Wegagen Bank S.C, United Bank S.C, Nib International Bank S.C, and Dashen Bank S.C, These Commercial Banks are selected purposively, because the use of purposive sampling enables the researcher to generate meaningful insights that help to gain a deeper understanding of the research phenomena by selecting the most informative participants that is satisfactory to its specific needs.

3.5 Validity and Reliability of the Data

The validity is concerned with the accuracy or truthfulness of the data. That is, the validity refers to the extent to which the data obtained is accurate for the purpose. The researcher exercised validity by soliciting published annual reports of National Bank of Ethiopia and from each of the banks for the years under review. This has helped the researcher to get relevant information for the purpose of the study.

Reliability of data is related to its consistency and it refers to the extent to which the data is the same irrespective of their source. That is, the data for the study is specifically taken from the annual reports of the banks and were found in agreement with some of the data found on publications of National Bank of Ethiopia and therefore were reliable.

3.6 Description of Variables

This section deals with the analysis of variables for determining commercial banks deposit mobilization. A summary of the variables and how they are measured is presented in table.

3.6.1 Dependent variables

In this study, commercial banks deposit has been used as the dependent variable. Deposit represents the total accumulated amount of customer financial savings with the commercial banks. The performance of commercial banks is best measured by the size of its deposit liabilities. A large portion of commercial banks asset base is often finance by their deposit mobilization. For instance, a commercial banks ability to lend more loans to its customers will be determined by the size of its deposit. The growth of the bank is therefore subject to its ability to mobilize more deposit at cheaper cost from the general public. In view of this it is worth studying and identifying the major determinants of efficient deposit mobilization.

3.6.2 Independent variables

The following independent variables hypothesis is proposed to increase our understanding of the determinant factors of deposit growth in commercial banks. These factors were determined by detailed review of the literatures.

Inflation

Inflation is a sustained rise in the general level of prices – the price level. The inflation rate is the rate at which the price level increases. As (Deaton 1991) explained inflation is measured alternatively by Consumer price index. The first theory he assumed that greater uncertainty should raise savings since risk-averse consumers set resources aside as a precaution against possible adverse changes in income and other factor. Hence inflation may increase precautionary savings by individuals. Precautionary saving is additional saving that result from the knowledge that the future is uncertain (D. Carroll, 2006). The second theory was, inflation can influence saving through its impact on real wealth.

As inflation accelerates, deposits become less attractive, depending on the interest rate. In this case, the assumption would be that as deposit interest rates rise, deposits would increase in principle as well. The narrower the spread between deposit rates and inflation, the less attractive it should be to hold deposits above the required level.

Gross Domestic Product (GDP)

GDP is one of the explanatory variables commonly used as determinants of economic growth. According to Jim (2008), the level of GDP divided by the population of a country or region is what is known as per capita income. Changes in real GDP per capita over time are often interpreted as a measure of changes in the average standard of living of a country. Thus the relation between income of the society and deposit volume is expected to be positive and significant. Studies by Mahendra (2005) and M. A. Baqui et al, (1987) both reveal that growth in income have a positive effect on deposits.

Exchange rate of Ethiopian Birr to USD

For the major net importing country like Ethiopia, variability of the exchange rate of the local Ethiopia money (Birr) to foreign currency values is enormous. As the exchange rate of Birr to USD ratio grows, local deposits will deplete in the process of importing goods and services. This means as the country does by far more imports than exports and the exchange rate of Birrto USD grows, then local deposits in banks will reduce showing that there is inverse relationship.

There are also cases where it shows the opposite trend by increasing the foreign direct inflows. However, the study by Ngula (2012) on the „Determinants of deposit mobilization and its role in

economic growth in Ghana has demonstrated that a deterioration in the Ghanaian currency with respect to the US currency resulting in a higher deposit mobilization.

Bank's Liquidity ratio

Managing liquidity is a daily process requiring bankers to monitor and project cash flows to ensure adequate liquidity is maintained. Maintaining a balance between short-term assets and short-term liabilities is critical. For commercial bank, clients' deposits are its primary liabilities, whereas reserves and loans are its primary assets. Bank liquidity can be measured with different liquidity ratio. For the purpose of this study, Total loan and advance to deposit liquidity ratio is used.

