# FACTORS AFFECTING DEPOSIT MOBILIZATION IN COMMERCIAL BANKS OF ETHIOPIA

**A RESEARCH PAPER SUBMITTED TO DEPARTMENT OF ACCOUNTING AND FINANCE FOR PARTIAL FULFILLMENT OF BACHELOR OF ART (BA) DEGREE IN ACCOUINTING AND FINANCE**

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**JANUARY, 2021**

# STATEMENT OF DECLARATION

I declare that the thesis entitled: *determinant of deposit mobilization of commercial banks in Ethiopia,* hereby submitted by me in partial fulfilment of the requirements for the BA Degree in Accounting and Finance at the Wolkite University, is my original work and has not been submitted for any degree in any other university. I have undertaken it independently with the advice of my advisor, Mr.Kirubel Asegdew (Asst. Prof.), n performing the thesis, I have used different sources and material which have been acknowledged.

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This is to certify that the thesis prepared by Nardos solomon, entitled: *determinant of deposit mobilization of commercial banks in Ethiopia,* and submitted in partial fulfilment of the requirements for the BA degree in Accounting and Finance complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Internal examiner: Mr. _____ Signature _____Date _____

External examiner: Mr. _____ Signature _____ Date _____

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# *Abstract*

*The main objective of the study was examining factors affecting deposit mobilization of commercial banks in Ethiopia for the periods 2009-2018. From total of 16 Commercial Banks which are engaged in commercial bank activities, eight selected based on the historical time formation of banks. The researcher adopted Quantitative research approach. Bank specific and by using the balanced panel fixed effect regression model. Different diagnostic tests (test for assumption of Homoscedasticity, Autocorrelation, Normality, were conducted to check the appropriateness of the model. The results reveal that number branch, age, and Bank Profitability are positively and statistically significant on bank deposit growth; whereas, Deposit to total asset was negatively and statistically insignificant on bank deposit growth. The researcher recommends that the deposit mobilization will increase if the commercial banks are profitable and have adequate asset return so commercial banks should sustain their profitability to increase their amount of deposit. Commercial Banks should also decrease their outstanding loan and advance to reduce their credit risk and decreases their liquidity by mobilizing more fixed time deposit instead of individual and demand deposit since credit risk had a positive and significant effect on bank deposit.*



*Keywords: Commercial Banks, Deposit Mobilization, Fixed Effect Model*

# Acknowledgement

First and for most, I will like to express my heartfelt thanks to my God for my life and abilities he put in me to successfully complete this research paper. My limitless thanks go to my advisor, Mr.Kirubel Asegdew (Asst. Prof.), Department of accounting and finance, wolkite university for painstakingly seeing me through the arduous task of BA studies, and also for his unflinching support and relentless advice to ensure the completion of my studies. All my family and friends for their moral and financial support throughout this study deserves thanks.

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# Abbreviations

ECM= Error Correction Methodology

USD=United State Dollar

IFD=International financial development

ROA=Return On Asset

GDP=Gross Domestic Product

IMF=International Monetary Fund

OLS=Ordinary Least Square

CBE=Commercial Bank of Ethiopia

DM=Deposit Mobilization

# CHAPTER ONE

# Introduction

## 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).

Richard et al. (2015), defined deposit mobilization as the main function of financial institution. Mobilizing funds from the surplus economic agents to the deficit economic agents is the process of deposit mobilization and it is thus affected to increase the economic growth.

Banks play intermediary role of mobilizing funds from savers (those who have excess funds) and subsequently lending them to investors (those who have deficient funds). However, banks cannot exist without deposits. Banks contribute to the economic growth by facilitating investment and increasing capital accumulation and it is capable only if the banks have satisfied amounts of deposits. Deposits are also the working capital of the economy and the sustainability and the profitability of banks are impossible without the deposits. Therefore, deposit mobilization is the primary function of the banks. Banks are striving to mobilize deposits as it is the fundamental objective of all banks. However, banks and financial institutions use deposits as sources of funds for loans and investments and also banks working with a smaller capital when compared with the other institutions since because they have potential to use deposits to initiate, expand and maintain their banks. Therefore, banks can earn high profits due to deposits (Garo (2015).

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 institutions (MFI) are led by banks in terms of capital size, total assets, employment capacity and profits (NBE Report,2011/12).

Due to the fact that as mentioned from above about deposit mobilization commenced to conduct a research title of factor affecting deposit mobilization of commercial banks in Ethiopia.

## 1.2. Statement of problem

Deposit mobilization is an integral part of banking activity. Mobilization of Savings through deposit collection has been regarded as the major task of banking industry. Deposit mobilizations are an indispensable factor to increase the sources of the banks to serve effectively. Mobilizing deposits play an important role in development of all spares of economy (Shettar, 2014).

In banking sector deposit mobilization is a scheme intended to encourage customers to deposit more cash with the bank and this money in turn will be used by the bank to disburse more loans and generate additional revenue for them. Furthermore, the key role of the loans, banks offer the more profit they make. However, the success of the deposit mobilization process depends on development of the financial system as well as the strategic practices adopted by banks (Richard, 2015).

Mohammed and Mahdi (2010) and Herald and Heiko (2009), states that one of the most effective factors for deciding deposits in banking system is the interest rate. AliSarlak (2014), his study on effective factors on the absorption of banks have a proportional relationship with each other.

Nowadays, all kinds of traditional and conventional banking activities have changed. So much of man power has been substituted by machines with very fast responses (Ugochukwu, 2016). According to Suraweera et al. (2011), a less-developed country has high adoption to IT driven banking services in recent years. Furthermore, banks and other financial institutions extensively use Information and Communication Technology as a medium of meeting customer expectations.

National bank of Ethiopia indicates that from deposits that should be mobilized by banks only7% is mobilized. This indicates that from the money that should be deposited in the bank 93% of it did not mobilize (SisayAssefa, 2012). From the country's tradition money may be kept in traditional way. This shows that the deposit mobilization practice among banks in the country is not developed and there should be mechanisms to mobilize such deposit rather than sitting and

waiting for depositors to come and deposit their money. The need for studying such mechanisms forces this study to be undertaken

However, factors influencing deposit mobilization are very important to any financial institution. Philip (1968), also states that, offering attractive deposits rates on bank deposits can gain high deposit mobilization. Which indicates most researchers' tray to assess and investigate the effect interest rate and some other limited variables and the same is true in Ethiopia. therefore, this research tray to investigate and address factor affecting deposit mobilization in commercial banks in Ethiopia by using 8 independent and 1deependent variable.

## 1.3. Objective of the study

### 1.3.1. General Objectives of the Study

The main objective of the study is to investigate factors affecting deposit mobilization of commercial banks in Ethiopia

### 1.3.2 Specific objectives of the study

- To investigate the effect of total deposit to total asset on deposit mobilization
- To identify the effect of profitability on deposit mobilization
- To identify the effect of number of branches on deposit mobilization
- To investigate the effect of age of the firm on deposit mobilization

## 1.4. Hypotheses Development

**Liquidity**

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. As this liquidity ratio decreased, Bank can easily able to respond to their withdrawal needs, thus the following hypothesis is drawn

*H1: total to deposit to total asset has positive and significant relationship with deposit mobilization*

**Profitability**

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 ban 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 and draws the following hypothesis.

