ADDIS ABABA UNIVERSITY

COLLEGE OF BUSINESS AND ECONOMICS

DEPARTMENT OF ACCOUNTING AND FINANCE

THE DETERMINANTS OF DEPOSIT MOBILIZATION IN PRIVATE COMMERCIAL BANKS OF ETHIOPIA

BY

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A Thesis Submitted to the School of Graduate Studies of Addis Ababa University in Partial Fulfilment of the Requirements for the Degree of Master in Accounting and Finance Distance education program in Accounting and finance

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The determinants of deposit mobilization in private commercial banks of Ethiopia

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DECLARATION

I, Likyelesh Worku Asfaw, hereby declare that this research work entitled; "Determinants of Deposit mobilization in Private Commercial Banks of Ethiopia" submitted by me for the award of the degree of Master of Science in Accounting and Finance, is my original work and that all sources of materials used for the study have been duly acknowledged.

Likyelesh Worku Asfaw _____ _____

Name of Student Signature Date

ENDORSEMENT

This thesis Submitted to the School of Graduate Studies of Addis Ababa University for examination with my approval as a university advisor.

Advisor: (Dr Tekaligne Nega) signature_____date_____

Addis Ababa University School of Graduate Studies

This is to certify that this thesis prepared by Likyelesh Worku Asfaw, entitled; "Determinants of Deposit mobilization in Private Commercial Banks of Ethiopia"and submitted in partial fulfillment of the requirements for the degree of Master of Science 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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Table of Contents

Page

Abstract

This paper empirically examines the determinants of Deposit mobilization in private commercial banks of Ethiopia for the period 2009-2018. From total of sixteen private Banks which are engaged in commercial bank activities, seven private commercial banks selected. To arrive on generalized idea the researcher used combination of banks service years and availability of data to achieve the maximum number of observations through purposive sampling technique. Out of sixteen commercial banks that are registered and operated in Ethiopia, seven are selected. The selection method was based on year of establishment and availability of data. The sampled commercial Banks were Awash International Bank S.C, Dashen Bank S.C, Bank of Abyssinia S.C, Wegagen Bank S.C, United Bank S.C, Nib International Bank S.C, and Lion international bank. The researcher employed quantitative research methodology and techniques using an econometric model and Descriptive Analysis in order to address the research questions. Multiple regression using OLS (Ordinary Least Square) estimates of the dependent(Total Deposit growth) and independent four external variables Inflation, Deposit interest rate, Broad Money Supply, Growth per capita GDP and two internal factors Return on equity and loan to deposit ratio were employed. Different diagnostic tests (test for assumption of Heteroscedasticity using estathettest, specification error using linktest, multicollinearity using correlation matrix) were conducted to check the appropriateness of the model. The result reveal that deposit interest rate and growth per capita GDP are positively and statistically significant on bank deposit growth; whereas, inflation rate, return on equity, broad money supply and loan to deposit ratio (bank's liquidity) influence is negatively and statistically significant on bank deposit growth. The research recommends that Government should decrease supply of broad money to the economy, device mechanism to control inflation, increase deposit interest rate and give more attention to investment and private commercial banks loan to deposit ratio to be kept minimum.

Keywords: Private commercial Banks, Bank deposit growth, External Determinants, Internal Determinants, Regression Analysis

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List of Figures

List of Tables

List of Acronyms

ATM	Automatic teller machine
BMS	Broad money supply
CLRM	Classical Regression Model
DEPIR	Deposit interest rate
DPG	Deposit Growth
GPC	Growth per capita
GPCGDP	Growth per capita GDP
INF	Inflation
LDR	Loan to Deposit Ratio
NBE	National bank of Ethiopia
OLS	Ordinary list square
ROE	Retern on equity
S.C	Share Company
SBP	State bank of Pakistan
USD	United states dollar

CHAPTER ONE

Introduction

1.1 Background of the Study

Deposit Mobilization is one of the primary functions of a commercial bank. Deposits mobilized by banks play a key role not only as an important source of funds for banks but also as instrument for promoting saving and banking habit among the people. Deposits are essential raw material for the banking industry, mainly as a source of working fund. Commercial banks are expected to make efforts in both the rural and urban areas for mobilizing savings in the form of their deposits which are beneficial to them and the country as well. Ketema (2017)

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 savings helps to expand banking operations. Commercial Banks must tap deposits from both urban and rural areas. This helps the banks to provide large amount of funds to priority sectors for development. (Shettar, 2014)

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. In the post liberalization scenario, the number of players in banking industry has increased considerably which developed competition in bank marketing. "The survival of the fittest" has made applicable for the banks. To enhance profitability, banks take steps to minimize the expenditure and are forced to mobilize low cost deposits. (Shettar, 2014)

Deposit mobilization is an integral part of banking activity. Mobilization of savings through intensive deposit collection has been regarded as the major task of banking. Acceptance of deposits is the primary function of commercial banks. As such, deposit mobilization is one of the basic innovations in current Indian banking activity. (Venkatesan, 2012)

Selvaraj & Kumar (2015, cited in Kibebe 2016) 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. It helps to expand banking operations. The successful functioning of commercial banks depends on the extent of funds mobilized.