The ratio serves as a useful planning and control tool in liquidity management since commercial banks use it as a guide in lending and investment decision. Loans & Advances are the major portion of a bank's asset and it is the most earning asset of a bank. This ratio tells us the percentage of funding sources tied up by illiquid asset. It relates illiquid asset with liquid liability. This ratio also indicates the percentage of deposit locked in to illiquid asset. The ratio reflects the proportion of the customers' deposits that has been given out in the form of loans and the percentage that is retained in the liquid forms.

Credit Risk

According to (Osie, 2015) "institutional governance, ownership and reputation of the financial institutions is key factors for successful deposit mobilization. Prior to offering voluntary deposit services, Financial Institutions must ensure that they have the institutional structures that allow them to mobilize savings legally. "Institutional capacity requires that adequate governance, management, staff and operational structures are in place to provide savings services".

Profitability (ROA)

Profitability accounts for the impact of better financial soundness on bank risk bearing capacity and on their ability to perform liquidity transformation (Rauch et al. 2008 and Shen et al. 2010). Most commonly, profitability is measured by return on asset (ROA) and return on equity (ROE). For the purpose of this study, the proxy of profitability is return on asset that measures the overall financial performance of banks and the return on asset (ROA) is measured by the ratio of net profit after tax to total Asset. (Bhalla 2006), in his book, explains ROA as a ratio which is

used to measure the company's efficiency in the use of its assets to generate profit. It means that a more efficient company will generate a higher level of profit from a given level of total asset than its less efficient competitor.

Finger and Hesse (2009) state that higher bank profits would tend to signal increased bank soundness, which could make it easier for these banks to attract deposits. (Rachmawati and syamsulhakim 2004) also find that there is a long run relationship between commercial banks deposits and the profitability of the banks. This study considered there is a positive relationship between Profitable &Bank's Deposits.

3.7 Data Analyzing Instruments and Descriptive Analysis

The researcher utilized multiple regressions to analyses the quantitative data which are collected from annual reports of the National Bank of Ethiopia for ninety years (from the year 2009/10-2017/18). Multiple regression analysis is conducted using Reviews data analysis software to determine the exact nature of the relationship that exist between deposits, real per capita GDP, inflation, exchange rates, credit risk, bank profitability and liquidity in Ethiopia over the period under study.

There is one dependent variable, total deposit volume of private banks, regressed with the independent variables (explanatory variables) such as inflation rate, real per capita GDP, exchange rate, credit risk, bank profitability and liquidity. This shows that the research is more of descriptive and explanatory in nature.

3.8 Diagnostic test methods

The assumptions were made relating to the classical linear regression model (CLRM). These were required to show that the estimation technique, ordinary least squares (OLS), had a number of desirable properties, and also that hypothesis tests regarding the coefficient estimates could validly be conducted. The method used to test these assumptions by the researcher is described as follows:-

3.8.1 Test for Heteroscedasticity

According to (Brooks, 2008), It has been assumed thus far that the variance of the errors is constant, this is known as the assumption of homoscedasticity. If the errors do not have a constant variance, they are said to be heteroscedastic.

The OLS standard errors will be too large for the intercept when the errors are heteroscedastic. The effect of heteroscedasticity on the slope standard errors will depend on its form. For example, if the variance of the errors is positively related to the square of an explanatory variable (which is often the case in practice), the OLS standard error for the slope will be too low. On the other hand, the OLS slope standard errors will be too big when the variance of the errors is inversely related to an explanatory variable

3.8.2 Test for Autocorrelation

The CLRM‘s disturbance terms is that the covariance between the error terms over time (or cross-sectionally, for that type of data) is zero. In other words, 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 _auto correlated ‘or that they are _serially correlated‘. A test of this assumption is therefore required.

This is an assumption that the errors are linearly independent of one another (uncorrelated with one another). If the errors are correlated with one another, it would be stated that they are auto correlated. To test for the existence of autocorrelation or not, the popular Durbin-Watson test was employed.