H2: profitability has positive and significant relation with deposit mobilization

**Number of Branch**

Banking is primarily a service industry. Consequently, a major factor influencing decisions of whether to hold commercial bank deposits is convenience of bank office. It is argued that population growth and shifts necessitate corresponding growth and shifts in banking offices if banks are to both continue servicing their old customers and attract new ones. New bank offices

are believed to increase total deposits in an area by capturing some funds which otherwise would have either been placed in banks outside the area or escaped the banking system altogether. Other things being equal, deposit growth may be expected to be positively associated with increases in the number of banking offices.

More recently the branch expansion by the existing banks is fast increasing to reach out distant locations in order to snatch or mobilize the resources available particularly deposits. This practice shows that branch expansion has positive and significant relation with deposit volume.
The studies made by Giragn (2015) in Ethiopia, Shemsu (2015) in Ethiopia, Wubitu (2012) in Ethiopia, Erna &Ekki (2004) in Indonesia and Nathanael (2014) in Nigeria shows that the number of branches available has positive and significant effect on commercial bank deposit.

*H3 number of branches have positive and significant relationship with deposit mobilization*

**Age of the Firm**

Currently most people in Ethiopia have started putting their money on the bank and the first thing to look at is the age of the bank. As the age of the bank increase customer's confidence in the bank increases because the steady the bank is more profitable it will be. So, customers are known for putting their money in the bank without thinking about it. This study considered there is a positive relationship between age & Bank's Deposit and draws the following hypothesis.

***H4*** *age of firm has positive and significant relationship with deposit mobilization*

## 1.5. Significance of the Study

Banks play an important role in economic development through mobilization of funds from within and outside the country and channeling such funds to various needy and viable sectors of the economy

The study conducted on the Determinants of Commercial Banks deposit mobilization is expected to be used by all stakeholders. 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

This study focused on commercial banks that are currently operated in the banking sector in Ethiopia. Even though there are many companies specific identified from previous literatures, this study is limited to examine both Company specific factors total to deposit to total asset, profitability, number of branched and age of firm. Furthermore, this study is covered from 2009 to 2018-time period operation of banks that affect the dividend policy decisions. Therefore, the study is covered 8 banks that are under operation during the period and have audited financial statement for the period.

## 1.7 limitation of the study

Limitation of the study on this thesis, the researcher used only four major determinant or factors of deposit mobilization in Ethiopian's commercial banks, but not included other factor macro-economic variables, inflation GDP, and interest rate. The researcher used or selected only eight banks, based on service life ten and above year experience; this means the sample size is only around 50% of the population.

## 1.8. Organization the study

This research paper is organized in to Five chapters. Chapter one states introduction that includes background of the study, statement of the problem, objective, significance, scope. The second chapter presents review of related literature. The third chapter deals with research design and methodology which include research design, source of data and date collections and method of data analysis techniques. Chapter four review data analysis and presentation. The last chapter deals conclusion and recommendation.

# 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 Literature Review

Financial sector mainly constitutes financial markets and financial institutions. A financial market is a market in which financial assets (securities) such as stocks and bonds can be purchased or sold. Financial markets, thus, facilitate the flow of funds and thereby allow financing and investing by households, firms and government agencies (Madura, 2011). Examples include commodity markets, money markets and capital markets. Financial institutions (intermediaries) are institutions that provide financial services for their customers. They play an important role in the economy because they provide liquidity services, promote risk sharing and also solve information problems thereby allowing small savers and borrowers to benefit from the existence of financial markets.

Financial institutions can be divided into:

1. Depository institutions (e.g., commercial banks, savings institutions, credit unions) that obtain funds mainly through deposits from the public; and,

2. Non-depository institutions (e.g., finance companies, mutual funds, securities firms, insurance companies, pension funds) that finance their investment activities from the sale of securities or insurances.

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 utilized by households, businesses, and government agencies.

## 2.2 The Development of Bank in Ethiopia

A bank is a financial institution that provides banking and other financial services to their customers (Kapila, 2001). A bank is generally understood as an institution which provides fundamental banking services such as accepting deposits and providing loans. There are also non-banking institutions that provide certain banking services without meeting the legal definition of a bank. Banks are a subset of the financial services industry. A banking system also referred as a system provided by the bank which offers cash management services for customers, reporting the transactions of their accounts and portfolios, throughout the day.

The history of banking in Ethiopia goes back to the year 1905 E.C. when the bank of Abyssinia was first established with a capital of $500,000.00. It was the foundation of this bank that marked the beginning of modern banking in Ethiopia. The government of Ethiopia and the national bank of Egypt jointly owned it under a 50 years' franchise agreement.

The liquidation of Abyssinia bank in the year 1931 due to inefficiency and poor profit orientation was followed by the establishment of Bank of Ethiopia with a capital of $750,000.00 the first indigenous bank in the country.

The new economic policy introduces in November 1991 G.C. by the transitional government of Ethiopia laid the blue print for the transition from centrally planned economic system to market economic system in which the critical role of the private sector in development is fully recognized. In the banking industry, the policy was translated in to action through the issuance of the licensing and supervision of banking business proclamation No 84/94, which allowed the Ethiopian private sector to establish privately owned banks. Following this Awash International

Bank is the first private bank established after the fall of the Derg Regime in November 1994 G.C., with a paid up capital of birr 24.2 million by 486 shareholders. It started operation through five branches in February 1995 G.C. From the 1st year operation, it has registered profits and growth both in its customer and asset base.

In 1995 G.C. the bank's deposit was Birr 146 million, Loan & Advances 129 million, from 1995 G.C. towards, these financial indicators have shown a significant increase and in the fiscal year that ended June 30/2012, the bank has registered 13.1 billion in total assets, birr 9.2 billion in deposits, Birr 5.4 billion in loan and advances. Currently Awash International bank has created employment opportunities for 3,750 Ethiopians. Now a day's the bank has 107 branches in different towns of the country.

### 2.1.1Commercial Bank Deposit

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

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

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

Commercial banking is a service industry with a high degree of built-in profit potential (Meenakshi, 1975). Commercial banks mainly depend on the funds deposited with them by the public to lend it out to others in order to earn interest income (Davinaga, 2010). However,

banks attract deposits by paying risk free return to the savers. Interest expense is number one expense on the income statement of most commercial banks. (Hamid, 2011) said that if banks lose their deposit base, they rely on non-deposit-based funding that is very expensive and consequently minimizes the profit margin.

### 2.1.2Major Types of Deposit products

Deposit account is a savings account current account or any other type of bank account that allows money to be deposited and withdrawn by the account holder. These transactions are recorded on the bank's books, and the resulting balance is recorded as a liability for the bank and represents the amount owed by the bank to the customer. 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)

## 2.1.3 Importance of Deposit mobilization

### *A.* 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.

As noted by 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 management and staff to attract checking and saving accounts from business and individuals is an important measure of the bank acceptance by the public. Deposits provide most of the raw materials for bank loans and thus represent the ultimate source of bank profits and growth.

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

*D.* **Economic Growth and Development**

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

### 2.1.4The Effects of Poor Deposit Mobilization

- According to Khalayi et.al. (2014), there are a number of effects that are brought about as a result of the poor deposit mobilization. These Include Inability to disburse loans to qualifying members on demand,
- Inability to meet operation costs,
- Inability to service debts,
- Unstable board of directors due to frequent reshuffle as disgruntled members vote officials out,
- Quitting of members to competitors,
- Falsification of financial reports.