1.2 Statement of the Problem

Deposit is the most liquid money that is found in the treasury of the bank and which is ready to be borrowed by a body in need of the fund. A deposit of the bank may be affected by different factors. One of the problems in mobilizing deposit is that banking activities in developing countries are limited to the officially existed marketing activities and the people in the countries have not been well familiar with all banking services especially savings.

According to Tuyishime et.al (2015) Banks, over the world, thrive on their ability to generate income through their lending activities. Since commercial banks depend on depositor's money as a source of funds, it means that there are some relationships between the ability of the banks to mobilize deposits and the amount of credit granted to the customers. For the purpose of achieving self-sufficiency there is a need to improve ways of mobilizing domestic deposits. Study indicates that large chunk of deposits are lying idle under pillows and in bamboos in the rural areas being left out of the banking stream (Rutherford, 2000).

To identify the determinant factors which have impact on deposit mobilization where studied by different researchers.

According to Hasan et.al (2017), Helani et.al (2018), Dereje (2017), Ketema (2017), Shemsu (2015) and Solomon et.al (2016) findings indicate that deposit interest rate has positive relation with deposit growth. However, Giragn (2015) found that deposit interest rate has negative relation.

According to Dereje (2017), Seyte et.al (2018), Jembere (2014) and Ketema (2017) findings indicate that Loan to deposit ratio has negative relation with deposit growth. However, Tseday (2017) finding indicate that it has positive relation.

According to Akaniyenen (2018), Ketema (2017) and Solomon et.al (2016) findings indicate that Inflation has negative relation with deposit growth. However, Seyte et.al (2018), Shemsu (2015), Giragn (2015) and Tseday (2017) findings indicate that it has positive relation.

According to Akaniyenen (2018), Giragn (2015) and Kibebe (2016) findings indicate that Money supply has positive relation with deposit growth. However, Ketema (2017) finding indicate it has negative relation.

According to Giragn (2015) and Kibebe (2016) findings indicate that Per capita GDP has positive relation with deposit growth.

The research findings indicate that there is inconsistency in the result. The number of studies conducted in selected variables were also limited including number of selected private commercial banks. The aim of this research is to fill the gap observed and by including return on equity which is not researched before its impact and by identifying and analyzing the determinants of deposit mobilization of private Commercial Banks in Ethiopia.

1.3 Objectives of the Study

1.3.1 General Objective

The main objective of the study is to find "determinants" of commercial banks deposit Mobilization in private Commercial Banks of Ethiopia.

1.3.2 Specific Objectives

The specific objectives of the study are:

- To identify the effect of general inflation on private commercial banks deposit
- To examine the effect of Money Supply on private commercial Banks Deposit
- To assess the effect of deposit interest rate on private commercial Banks Deposit
- To find the effect of return on equity on private commercial Banks Deposit
- To determine the effect of loan to deposit ratio on private commercial bank Deposit
- To identify the effect of growth per capita GDP on private commercial banks Deposit

1.4 Significance of the study

The study conducted on the Determinants of private 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 private 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
- The regulatory body can take as an additional input for future policy making.
- It provides information 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.

1.5 Research Hypothesis

Based on the objective, the study has tested the following hypotheses:

H1 Average deposit interest rate has positive significant effect on private commercial banks deposit in Ethiopia

H2 Return on equity has negative significant effect on private commercial banks deposit in Ethiopia.

H3 Inflation rate has negative significant impact on private commercial banks Deposit in Ethiopia

H4 Loan to deposit ratio has positive significant effect on private commercial banks deposit in Ethiopia.

H5 Growth per capita GDP has positive significant effect on private commercial banks deposit in Ethiopia

H6 Broad money supply has positive significant effect on private commercial banks deposit in Ethiopia

1.6 Scope of the Study

This study was limited to the area of private commercial banks. As of June 30, 2018 the number of banks engaged in operation reached 18 in Ethiopia which includes 16 private commercial banks, government commercial bank and government development bank. But this study was conducted on seven selected private commercial banks in Ethiopia for the period 2009 to 2018. The study focused only on one of the area of finance which the factors determining private commercial banks deposit. The regressions have one dependent variable (total deposit growth of selected private commercial banks), and six independent variables including Inflation, Deposit interest rate, Return on equity, Growth per capita GDP, Broad money supply and Loan to Deposit ratio. The researcher employed quantitative research methodology and techniques using an econometric model and Descriptive Analysis.