3.8.3 Normality tests

Normality tests are used to determine if a data set is well-modeled by a normal distribution. With the normality assumption, ordinary least square estimation can be easily derived and would be much more valid and straight forward. This study used JarqueBera Test (JB test) to find out whether the error term is normally distributed or not.

3.8.4 Correlation Matrix

First, there is a correlation matrix created in which all variables are included. This matrix shows the correlations and their corresponding significance between the variables. The correlation matrix gives a first insight in the direction and the strength of the relationships between the variables. When the correlation between two or more independent variables is (too) high, the problem of mulitcolinarity occurs (Wooldridge, 2000).

3.8.5 Multiple Regressions

The type of the data for this study is time series including the 18 years of data in the regression analysis from 1999/0-2017/18. The model is multiple regression modelswith one dependent variable and sixth independent variables. This regression analysis allows to explicitly controlling for many other factors that simultaneously affect the dependent variable. This is important both for testing economic theories and for evaluating policy effects when we rely on non-experimental data.

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

$$\mathbf{DEPit = \alpha + \beta 1(GINF)it + \beta 2(RPGDP)it + \beta 3(ROA)it + \beta 4(CRISK)it + \beta 5(LIQ)it + \beta 6(EXBRUS)it + \varepsilon it}$$

$\boldsymbol{DEPit}$ is the dependent variable and represents the total amount of deposits held by all commercial banks for period t,

G$INFit$ Represents the overall inflation rate in Ethiopia for period t,

RPGDPit Annual real per capital gross domestic product

EXBRUSitrepresents the growth of the exchange birr to USD for period t,

$LIQit$ Represents total deposit to total asset ratio for period t,

CRISKit Represents Loan to asset ratio for period t, ROAit Represents Bank Profitability for period t,

εit represent the stochastic error term of the linear regression model. It also represents all the relevant variables, which were omitted from the model as well as the random errors from theβ represent the estimated parameters or represent the slope co-efficient to the dependent variable. The symbol alpha (α) represents the constant term and betas (β1, β2, β3, β4, β5, β6) represent the coefficient of the independent variables. The null hypothesis is rejected at 5% significant level. The relevant data is collected regarding each single variable and analyzed.

CHAPTER FOUR

4. Data Analysis and Discussion

This section of the research is presented in to two parts, the first part is analysis of quantitative data and the second part is the qualitative data analysis. The quantitative data is obtained from the National Bank of Ethiopia and multiple regression method is conducted .The second part is the qualitative data analysis and presentation. This is obtained from the responses obtained from the questionnaires distributed.

4.1 Descriptive Analysis of Independent Variables and dependent Variable

In this section, the summary statistics of each variables of the study has been discussed. The variables included the dependent and independent. The dependent variable used in this study in order to measure the sampled commercial banks deposit is bank deposit growth whereas the explanatory variables are: Gross domestic product, Interest Rate, liquidity ratio, profitability(ROA), Credits risk, Bank Profitability, Inflation.

Table 4.1 Summary statistics – Dependent and Independent Variable

	R O A	LIQUIDITY_RATIO	INFLATION	G D P	EXCHANGE_RATE	DESPOS_MOBILIZATION	CREDIT_RISK
M e a n	4.123333	25.03556	11.93889	463177.1	895.6667	12971.67	5487.778
M e d i a n	3.100000	22.13000	8.800000	475648.0	250.0000	12681.00	2230.000
Maximum	16.65000	42.96000	22.00000	692222.0	2200.000	26830.00	15390.00
Minimum	0.020000	11.32000	7.300000	144938.0	150.0000	3229.000	558.0000
Std. Dev.	4.595826	10.70554	5.552713	156769.1	845.8949	7441.705	5176.401
Skewness	2.193932	0.578408	0.917085	-0.497106	0.569966	0.505563	0.605585
Kurtosis	6.418765	2.011427	2.170748	2.679985	1.485159	2.242346	1.958974
Jarque-Bera	81.22090	6.078183	10.63608	2.863530	9.434747	4.190594	6.695500
Probability	0.000000	0.047878	0.004902	0.238887	0.008939	0.123034	0.035163