These can cause the voting out of elected officials on accusations of fraud, financial mismanagement practices. In addition, dissatisfied members can quit in large numbers to join alternative and emerging financial institutions for fear of losing their savings if the situation deteriorates.

## 2.1.5. Factors Affecting Commercial Banks Deposit

According to Dereje (2017), the determinants of commercial band deposit are classified as macroeconomic factors and micro economic factories that can affect the growth of commercial banks deposits. There are discussed as follows: -

## 2.2.1 Macroeconomic Factors

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. The macroeconomic factors that can affect bank's deposit include factors such as; Deposit Rate, Exchange Rate, Inflation and Government Expenditure among others.

## Deposit Rate

The main focus of every financial system is financial intermediary that is, mobilizing financial resources from the surplus sector and lend to the deficit outlets to facilitate business transactions and economic development based on the monetary and fiscal policy of the nation. The attraction for getting the deposit from the surplus sector is interest payment, which must be reasonable and acceptable to the owner of the money (Dereje, 2017).

The classical theory of interest otherwise called the demand and supply theory of interest, maintains that the rate of interest is determined by the demand for and the supply of funds by businessmen and households respectively. The supply of funds is governed by the time preference and the demand for capital by the expected productivity of capital.

McKinnon (1973) and Shaw (1973) argue that for the typical developing country, the net impact of a change in real interest rate on saving is likely to be positive. This is because, in the typical developing economy where there is no robust market for stocks and bonds, cash balances and quasi-monetary assets usually account for a greater proportion of household saving compared to that in developed countries.

## Government Expenditure

Government expenditure refers to all monetary expenditure on goods and services made by the government on behalf of the community. It includes both recurrent and capital expenditure on items like health, education, administration and so on. The recurrent expenditure refers to the expenditures that occur at regular intervals in the annual budget of the government. These expenses include expenditure on defense, administration and debt servicing particularly payment of interest on loans, road maintenance, and cost of health and education services.

Sahoo et al (2001) in the Indian case "accepts that "saving is the engine of growth. Expenditure that creates jobs ensures regular income and savings, hence, bank deposits increase. On the other hand, expenditure on investment such as importation of capital goods, development of institutional and infrastructure facilities which aid private sector investments may generate

employment and multiplier on savings and output in the long run. Where the latter situation holds, all things being equal, deposit mobilization will increase".

Generally, an Increase in government expenditure injects more money into the hands of the people and assuming no change in inflation and tax rates as well as demand for more goods and services, more income will be available for savings and deposits will increase accordingly. Also, where expansionary government expenditure leads to increase in domestic borrowing, interest rates on loans increase and all other things being equal, more deposits would be attracted. (Osie, 2015)

**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 structural list, 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 market failures". (Kirkpatrick Nixon and Beim, 2001) expresses the most popular view held by economists by characterizing on inflationary 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.

## 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.

## 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's explanation, the term depreciation and appreciation are 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. (Alemayeh, 2015) also confirms that for developing country in general saving is negatively correlated with unstable exchange rate.

### 2.2.2 Bank Specific Factors

The Bank specific factors are factors that are related to internal efficiencies and managerial decisions. Such factors include determinants such as Bank Profitability, Bank Liquidity, Bank Credit Risk and the like.

## Bank Profitability

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 performances, 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 shareholder's funds. Since ROA tend to be lower for financial intermediaries, most banks heavily utilized financial leverage to increase their ROE to competitive levels" (Hassan and Bashir, 2003)

## Bank's Liquidity

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, et.al. (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.

## Size of the bank

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, so a priori, the sign of the coefficient is not certain. (Herald and Heiko, 2009)

## Variety of banking services:

Banks need to offer new services and new products; new marketing staffs recognize the diverse needs of their clients with innovative marketing possible. In modern banking, banks to identify customers and their needs into marketing himself based on the data, appropriate marketing strategies can be used with the scientific and the right product at the right time with the right tools to the customer offer (Hossein& Ali, 2014).

## Credit Risk

According to Osier, (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".

Ledgerwood, (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".

## 2.3Empirical Literature Review

The banking sector in Ethiopia must increase their deposits by overcoming the existing challenges; hence they need to know the factors that determine deposit or financial savings. This study empirically investigates determinants of mobilizing financial savings for banks in Ethiopia and which of those factors are influential and what are the related costs of mobilizing deposits.

The main objective of the study is to investigate the factors that determine deposit mobilization activity and identify and analyze associated costs.

The study reveals that the branch expansion, the money supply, the exchange rate of Birr to USD and general inflation are the most significant factors of deposit mobilization activity. The other variables-deposit rate and real per capita GDP growth rate have insignificant power to influence the dependent variable.

In this research, the deposit rate is found to have negative relation against the deposit volume for the period under study and the other is positive and significant relationship the cost of deposit mobilization is increasing year after year with the deposit growth. The study shows that the annual ratio of costs to deposit volume has been increasing over the past six years. The main factors for deposit growth are the changing awareness of the people for savings, growth in the number of branches of banks, in per capita income, in money supply and in the exchange rate to USD. Service excellence and proximity and convenience of bank branches to the public were also mentioned.

Mohammed Alhaji, (2015) the main objective of the study is to examine the impact of target deposit mobilization on the Banking Industry in some selected banks in Nigeria. Targeted deposit mobilization is used as independent variable in this study. This study made use of survey method. The choice of survey method is because it attempts to be fairly representative of the population of interest in its selection of its sample of study. The study revealed that the reasons for the deposit target strategy are to mobilize deposits from the public, increase bank deposits, and enhance staff performance. In addition, the performance and promotion of individual

marketers is based on meeting or exceeding target deposit. Ketema getachew, (2017) commercial banks found in Ethiopia must increase their deposits by overcoming the existing challenges. To do so they have to knows the main factors that determine 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 affecting deposit mobilization in commercial banks. This paper empirically examines the determinants of commercial banks deposit mobilization in Ethiopia for the periods 2000-2015. From total of seventeen Commercial Banks which are engaged in commercial bank activities, seven selected based on the historical time formation of banks. The researcher adopted Quantitative research approach. Bank specific and macroeconomic variables were analyzed by using the balanced panel fixed effect regression model. Different diagnostic tests (test for assumption of Homoscedasticity, Autocorrelation, Normality, average value of the error is zero and independent variables are non-stochastic) were conducted to check the appropriateness of the model. Variable used was bank profitability, bank liquidity, bank credit risk, and money supply. The results reveal that credit risk, exchange rate, and Bank Profitability are positively and statistically significant on bank deposit growth; whereas, Loan to Deposit ratio (Bank's Liquidity) and Money Supply influence is negatively and statistically significant on bank deposit growth. Deposit Interest Rate had insignificant positive influence on bank deposit growth Whereas Inflation and Government Expenditure had insignificant negative influence on bank deposit growth. The researcher recommends that Government should decrease the broad Money Supply to the economy since it had a negative significant effect on deposit mobilization.

The paper by Kalebe (2015) looked at the broad set of possible determinants of private savings in Lesotho using annual time series data for the period 1980-2010. The co-integration and Error Correction Methodology (ECM) was utilized in this study to measure the relationship between the variables used. The study used independent variables of real deposit rate, public saving rate, external saving rate, real GDP growth rate and terms of trade and dependent variable of private savings. The results indicate that public savings are important in explaining changes in private savings, both in the short-run and long-run and that the terms of trade negatively influence private savings in Lesotho in the long -run.