1.7 Limitation of the Study

This study was conducted on seven selected private commercial banks in Ethiopia, excluding private commercial banks which had less than 10 years services as of June 30, 2018 and those data were not available and other financial institutions and saving associations. The study focused only on one of the area of finance which the factors determining private commercial banks deposit. The analysis based only on one dependent and six independent variables and used quantitative method without including qualitative data.

1.8 Organization of the Research Report

The paper organized into five chapters; the first chapter is an introduction for the study which introduces the overall study. This part consists of back ground of the study, problem statement, objectives, significance and scope of the study. The second chapter focuses on review of literatures in which previous studies were consulted. In this chapter general concepts and definitions, basic issues and empirical evidences on determinants of deposit mobilization in private commercial banks are discussed in detail. The major areas and results of previous studies are also presented. The third chapter consists, research design and Methodology, emphasizes on the design of the study and the methodologies used. In this chapter; source of data, data collection sampling techniques and selection of study organizations are discussed. The fourth chapter is devoted to data presentation, analysis and interpretation in which the secondary data which were collected, analyzed and organized in meaningful manner so as to meet the objectives

of the study. The fifth and last chapter is concerned with summary, conclusion and recommendations. Here the findings of the study are summarized, conclusions are clearly presented and recommendations provided for the findings in the study.

CHAPTER TWO

Related Literature Review

2.1 Introduction

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

2.2 Theoretical review

2.2.1 Definition of Deposits

According to Soyibo and Ogunkola (1996, cited in Shaban 2013) Money kept at a bank, microfinance institution by the public, institutions, organizations, cooperatives, etc is known as deposits. Among the variety of traditional deposits, saving deposit is one of the basic components for credit operation. One of the objectives of saving deposits particularly for the poor (urban, rural) is to promote thriftiness and develop the culture of saving.

Commercial banks are profitable financial institutions that give financial service to those in need of the service. They accept money from the depositors and lend it to the borrowers. Thus for commercial banks to lend, there have to be deposits in their treasury.

According Mohan (2012, cited in Tuyishime et.al 2015) Mobilization of deposits is one of the important functions of banking business. It is an important source of working fund for the bank.

The successful functioning of commercial banks depends on the extent of funds mobilized. Deposits are the life blood of banking. 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. (Kibebe, 2016)

There are different types of deposits and strategies. According to Dupas et.al (2012, cited in Paul 2018), to mobilize more deposits, financial institutions offer a range of savings products that are tailored to their particular clientele. They offer the widest variety of specialized savings

products, so that their customers have a choice between immediately accessible, liquid products, or semi-liquid accounts or time deposits with accordingly higher interest rates. Simple and clear design of basic savings products enables depositors to easily select the product that best suits their needs.

2.2.2 Motive of depositors to deposit in banks

Customers deposit money in banks due to various reasons. One motive is the desire for safety. People feel safe if they keep their money within banks where there is more secure location than their homes. The other reason is that the need for convenience. Payment by check is more convenient than payment by money. The use of checks saves the bother and expense of counting and of shipment; checks are relatively safe against theft and loss in transit; they are payable only to the payee or endorsee; the voucher becomes a receipt; and large sums may be paid with the same ease as small ones.

The third motive may be the receipt of interest on the deposits. In communities where the competition for accounts is intense, banks offer interest on the average balance carried by the depositor; this is especially likely in the case of large accounts, as of the governmental units, corporations, or other banks. The interest paid varying with the account and the bank.

The fourth and the most important motive is bank "accommodation," as it is called. The depositor wishes to be assured that he will have someone from whom he can get loans in case of need, and a bank which has enjoyed the use of a good balance from a worthy customer assumes an implicit responsibility to accommodate that depositor with loans when appeal is made. In this sense the relations between customer and bank are mutual. In the depositor's daily business transactions, occasions frequently arise when he wishes to procure loans on his own note or by the discount of paper in his portfolio, and the bank stands ready to provide customers with its own credit in exchange for their credit or that of other persons. The bank offers a market for procuring and selling credits and so facilitates business in this incomparable way. (Westerfield 1921)