Sum	259.7700	1577.240	752.1500	29180158	56427.00	817215.0	345730.0
Sum Sq. Dev.	1309.540	7105.731	1911.622	1.52E+12	44363368	3.43E+09	1.66E+09
Observations	63	63	63	63	63	63	63

Table 4.1Source; Eviews; 8output

4.1.1. Test results for the classical linear regression model assumptions

In this study as mentioned in chapter three diagnostic tests were carried out to ensure that the data fits the basic assumptions of classical linear regression model. Consequently, the results for model misspecification tests in are presented as follows:

4.1.1.1. Test for Heteroscedasticity

Ho: The assumption that there exists homoscedasticity

H1: There is homoscedasticity (there is no Heteroscedasticity)

In this study as shown in table 4.1, both the F-statistic and Chi-Square versions of the test statistic gave the same conclusion that there is no evidence for the presence of heteroscedasticity, since the p- were values in excess of 0.05.

Heteroscedasticity Test: White

F-statistic	2.27E+22	Prob. F(9,53)	0.0000
Obs*R-squared	63.00000	Prob. Chi-Square(9)	0.0000
Scaled explained SS	22.58789	Prob. Chi-Square(9)	0.0072

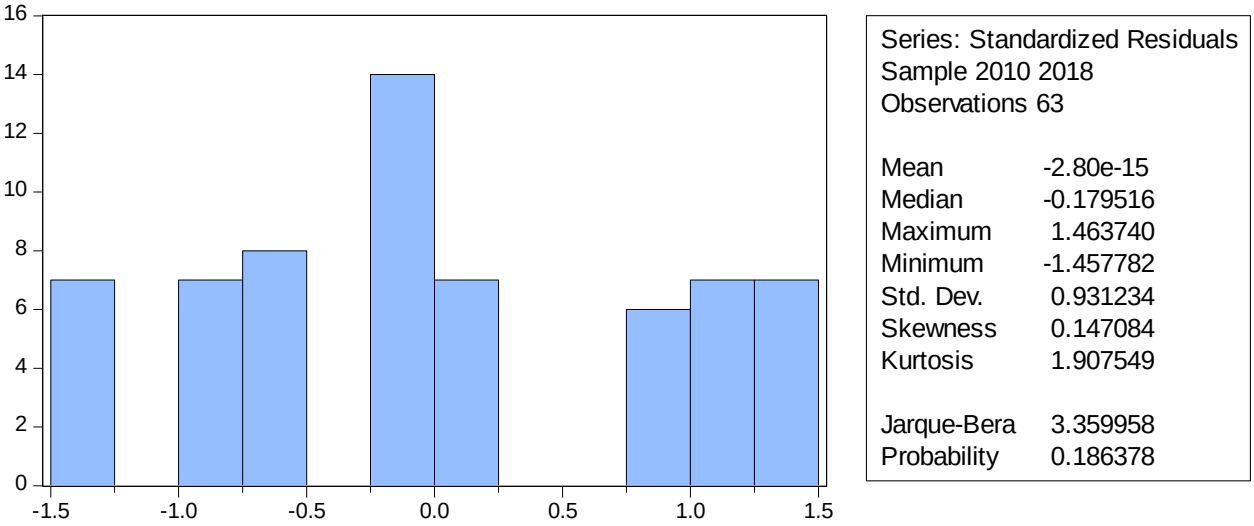
TABLE 4.2. HETROSKEDASTICITY TEST

The explained sum of squares from the auxiliary regression, also gave the same conclusion that there is no evidence for the presence of heteroscedasticity problem, since the p-value have a value of p (0.0000) is less than 5%.This implies the residuals have constant variance and it does vary over time.