An empirical study made by Eric, Yao & Victor (2015), on commercial banks in a developing country Ghana with the aim of examines the effect of interest rate liberalization on bank deposits in a developing country Ghana. The study used secondary data on deposits, interest rates and inflation based on the consumer price index (year-on-year) obtained from Bank of Ghana (BOG) and Ghana Statistical Service website (GSS) respectively. The analysis covers adjusted quarterly data from periods 1991 to 2012 to be seasonal. Research papers from the International Monetary Fund (IMF) publications, the World Bank publications and other scholarly peer re-viewed journals were also considered. A deposit function model was specified with long term deposit as the main dependent variable with real savings rate, real Treasury bill rate, exchange rate movement and gross domestic product as independent variables while controlling for inflation. Ordinary Least Squares (OLS) method was used to estimate the specified model which covered seasonally adjusted quarterly data drawn from Bank of Ghana and Ghana Statistical Service. The data were input into a spreadsheet and exported into Econometric View 7 which was used for processing the data.

The results of the study revealed that the interest rate liberalization and gross domestic product jointly accounted for about 78% of the variation in the level of bank savings deposits in Ghana. The study has also shown that the liberalization of the interest rates has made it attractive for people with idle funds to save with financial institutions especially the banks. It also revealed a negative relationship between real savings rate and the real Treasury bill rate expected in a high inflationary environment. All the independent variables were significant. Based on this the researchers recommended that the Bank of Ghana remains resilience on interest rate liberalization so that surplus funds can be made available for investors and also to reduce the level of inflation in Ghana.

Giragn (2015) explored the theoretical as well as empirical analysis of those factors having an impact on deposit volume in commercial banks in Ethiopia and even assesses which ones are more significant or less significant. To do the practical investigation in terms of commercial banks in Ethiopia, the researcher collected the relevant data from annual reports of twelve years (2001/2-2012/13) and from questionnaires and interviews made to senior bank officers of seven banks. The banks included in the survey were Commercial Bank of Ethiopia, Awash International Bank, Dashen Bank, Bank of Abyssinia, Nib International Bank, Wegagen Bank

and United Bank. The data was analyzed through the econometric analysis using Eview software. The study reveals that the branch expansion, the money supply, the exchange rate of Birr to USD and general inflation are the most significant factors of deposit mobilization activity. The other variables deposit rate and real per capita GDP growth rate have insignificant power to influence the dependent variable. In this research, as opposed to the conventional economic theory, the deposit rate was found to have negative relation against the deposit volume for the period under study. The study also exposed that the deposit mobilization activity was becoming challenging, its associated costs are escalating and the competition was also becoming stiff-the outcome of the competition favoring the big size state banks. Beyond that the government policies were also favoring the latter in an effort to mobilize huge fund for a national development activity. The research recommended that banks have to do much in branch expansion studying potential deposit areas.

Shemsu (2015) aimed to identify and evaluate those factors affecting bank deposit in general by taking Commercial Bank of Ethiopia as evidence. Accordingly, the researcher adopted mixed research approach. The rationale of using such a mixed approach was to gather data that could not be obtained by adopting a single method. Regarding to the qualitative data; questionnaire was used to gather information from the employees of commercial bank of Ethiopia particularly for those employees who actively participated in deposit mobilization tasks in CBE city branches. Regarding to the secondary data; time series data covering 1998 -2014 was analyzed. First, the time series data were assessed using descriptive statistics for the variables as well as the test for heteroscedasticity, autocorrelation and normality testing to know if the assumptions of CLRM violated or not. Second, estimated model was a single regression equation with deposit as the dependent variable and explanatory variables as deposit interest rate, overall inflation rate, number of branch opening, gross domestic product, individual foreign remittance and dummy variable. Estimation was done using Ordinary Least Squares technique by E-views7 statistical package.

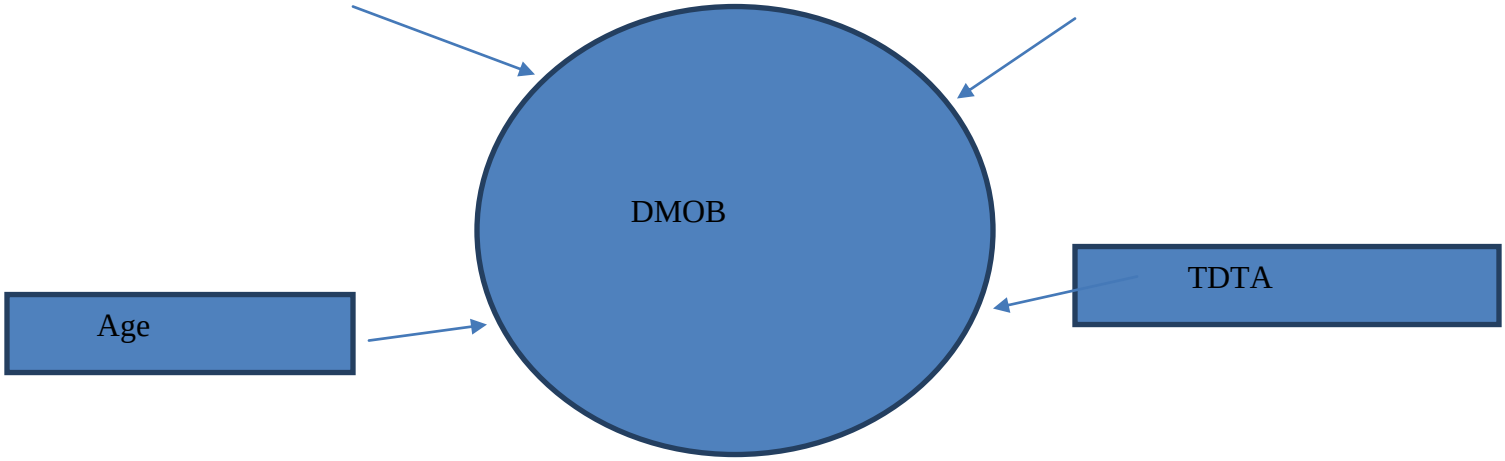
The results from economic analysis showed that all the explanatory variables were positively correlated with the explained variable. Among these variables, branch opening was an important strategy for deposit mobilization, it is highly significant than others. Individual remittances from

Diasporas, was also next to branch opening was significantly affects CBE‟s deposit. The others were affects positively and can increase CBE‟s deposit.

## 2.4 Summary of Literature and 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. 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) 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. O. Koror pecky (1989) found that awareness of the society was positive influence on the commercial bank deposit. While, the study made by Vasquez (1986) was found a negative influence of society awareness on commercial bank deposit. Shemsu (2015) and Wubitu (2012) in Ethiopia found that deposit rate was a significant influence on commercial bank deposits. On the other hand study made in the same country by Giragn (2015), Hibret (2015) and Bahredin (2016) showed that deposit rate was insignificant influence on the As it was discussed in the literature review part, Most of study undertaken in our country related to the topic of determinates of deposit mobilization focus on a separately treating the total deposit amount to the private banks and the public Banks and some internal and external factors that are reviewed by different researchers indifferent research techniques also showed different effect on Bank deposit. Thus, the inconsistency funding among researchers and little attention given by researcher on the determinate of the overall deposit mobilization commercial banks of Ethiopia, motivated the researcher to undertake a research in this particular area by adding new additional variable to fill these gaps.

## 2.5 CONCEPTUAL FRAMEWORK


DMOB
Age
TDTA

# CHAPTER THREE

## 3. Research methodology

In this part, the techniques and approaches that are used in the research process are discuss briefly. This includes the general research design, the research data source and descriptions of dependent and independent variables, research population, and method of data collection and analysis.

### 3.1 Research design

Research design is a master plan specifying the methods and procedures frame work for collecting and analyzing the required data (Bryman & Bell, 2007). Or it is the plan and structure of investigation so conceived as to obtain answers to research questions (Cooper & Emory, 1995). This means it gives the procedure necessary for obtaining the information needed to solve the research problems. Many research designs could be used to study business problems Hair et al. (2011). The choice of research design depends on objectives that the researchers want to achieve (John, 2007). Depending on the way in which researchers ask their research questions and present their purpose, the research design could be classified into three groups, namely exploratory, descriptive and explanatory studies (Saunders et al., 2009).

Therefore, based on the above discussion the research design of this study will be an explanatory to achieve the intend objective of this study, since this study have designed to examine the cause-and-effect relationships between deposit mobilization and its factors in Ethiopian commercial banks.

### 3.2 Research approach

According to Creswell (2009), there are three basic research approaches; these are quantitative, qualitative and mixed research approaches.

**Quantitative research:** is a systematic and scientific investigation of quantitative properties, phenomena's and their relationships by developing and employ mathematical models, theories and hypotheses pertaining to natural and/or social phenomena Bhattacherjee (2012). Quantitative

research is the systematic and scientific investigation of quantitative properties and phenomena and their relationships. As noted by (Greener, 2008) quantitative research is associated with a deductive approach to testing theory, often using number or fact

**Qualitative research:** is an inquiry process of understanding where the researcher develops a complex, holistic picture, analyses words, reports detailed views of informants and conduct the study in a natural setting (Creswell, 2009). It involves studies that do not attempt to quantify their result through statistical summary or analysis.

**Mixed research:** is tried to mix the best of qualitative and quantitative research into research studies. Mixed research uses both deductive and inductive methods, obtain both qualitative and quantitative data.

Therefore, based on the above discussion this study was be used quantitative approach to achieve the intend objective.

### 3.3 Target population

All private banks in Ethiopia are considered as the population of the study. The sample frames of the study were all those commercial banks operating in Ethiopia. For the purpose of this study, the researcher was collected ten years (2009-2018) secondary data from annual reports of selected private banks and national bank of Ethiopia.

## 3.4 Data collection methods

Data collection method should be in accordance with the design of the research. Secondary data which can show deposit mobilization and the factors are review from the commercial bank's annual reports, financial statement, Association of commercial banks.

## 3.5 Data processing and analysis

After the collection of data, the data was being analyzed and process in order to comprehend the qualitative nature of the research. The quantitative data was being given us the availability of deposit mobilization and factor affect which have significant impact on the select commercial banks through the regression model.

### 3.6 Variable Descriptions

The study was going examine factors which affect deposit mobilization through testing the hypotheses to achieve these objectives the researcher selects dependent variable (deposit mobilization) and independent variable (number of branches, total deposit to total asset, profitability and age). The computations for all of the variables (dependent and independent) are based on the review of literature and are discuss below.

#### 3.6.1 Dependent variable

**Deposit mobilization**

According to Banson (2013), deposit mobilization is the collection of cash or funds by a financial institution from the public through its current, savings and fixed amounts and other specialized schemes. Normally deposits are considered as the cost-effective working funds that can increase the sustainability and profitability of the deposit taking institutions.

#### 3.6.2 Independent variable

**Total deposit to total asset**

According to Kwan (2000), deposits to asset ratio measures the magnitude of assets being funded by public deposits. He further stated that the Deposit-to-Asset Ratio tests whether banks that have more deposits incur additional operating costs to attract deposits. In the context of banks, deposits to assets ratio measures the relative portion of the banks total assets that is funded by deposits and gives an informed analysis of the role of deposits as a funding source (Mix Market, 2011).

**Profitability**

Profitability, measured as net pre-tax profit over assets, is an indication of successful performance and the efficient management of assets. Profitability is the company's ability to produce a profit that would sustain long-term and short-term growth (Chandler, 2009). 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 performances, many researchers have argued for the return on assets (ROA) as against return on equity (ROE).

**Number of branches**

The increase in the number of bank branches has an effect on getting many customers particularly those in far remote areas who are unbanked society.

**Age**

Age is the length of time during which a being or thing has existed.
The relationship between firm age and deposit is contentious. While some reported the positive and significant.is measured as natural logarithm of banks age.

### 3.7 The model specification

Multiple Linear regressions are a method of estimating or predicting a value on some dependent variable given the values of one or more independent variables. Like correlations, statistical regression examines the association or relationship between variables. Unlike correlations, however, the primary purpose of regression is prediction (Geoffrey M. et al., 2005). To meet the objective of this study and to identify the effect of the independent variable this model was used

$$\mathbf{DM_{it}= \beta_0 +\beta_1(pro)_{it} + \beta 2(nbr)_{it}+ \beta 3(age)_{it}+\beta_4(DTA)i_t+\varepsilon_{it}}$$

Where;

B0 is an intercept

$\beta_1, \beta_2, \beta_3, \beta_4$ i at time t,

DM= deposit mobilization

DTA=total deposit to total asset

P= profitability

NB= number of branches

A= age

**ε=error term**

# CHAPTER FOUR

## 4. DATA PRESENTATION AND ANALYSIS

### 4.1 INTRODUCTION

In this section, the summary statistics of each variables of the study have 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: number of branches, total deposit to total asset, profitability number of branch and age are discussed here under.

Table 4.1descriptive statistics

| | DMOB | TDTA | PRO | NBR | AGE |
|---|---|---|---|---|---|
| Mean | 0.593172 | 0.784562 | 0.047071 | 220.6500 | 19.12500 |
| Median | 0.596224 | 0.777297 | 0.037500 | 153.0000 | 16.00000 |
| Maximum | 0.738008 | 1.785842 | 0.360700 | 1284.000 | 55.00000 |
| Minimum | 0.411530 | 0.613181 | 0.003500 | 4.000000 | 3.000000 |
| Std. Dev. | 0.073723 | 0.121467 | 0.049272 | 234.2569 | 12.90606 |

The above table indicates the mean, maximum, minimum and standard deviation values of variables. Data set of 80 observations provides the basis for descriptive analysis. The mean value of number of deposit mobilization was around 59.31 percent. The median value of 59.62 percent The minimum value 41.15 percent whereas, the maximum value of 73.8 percent. The standard deviation for deposit mobilization was 7.37 percent; this implies that high variation from its mean value during the period of 2009 to 2018. As shown in the result, there were higher differences among banks regarding deposit mobilization.

The average value of total deposit to total asset was 78.4 percent during the last 10 years. The maximum value of TDTA is 1.785 was recorded in the year between 2009 and 2018 and

the minimum value is 0. 6131.The median value of TDTA 77.72 The standard deviation for disposable income growth was 12.14 percent.