4.1.1.2 Test for Normality

Ho: The residuals are normally distributed

H1: The residuals are not normally distributed



Source; Eviews; 8output

FIGURE 4.1 NORMALITY TEST

A Jarque-Bera normality test has been used for normality test. The normality test table 4.1 indicates that the kurtosis value is around 1.907 which are related to 2. Jarque-Bera's also indicates that the EViews; 8output are normally distributed having the value 3.3599 percent which is greater than 0.05. The p-value given at the bottom of the normality test screen should be bigger than 0.05 to fail to reject the null hypothesis at the 5% level (Chris, 2008) In this case the p-value 0.18 which is greater than 0.05 had to reject the null hypothesis of normality presence.

4.1.1.3. Test for Autocorrelation

Ho: There is no autocorrelation

H1: There is autocorrelation

Covariance between the error terms overtime (or cross sectionally, for the type of data) is zero; It is assumed that the errors are uncorrelated with one another. In other words, 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 'auto correlated' or that they are 'serially correlated'. The study uses Breusch-Godfrey Serial correlation LM test.

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.

Breusch-Godfrey Serial Correlation LM Test:

F-statistic 124.0884	Prob. F(2,54) 0.0000
Obs*R-squared 51.74169	Prob. Chi-Square(2) 0.0000

Source; Eviews 8output

In order to do a general test for autocorrelation the Breusch-Pagan-Godfrey test was conducted. The 5th order autocorrelation is found out to be insignificant therefore the statistical insignificance imply absence of autocorrelation.

4.1.1.4. Test for correlation

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

Correlation is a way to index the degree to which two or more variables are associated with or related to each other. The most widely used bi-variant correlation statistics is the Pearson product-movement coefficient, commonly called the Pearson correlation which is used in this study.

Table: Correlation matrixes

	ROA	LIQUIDITY_RATIO	INFLATION	GDP	EXCHANGE_RATE	DESPOS_MOBILIZATION	CREDIT_RISK
ROA	1						
LIQUIDITY_RATIO	-0.3143075428641474	1					
INFLATION	-0.005767719289255058	0.3852371366838936	1				
GDP	0.1841641171743963	-0.4348888835599406	-0.4418573969887315	1			
DESPOS_MOBILIZATION	-0.1378109362039637	-0.8038522870208196	-0.4214379884993789	0.5830011282967124	0.8418691607665693	1	

CREDIT_RISK	0.07109959921987014	-0.7564816548104845	-0.2478632092923723	0.3582839686297901	0.9137404656852705	0.8900576258132108	1

Source; EViews 8output

The above table reports the correlation matrix of the variables of the estimation model. The correlation matrix also shows that the pair-wise correlations between explanatory variables are not quite high, indicating that mulitcolinarity is not a serious problem.

4.4 Results of Regression Analysis

This section discusses the regression results of fixed effect model that determines deposit mobilization in commercial banks of Ethiopia. This regression analysis is based on the data collected from National Bank of Ethiopia and MOFED from the year 2010 to 2018. The relationship between one dependent variable and eight independent variables is regressed using econometric software called Eviews8 Thus, the model used to examine statistically significant determinants of commercial banks deposit measured by

$$DM = 21.35689 - 0.471759DM - 0.029658DM + 2.00E\text{-}05DM - 0.001051DM + 0.001258DM + \sum \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots eq(1)$$

Accordingly, Table 4.5 below presents the result of fixed effect regression model that examines the impact of explanatory variables on bank deposit growth. Hence, DEPG is dependent variable whereas Gross domestic product(GDP),Exchange rate, Liquidity ratio,Profitability(ROA),Credit risk, Inflation(INF),

Dependent Variable: ROA
Method: Panel EGLS (Cross-section random effects)
Date: 12/24/20 Time: 02:05
Sample: 2010 2018
Periods included: 9
Cross-sections included: 7
Total panel (balanced) observations: 63
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LIQUIDITY_RATIO	-0.471759	0.021714	-21.72599	0.0000

INFLATION	-0.029658	0.028061	-1.056935	0.2951
GDP	2.00E-05	2.17E-06	9.196933	0.0000
EXCHANGE_RATE	-0.001051	0.000738	-1.423729	0.1601
DESPOS_MOBILIZATION	-0.001564	8.53E-05	-18.33232	0.0000
CREDIT_RISK	0.001258	8.41E-05	14.96118	0.0000
C	21.35689	1.029218	20.75061	0.0000