Profitability is the likelihood of a business earning the desired level of income within a specific period of time under certain prevailing business conditions. Average return on asset of studied banks for the period from 2009 to 2018 was 0. 047071.The median value of 3.6 percent. The minimum return on asset of 0.003500was registered in the year 2009-2018 and the maximum return on asset of 0.360700 and the standard deviation is 0.049272. The average value of number of branch was 220.65 during the last 10 years. The median value of 153. The maximum value of number of branch is 1284 was recorded in the year between 2009 and 2018 and the minimum value is 4 percent. The standard deviation is 234.25. The average age studied banks for the period from 2009 to 2018 was 19.15 percent. The median value of 16. The minimum age is 3 percent. The maximum value age is 55 percent was recorded in the year 2009-2018 and the standard deviation is 12.9 percent.

## 4.2 Testing the Classical Linear Regression Model (CLRM) Assumptions

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, which deposit mobilization and 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. There are five assumptions made in relation to the classical linear regression model (CLRM). The researcher has tested if there exist the violation of these assumptions. The method used to test these assumptions by the researcher is described as follows:

### 4.2.1The Assumption of Average Value of the Error is Zero

The first assumption required is that the average value of the errors is zero. In fact, if a constant term is included in the regression equation, this assumption will never be violated. In our case the model has constant term which is proved 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, deposit of commercial banks, is explained by the independent variables.

### 4.2.2The Assumption of Homoscedasticity

The test of heteroscedasticity 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 heteroscedasticity.

Ho: The assumption that there exists homoscedasticity

H1: There is no homoscedasticity (there is Heteroscedasticity)

Table 4.2: The Heteroscedasticity test of the multiple regression

Heteroscedasticity Test: Breusch-Pagan-Godfrey

| | | | |
|---|---|---|---|
| F-statistic | 0.792044 | Prob. F(4,75) | 0.5340 |
| Obs*R-squared | 3.242419 | Prob. Chi-Square(4) | 0.5181 |
| Scaled explained SS | 2.292627 | Prob. Chi-Square(4) | 0.6821 |

Based on the result displayed in the above table 4.3 the three different types of tests for heteroscedasticity and all fails to reject the null hypothesis of homoscedasticity presence. Therefore, it can be concluded that the variance of error term is constant or the second assumption of CLRM is not violated.

### 4.2.3 Test for Normality

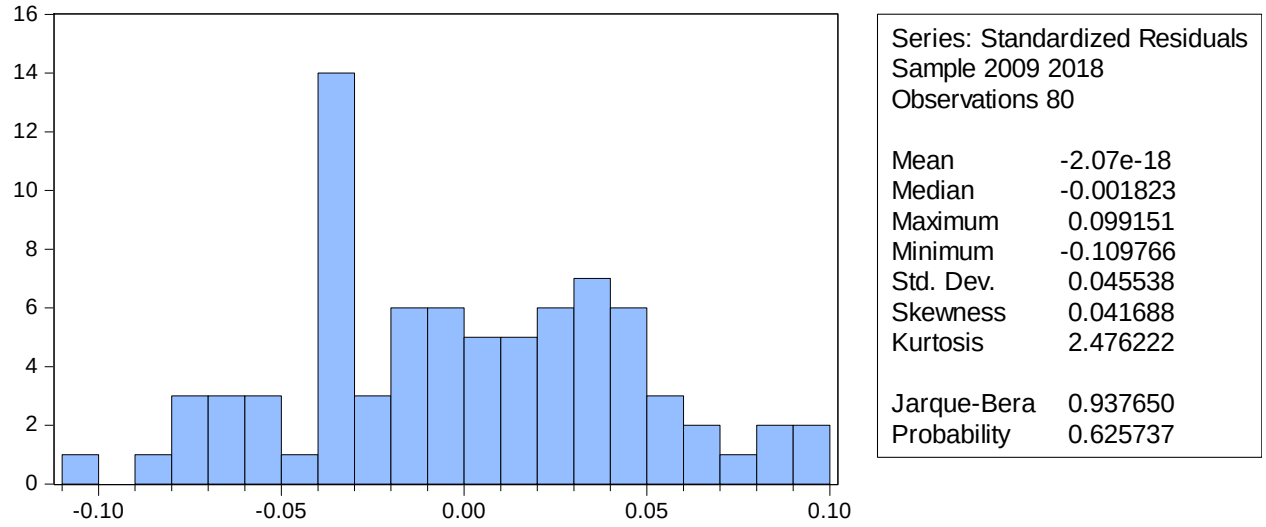
Normality is a condition in which the variables to be used in the model follow the standard normal distribution. The Jarque-Bera statistics was used to test the normality of the variable under different conditions and under the hypotheses;

Ho: The series is normally distributed

H1: The series is not normally distributed

If the series are normally distributed, the histogram should be bell shaped and the Jarque-Bera statistic insignificant.

figure 4.1 shows histogram test




As shown in the above Histogram, kurtosis approaches to 3 (i.e. 2.48), skewness approaches to 0 (0.0416) and the Jarque-Berastatistics was not significant even at 5% level of significance as per the P-values shown in the histogram more than 5% (i.e. 0.625373). Hence, the null hypothesis that the error term is normally distributed should be accepted

### 4.2.4 Test for Serial Correlation Lm Test

As shown in the below table 4.3, the F test and the P value of F-statistic result of the model was 0.0000, which is less than the significance level of 5%. As a result, the null hypothesis which states residuals is serially correlated. Reject at 5 percent of significant level. This implying that there is significant evidence for the presence of serial correlation in these models. In addition, the Chi-Square P-value of the models also supports the presence of serial correlation in the model. Therefore, there is serial correlation among residuals.

Breusch-Godfrey Serial Correlation LM Test:

| | | | |
|---|---|---|---|
| F-statistic | 3.725453 | Prob. F(10,65) | 0.0006 |
| Obs*R-squared | 29.14651 | Prob. Chi-Square(10) | 0.0012 |

Table4.4.test for serial correlation LM test (*Source: Output of E-views 8)*

### 4.2.5test for Multicollinearity

Multicollinearity is an assumption of a linear relationship between explanatory variables that creates biased regression model. This problem occurs when the explanatory variables are Very highly correlated with each other (Brook, 2008). According to (Hair et al., 2006) multicollinearity problem exists when the correlation coefficient among the variables are greater than 0.90. If multicollinearity problem is too serious in a model, either additional important variable should be added or unimportant independent variable should be dropped. This study uses high pair-wise correlation coefficients method to detect the existence of multicollinearity. As it appears in the correlation matrix in the below tables all the modes are less than the stated value.

| | DMOB | TDTA | PRO | NBR | AGE |
|---|---|---|---|---|---|
| DMOB | 1.0000 | | | | |
| TDTA | 0.01426 | 1.0000 | | | |
| PRO | 0.1565 | 0.2908 | 1.0000 | | |
| NBR | 0.4568 | 0.2744 | 0.4878 | 1.0000 | |
| AGE | 0.3004 | 0.2159 | 0.5036 | 0.81266 | 1.0000 |

Table 4.5 correlation matrix of independent variable (source E-views 8)

The result correlation matrix implies that the highest correlation is 0.81266 between age and number of branch. Since there is no correlation above 0.9 according to Malhotra (2007), it is possible to conclude in this study that there is no problem of Multicollinearity

### 4.2.6 Choosing Random Effect (Re) Versus Fixed Effect (Fe) Models

In order to achieve the objective of the study the researcher employed panel data model. As far as the data is concerned, comprising both time series and cross section elements panel model is appropriate. The choice of this methods are, comprising time series and cross-section units and by using Hausman specification test. As noted by Gujarati (2004) if T (the number of time series data) is large and N (the number of cross –sectional unit) is small there is likely to little

difference in the values of parameters estimated by fixed effect model and random effect model. Hence the choice of here is based on computational convenience. On this score random effect model should have used

Running a Hausman specification test five percent level enables the researcher to choose between fixed effect and random effect models (Hausman, 1978). The hypothesis for Hausman specification test is;

Null hypothesis: random effect model is more appropriate

Alternative hypothesis: Fixed-effect model is more appropriate

Decision rule: if the P-value from the Hausman test is statistically significant (less than five percent) the fixed-effect model is preferred in favour of random effect, otherwise the random effect model is selected.