Effects Specification

	S.D.	Rho
Cross-section random	0.000000	0.0000
Idiosyncratic random	1.034848	1.0000

Weighted Statistics

R-squared	0.958943	Mean dependent var	4.123333
Adjusted R-squared	0.954544	S.D. dependent var	4.595826
S.E. of regression	0.979852	Sum squared resid	53.76617
F-statistic	217.9913	Durbin-Watson stat	3.673112
Prop(F-statistic)	0.000000		

Source; views 8output

4.4.1 Interpretation of R-squared

As shown in Table *4.5,* an R-squared coefficient of 96% obtained from the estimated model revealing that 96 percent of variation in deposit growth (DEPG) is explained by the selected explanatory of Gross domestic product (GDP),Exchange rate,(ER),Liquidity ratio ,Probability (ROA),Credit risk, Inflation(INF), have better goodness off it.

4.4.2. Interpretation of Adjusted R-squared

An adjusted R-squared value, which takes into account the loss of degrees of freedom associated with adding extra variables were inferred to see the explanatory powers of the models. In other words, the adjusted R-squared shows a very good levels, which mean that nearly 95.58 percent of the volatilities in deposit growth are explained by the

volatilities of independent variables included in the equation. Therefore, an adjusted R square having value of 0.954544 shows that 95.45 percent of dependent variable is explained by the independent variables included in the model.

4.4.3. Interpretation Results of the Repressor Values

A Liquidity ratio and Commercial Bank Deposit.

In this study, Ratio of total loan and advance to total deposit is used as proxy bank liquidity. The ratio of loan and advances to deposits reflects the quantity or proportion of the customers' deposits that has been given out in form of loans. When the ratio is high it means that large portion deposit is given out in the form of loan. The result in this study found the at Bank liquidity is negatively and statistically significant impact on commercial banks deposit at 1% significant level.

According to the regression result, a one unit change in the Bank's liquidity, keeping other things constant, has resulted in .471759 unit change on the level of deposit of commercial banks in opposite direction. In other word, it means that the depositors are concerned with liquidity position which determines a bank's ability to respond to the withdrawal needs which are normally on demand or on a short notice as the case may be.This significant impact relation Bank's liquidity and deposit is consistent with the funding of Jembere (2012) and Bahredin (2016).

B. Inflation and Commercial Bank Deposit

The other macroeconomic variable included in this study was Inflation. According to the regression result of this study, Inflation has negative and statistically insignificant impact on deposit of commercial banks. The negative relation of the Government Expenditure and Commercial Bank's deposit is not consistence with our expectation.

The coefficient of this relationship of 0.029658 indicates that holding other things constant, a unit increase in inflation rate will lead to an 2.9-unit decrease in bank deposit growth at an insignificant level of more than 10 percent. This implies that persistent inflation has a negative insignificant effect on growth of bank deposit. So higher inflation induces savers to save less, perhaps households get stable price prediction from deposit. This

result is consistent with the precautionary motive, suggesting that increased macroeconomic uncertainty induces people to save a proportion of their incomes.

This is particularly true for households in developing countries such as Ethiopia whose income prospects are more uncertain than their counterparts in developed countries. The negative relation was consistent with the findings of (Hibret 2015) on commercial Bank of Ethiopia on the long run and (Andebet, 2016) on Private Commercial Banks. Thus, the hypothesis: population growth has positively and significant impact on deposit should be rejected.

C. Profitability and Commercial Bank's Deposit

Profitability in this study is measured by the return on asset (ROA). The regression result shows that, profitability has positive and statistically significant impact on Bank's deposit. The positive sign of the coefficient indicates a directly relationship between profitability and banks deposit. According to the regression result, a one unit change in the Bank's Profitability, keeping other things constant, has resulted in 2.578504 unit changes on the level of deposit of commercial banks in.