The result from Hausman test in table allows as rejecting the null hypothesis for the first model that fixed model is better in this regression analysis. This implies that a fixed effect model is more appropriate than random effect model to undertake the panel regression estimation for this study. And for the second model the result from Hausman test in table allows as to not reject the null hypothesis that random model is better in this regression analysis. This implies that a random effect model is more appropriate than fixed effect model to undertake the panel regression estimation for this study.

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

| Test Summary | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
|---|---|---|---|
| Cross-section random | 67.071937 | 4 | 0.0000 |

Table 4.6 random effect –Hausman test

### 4.4 Results of fixed effect Regression Analysis

This section discusses the regression result 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 from the year 2009 to 2018. The relationship between one dependent variable and four independent variables is regressed using econometric software called E-Views 8 Thus, the model used to examine statistically significant determinants of commercial banks deposit measured by

$$DMOB = \alpha_i + \beta_1 * TDTA_{it} + \beta_2 * PRO_{it} + \beta_3 * NBR_{it} + \beta_4 * AGE_{it}$$

Accordingly, Table 4.7 below presents the result of fixed effect regression model that examines the impact of explanatory variables on bank deposit.

Cross-section random effects test equation:

Dependent Variable: DMOB

Method: Panel Least Squares

Sample: 2009 2018

Periods included: 10

Cross-sections included: 8

Total panel (balanced) observations: 80

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 0.457490 | 0.057886 | 7.903262 | 0.0000 |
| TDTA | -0.033658 | 0.049790 | -0.676004 | 0.5013 |
| PRO | 0.080017 | 0.139506 | 0.573569 | 0.5682 |
| NBR | 0.000116 | 4.99E-05 | 2.320981 | 0.0233 |
| AGE | 0.006941 | 0.002648 | 2.621657 | 0.0108 |

| | |
|---|---|
| R-squared | 0.618455 |
| Adjusted R-squared | 0.556735 |
| S.E. of regression | 0.049083 |
| Sum squared resid | 0.163824 |
| Log likelihood | 134.1245 |
| F-statistic | 10.02025 |
| Prob(F-statistic) | 0.000000 |

table 4.5 Results of fixed effect regression model

### 4.6 Discussion of The Regression Result

#### 4.6.1 Interpretation of R-squared

As shown in Table 4.7, an R-squared coefficient of 0.618455 obtained from the estimated model revealing that 61.84 percent of variation in deposit (DMOB) is explained by the selected explanatory of Bank Profitability(ROA), TDTA, number of branch and age of banks.

#### 4.6.2. 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 55.67 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 0.5567 shows that 55.67 percent of dependent variable is explained by the independent variables included in the model.

#### 4.6.3. Interpretation Results of the Repressors Values

**Total Deposit to Total Asset and Deposit Mobilization**

In this study, the ratio of total deposit total asset is used as a proxy bank liquidity. The ratio total deposits reflect 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 insignificant impact on commercial banks deposit at 5% significant level. According to the regression result, a one unit change in the Bank's liquidity, keeping other things constant, has resulted in 0.5013 unit change on the level of deposit of commercial banks in opposite direction.

This insignificant impact relation Bank's liquidity and deposit is consistent with the funding of Jemeber (2012) and Bahredin (2016).

**Profitability and Deposit Mobilization**

Profitability in this study is measured by the return on asset (ROA). The regression result shows that, profitability has positive and statistically insignificant 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 0.0800-unit change on the level of deposit of commercial banks in but its insignificant influence on the deposit mobilization.

**Number of branch and deposit mobilization**

Number of branch is one of the Bank specific factories that affect deposit of commercial banks in Ethiopia and it was measured by annual growth rate of Branch expansion. It was hypothesized that Branch expansion has positive and significant impact on bank's deposit. Based on the regression result, Branch expansion is positive and statistically significant impact on deposit of Ethiopian private commercial banks at 5% significant level. The coefficient of 0.00016 revealed that, taking other independent variables constant, a one percent change on growth rate of Branch expansion has a 0.00016 change on deposit of Ethiopian commercial banks. The result of this study was consistent with the findings of Giragn (2015) on commercial Bank of Ethiopia. Thus the study fails to reject the hypothesis of Branch expansion has positive and significant impact on bank's deposit

**Age and deposit mobilization**

Age is one the banks specific factor which affect the deposit mobilization of Ethiopian commercial banks the result shows that age have positive and statistically significant impact on the deposit mobilization of Ethiopian commercial banks at 5% significance level. The coefficient of 0.00694 implies that taking other things remain unchanged a one year increasing the banks age has 0.00694 change on the deposit of Ethiopian commercial banks

**Summary of the finding**

| Hypothesis | Independent variable | Expected relationship with independent | Actual result | decision |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| **H1** | **TDTA** | Positive | Negative | Rejected |
| **H2** | **PRO** | positive | Positive | Accepted |
| **H3** | **NBR** | Positive | Positive | Accepted |
| **H4** | **AGE** | Positive | Positive | Accepted |

# CHAPTER FIVE

# CONCLUSSION AND RECOMMENDATION

## 5.1 INTRODUCTION

The major objective of this paper was to identify the determinants of deposit mobilization in Ethiopian commercial banks. To fulfill this objective, the researcher has reviewed theoretical explanations and empirical literature regarding to the main determinants of deposit mobilization in commercial banks. The major findings that are obtained through empirical analysis can be concluded as follows:

## 5.2 CONCLUSSION

In order to meet the objective of the study a 10-years financial statement data was used from audited financial statement of banks and national bank of Ethiopia report from 2009-2018 for eight selected commercial banks. The collected data was analyzed by using fixed effect panel regression model. The result shows that the three independent variables, profitability, number of branch and age have positive effect on deposit mobilization of commercial banks for the period covered by the study. whereas total deposit to total asset have negative relationship with deposit mobilization of commercial banks in Ethiopia. Finally, the number of branch and age of banks have positive and statistically significant effect on the deposit mobilization of Ethiopian commercial banks. According to the result number of branch have positive and statistically significant impact on the deposit mobilization Ethiopian commercial banks this implies that when the commercial banks increase one branch their deposit mobilization will increase because of the number of customer's increase when the banks open a new branch. The result of this study was consistent with the findings of Giragn, (2015) on commercial Bank of Ethiopia. The other variable is age the banks which has positive and significant impact on deposit mobilization of commercial banks this implies that when the banks operate for a long period of time they will mobilize huge amount of deposit. Whereas the profitability has positive and insignificant impact on deposit mobilization.

## 5.2 RECOMMENDATION

This study was intended to identify factors that affect deposit mobilization 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.
- ✓ The above result shows number of branch has positive and significant impact on the deposit mobilization of Ethiopian commercial banks so, the top manager of the commercial banks should expand their branch in all area which increase their sustainability and customer number.
- ✓ 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.

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# APPENDIX

Descriptive statistics

| | DMOB | TDTA | PRO | NBR | AGE |
|---|---|---|---|---|---|
| Mean | 0.593172 | 0.784562 | 0.047071 | 220.6500 | 19.12500 |
| Median | 0.596224 | 0.777297 | 0.037500 | 153.0000 | 16.00000 |
| Maximum | 0.738008 | 1.785842 | 0.360700 | 1284.000 | 55.00000 |
| Minimum | 0.411530 | 0.613181 | 0.003500 | 4.000000 | 3.000000 |
| Std. Dev. | 0.073723 | 0.121467 | 0.049272 | 234.2569 | 12.90606 |
| Skewness | -0.202431 | 7.051372 | 4.586590 | 2.892110 | 1.675222 |
| Kurtosis | 2.690639 | 59.28254 | 25.50780 | 11.76926 | 4.894377 |
| | | | | | |
| Jarque-Bera | 0.865393 | 11222.04 | 1969.161 | 367.8572 | 49.38047 |
| Probability | 0.648757 | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| | | | | | |
| Sum | 47.45373 | 62.76494 | 3.765690 | 17652.00 | 1530.000 |
| Sum Sq. Dev. | 0.429370 | 1.165577 | 0.191793 | 4335228. | 13158.75 |
| | | | | | |
| Observations | 80 | 80 | 80 | 80 | 80 |

correlation

| | DMOB | TDTA | PRO | NBR | AGE |
|---|---|---|---|---|---|
| DMOB | 1.000000 | 0.014261 | 0.156529 | 0.456866 | 0.300411 |
| TDTA | 0.014261 | 1.000000 | 0.290841 | 0.274429 | 0.215971 |

| | | | | | |
|---|---|---|---|---|---|
| PRO | 0.156529 | 0.290841 | 1.000000 | 0.487850 | 0.503647 |
| NBR | 0.456866 | 0.274429 | 0.487850 | 1.000000 | 0.812660 |
| AGE | 0.300411 | 0.215971 | 0.503647 | 0.812660 | 1.000000 |

Fixed random test

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

| Test Summary | Chi-Sq. Statistic | Chi-Sq. d.f. | Prob. |
|---|---|---|---|
| Cross-section random | 67.071937 | 4 | 0.0000 |

** WARNING: estimated cross-section random effects variance is zero.

Cross-section random effects test comparisons:

| Variable | Fixed | Random | Var(Diff.) | Prob. |
|---|---|---|---|---|
| TDTA | -0.033658 | -0.070242 | 0.000156 | 0.0034 |
| PRO | 0.080017 | -0.052523 | 0.001537 | 0.0007 |
| NBR | 0.000116 | 0.000210 | 0.000000 | 0.0007 |
| AGE | 0.006941 | -0.001142 | 0.000006 | 0.0015 |

Cross-section random effects test equation:
Dependent Variable: DMOB
Method: Panel Least Squares
Date: 01/03/21 Time: 14:33
Sample: 2009 2018
Periods included: 10
Cross-sections included: 8
Total panel (balanced) observations: 80

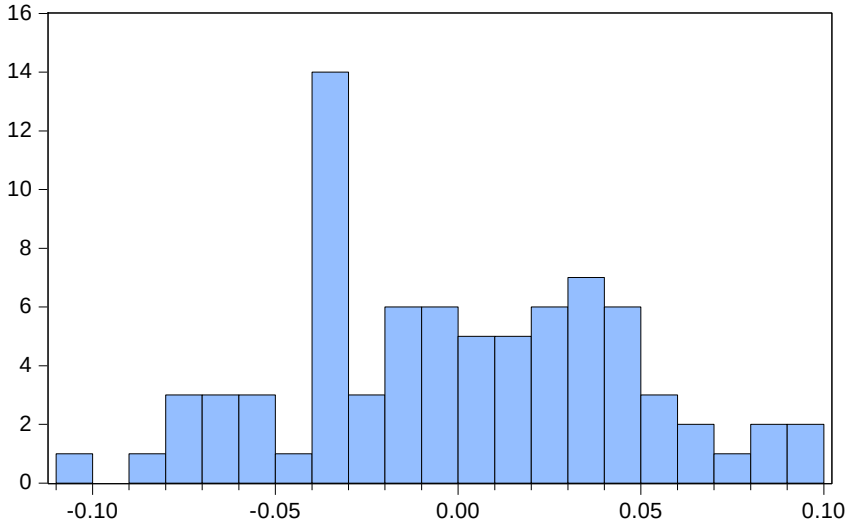
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 0.457490 | 0.057886 | 7.903262 | 0.0000 |
| TDTA | -0.033658 | 0.049790 | -0.676004 | 0.5013 |
| PRO | 0.080017 | 0.139506 | 0.573569 | 0.5682 |
| NBR | 0.000116 | 4.99E-05 | 2.320981 | 0.0233 |
| AGE | 0.006941 | 0.002648 | 2.621657 | 0.0108 |

Effects Specification

Cross-section fixed (dummy variables)

| | | | |
|---|---|---|---|
| R-squared | 0.618455 | Mean dependent var | 0.593172 |
| Adjusted R-squared | 0.556735 | S.D. dependent var | 0.073723 |
| S.E. of regression | 0.049083 | Akaike info criterion | -3.053113 |
| Sum squared resid | 0.163824 | Schwarz criterion | -2.695809 |
| Log likelihood | 134.1245 | Hannan-Quinn criter. | -2.909860 |
| F-statistic | 10.02025 | Durbin-Watson stat | 1.761151 |
| Prob(F-statistic) | 0.000000 | | |

normality




Series: Standardized Residuals
Sample 2009 2018
Observations 80

| | |
|---|---|
| Mean | -2.07e-18 |
| Median | -0.001823 |
| Maximum | 0.099151 |
| Minimum | -0.109766 |
| Std. Dev. | 0.045538 |
| Skewness | 0.041688 |
| Kurtosis | 2.476222 |
| Jarque-Bera | 0.937650 |
| Probability | 0.625737 |

Regression

Dependent Variable: DMOB
Method: Panel Least Squares
Date: 01/03/21 Time: 14:34
Sample: 2009 2018
Periods included: 10
Cross-sections included: 8
Total panel (balanced) observations: 80

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 0.457490 | 0.057886 | 7.903262 | 0.0000 |
| TDTA | -0.033658 | 0.049790 | -0.676004 | 0.5013 |
| PRO | 0.080017 | 0.139506 | 0.573569 | 0.5682 |
| NBR | 0.000116 | 4.99E-05 | 2.320981 | 0.0233 |
| AGE | 0.006941 | 0.002648 | 2.621657 | 0.0108 |

Effects Specification

Cross-section fixed (dummy variables)

| | | | |
|---|---|---|---|
| R-squared | 0.618455 | Mean dependent var | 0.593172 |
| Adjusted R-squared | 0.556735 | S.D. dependent var | 0.073723 |
| S.E. of regression | 0.049083 | Akaike info criterion | -3.053113 |
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| Log likelihood | 134.1245 | Hannan-Quinn criter. | -2.909860 |
| F-statistic | 10.02025 | Durbin-Watson stat | 1.761151 |
| Prob(F-statistic) | 0.000000 | | |