D. Exchange Rate and Commercial Bank Deposit

Exchange Rate was found to have a positive relationship with commercial bank deposit growth and the relationship significant according to the model in Table 4.5 above. This could be the attribution of remittance from Diasporas to families in home-country is increasing. According to NBE report, in Ethiopia remittance from Diaspora is one of the most beneficial sources to offset foreign trade deficit of the foreign currency for the country. It has positive impact on individual's income and savings (Shemisu, 2014).

The correlation coefficient for deposit rates is 0.001051 indicating that ceteris paribus a 1unit increase in exchange rate leads to a 0.001051 increase in commercial bank deposit deposits. The significant relation was consistent with the findings of (Jembere 2014), Hibret (2015) and Girang(2015).

E. Bank Credit Risk and Commercial Bank Deposit

Bank credit risk was measured as a ratio of total deposit to total asset which has a significant positive impact on commercial bank deposit. The coefficient of this relationship 0.471759 indicates that holding other things constant one unit increase in commercial bank deposit resulted 0.471759 units increase the credit risk of the commercial bank. The result of the study is consistent with the finding of (Osie, 2015)

Chapter Five

Chapter Five

5. Conclusions and Recommendations

5.1 Summery

The study established the factors that determine Commercial Bank Deposit in Ethiopia banking sector during the period from 2000-2015. Findings indicated that Commercial Bank Deposit bank deposit growth are influenced by Gross domestic product (GDP),Exchange rate,(ER),Liquidity ratio ,Probability(ROA),Credit risk, Inflation(INF),

This chapter outlines the Conclusion and Recommendation of the study in accordance with the study results.

5.2 Conclusions and Finding

This section presents the conclusion drawn from findings of the study.

Nowadays, finding deposit is becoming a challenging job for the banks in Ethiopia compatible with the growing need of loans. Owing to the growing need for finances from new and existing businesses of the country coupled with the banks own desire to make profits from those finances, deposit mobilization is becoming the critical success factor for banks. The main objective of this study was to identify the macroeconomic and bank specific determinants of deposit of Ethiopian commercial banks.

To comply with the objectives of the study, two bank specific and five macroeconomic variables were used. The bank specific variables include; Bank Credit Risk, Bank Liquidity and Bank Profitability, and the macroeconomic variables were Inflation, Deposit Rate and Exchange Rate. The study was used panel data for the sample of seven commercial banks in Ethiopia which had sixteen years of banking service over the period 2000 to 2018.

The bank specific data were mainly collected from annual audited financial reports of the respective sample banks and the macroeconomic data were collected from NBE and Central Statistical Authority (CSA). Data was presented and analyzed by using descriptive statistics, correlation analysis and balanced fixed effect regression analysis to identify the determinants of deposit of Ethiopian commercial banks.

Before performing OLS regression the model was tested for the classical linear regression model assumptions. From sixth explanatory variables, 60% of them proved to be statistically significant.

- The result of this study showed that, among the bank specific variables Bank Credit Risk is positively and statically significant to the growth of commercial bank deposit. Concerning to deposit interest rate, it implies that deposit interest rate is not a major factor in explaining the commercial banks deposit growth in Ethiopia connection with liquidity, the study indicated that the bank liquidity have negative and statically significant effect on commercial bank deposit.

- Deposit growth decreases when the bank liquidity increases or reduces liquidity risk. Liquidity arises mainly from the type of deposit where commercial banks were collected. Most of the deposit of the commercial banks is either individual or demand deposits and these deposits are withdrawn by the depositor at any time so the commercial banks should have adequate money to meet the withdrawal of the customer. In regard to profitability measured by Return on Asset has a significant positive impact on commercial bank deposits growth.

  Higher bank profits would tend to signal increased bank soundness, which could make it easier for these banks to attract deposits. The depositor confidence will increase if the bank is profitable and have adequate asset return. The deposit growth reacts negatively towards the increase in inflation. The relationship is similar to the expected sign. Since the county has experienced double digits inflation in the study period that results in higher costs of doing business; which leads to decrease in deposit mobilized by commercial banks.

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

5.3 Recommendation

This study was intended to identify the empirical determinants of deposit of Ethiopian commercial banks; and hence on the basis of the findings of the study, the following recommendations are drown.

It is well known that deposits are the critical resource for the banks to stay profitable, by the same analogy commercial Banks 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. Commercial banks are highly sensitive organization open to public scrutiny. As such, they must continuously ensure their profitability, which is essential for their deposit growth and viability as also for infusing public confidence.

Thus, banks have assumed greater responsibilities in mobilizing domestic resources for financing the priorities of the economy and commercial banks should have managed liquidity that contributes some for reduction of deposit growth and NBE shall also keep its liquidity requirement in the future to increase the deposit growth of the banks. A lack of liquidity can put a quick and final end to a financial institution's efforts to mobilize deposits and, in the worst case, can cause it to collapse or close.

Deposit mobilization requires clients to trust that they will always be able to access their savings when they want or need them. As the study point out, commercial bank required to have enough liquid asset to meet the demand for cash outflows, so as to generate and sustain public confidence of the depositors.

The government should decrease its supply of broad money to the economy. Since the excess supply of money will have a negative impact to the growth of the country and the growth of the commercial bank deposit. Since government is also one of the depositors in commercial bank deposit the growth of the government expenditure has a negative impact on the commercial bank deposit. So commercial banks should give to increase their time deposit instead of individual and demand deposit.

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Appendix

. HETROSKEDASTICITY TEST

Heteroscedasticity Test: White

F-statistic	2.27E+22	Prob. F(9,53)	0.0000
Obs*R-squared	63.00000	Prob. Chi-Square(9)	0.0000
Scaled explained SS	22.58789	Prob. Chi-Square(9)	0.0072

Source; Eviews 8output

Test for Autocorrelation

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	124.0884	Prob. F(2,54)	0.0000
Obs*R-squared	51.74169	Prob. Chi-Square(2)	0.0000

Source; Eviews 8output

Test for Correlation matrixes

	ROA	LIQUIDITY_RATIO	INFLATION	GDP	EXCHANGE_RATE	DESPOS_MOBILIZATION	CREDIT_RISK
ROA	1						
LIQUIDITY_RATIO	-0.3143075428641474	1					
INFLATION	-0.00576771928925505 8	0.3852371366838936	1				
GDP	0.1841641171743963	-0.4348888835599406	-0.4418573969887315	1			
DESPOS_MOBILIZATION	-0.1378109362039637	-0.8038522870208196	-0.4214379884993789	0.5830011282967124	0.8418691607665693	1	
CREDIT_RISK	0.07109959921987014	-0.7564816548104845	-0.2478632092923723	0.3582839686297901	0.9137404656852705	0.8900576258132108	1

Source; EViews 8output

Dependent Variable: ROA

Method: Panel EGLS (Cross-section random effects)

Date: 12/24/20 Time: 02:05

Sample: 2010 2018

Periods included: 9

Cross-sections included: 7

Total panel (balanced) observations: 63

Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LIQUIDITY_RATIO	-0.471759	0.021714	-21.72599	0.0000
INFLATION	-0.029658	0.028061	-1.056935	0.2951
GDP	2.00E-05	2.17E-06	9.196933	0.0000
EXCHANGE_RATE	-0.001051	0.000738	-1.423729	0.1601
DESPOS_MOBILIZATION	-0.001564	8.53E-05	-18.33232	0.0000
CREDIT_RISK	0.001258	8.41E-05	14.96118	0.0000
C	21.35689	1.029218	20.75061	0.0000

Effects Specification

	S.D.	Rho
Cross-section random	0.000000	0.0000
Idiosyncratic random	1.034848	1.0000

Weighted Statistics

R-squared	0.958943	Mean dependent var	4.123333
Adjusted R-squared	0.954544	S.D. dependent var	4.595826
S.E. of regression	0.979852	Sum squared resid	53.76617
F-statistic	217.9913	Durbin-Watson stat	3.673112
Prop(F-statistic)	0.000000		

Source; views 8output