2.2.3 Types of deposit

According to Kamran alem (n.d), Deposits are important to the bank as a backbone is to the body of a Man. There are many types of bank deposit schemes available like:

a) Demand Deposit

Here money is not deposited for a specific time period. Investor can withdraw money at any time. Bank is responsible to return the money on customer's demand. This account allows you to demand your money at any time.

b) Fixed / Term Deposit

Under this scheme money is deposited for a fixed period of time so it is also called Fixed Deposit Investor can withdraw the money only after the time period. Premature withdrawals are also allowed by paying a penalty. Interest is calculated on monthly, quarterly or yearly depends on the bank and scheme. Many banks offer loan or overdraft facility as added features with fixed deposits. Term deposits are a safe investment and it is therefore a very good option for conservative, low-risk investors.

c) Savings Deposit

This is a kind of demand deposit with limited number of withdrawals during any specific period. Savings Accounts provide principal security and a modest interest rate. Banks also put some restriction on the minimum balance. If customer don't maintain the minimum balance customer has to pay a penalty. Saving account comes with many features like ATM and Debit Card, Cheque Book, Free Internet Banking with Bill Pay, Fund Transfer, Prepaid mobile charging, Free Telephone Banking etc.

2.2.4 Deposit Behavior Of Commercial Banks

Different types of deposits have different features having different and divergent costs implications. Strategies of deposit mobilization therefore undergo changes from time to time.
According to Shettar (2014) Deposit mobilization is depending on the cost of deposits. Mobilization of deposits for a bank is as essential as oxygen for human being. In the post liberalization scenario, the number of players in banking industry has increased considerably which developed competition in bank marketing. „The survival of the fittest" has made

applicable for the banks. To enhance profitability, banks take steps to minimize the expenditure and are forced to mobilize low cost deposits.

2.2.5 Deposit mobilization

According to Thangam (2017) the saving and investment process in an economy is organized around a financial framework which facilitates economic growth. A well designed financial system promotes growth through effective mobilization of savings and their allocation to the most productive uses by either following a centralized approach or a decentralized approach or a combination of both. Typically, economies with underdeveloped capital markets adopt a centralized approach whereby financial intermediaries mobilize resources from savers and allocate them to borrowers. Traditionally, banks have played a curtail role in the financial intermediation process as they are able to deal more appropriately with transaction costs and information asymmetries in a financial system. As financial markets develop, transaction costs and information asymmetries reduce, the decentralized approach for guiding the saving-investment process also gains significance and household with surplus resources increasingly invest in capital market instruments. The empirical experience shows that virtually all the economies, including the market intermediated ones, banks have played a key role in resource mobilization, supporting the growth process, and the development of bank and other intermediaries thereby facilitating the development of financial markets

According to Shettar (2014).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 is 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.

According to Banson (2013,cited in Giragn, 2015), 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.

Tuyishime 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. 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

According to Richard, Florence and Zenon (2015, cited in Helani et.al 2018) advocate that to mobilize enough deposits, banks should present various kind of deposit schemes to attract customers. Normally customers have various kinds of needs and wants with respect to their gender, age, profession, level of income, type of necessity, tenure, size of business and so many other factors lead to make a discrepancy among customers when they deposit their money in banks.

Generally, in economics theory, banks are considered as oligopolistic institutes which have high interdependency and high competition. Therefore, banks to ensure the competitiveness, the previous traditional and contemporary methods of deposit mobilization should be substituted by the modern technology and multiple characteristics. These new schemes of deposit mobilization address to the diverse needs of people and many instances, in today's banking context, banks adopt many strategic advertising methods to mobilize more deposits. The benefits and incentives (lotteries, gifts) to depositors, banks offer services around-the-clock and during all 7 days, innovative facilities like mobile banking, internet banking and door-step banking are appeared as the contributory factors to mobilize deposits in modern day banking industry in Sri Lanka and in all other countries (Hemachandra, n.d).

2.2.6 The Determinants of Commercial Banks Deposits

The determinants of commercial banks deposit is classified as macroeconomic factors and micro economic factories that can affect the growth of commercial banks deposits. These are discussed as follows:-

2.2.6.1 External determinants

The external determinants are variables that are not related to bank management but reflect the economic environment that affects the operation and deposit positions of Banks. The external factors that can affect bank's deposit include factors such as; Deposit interest Rate, Growth per capita GDP, Broad money supply and Inflation.

A) Inflation

According to Solomon et.al (2016) inflation is a major problem of most economies in the world and it influences countries, both negatively and positively. Zou, et.al. (2011) stated that inflation is an important factor contributing to social and economic instability and disorder and is one of the main observed and tested economic variables both theoretically and empirically. It is one of the main problems of developing countries in the world. Inflation is the general increase in the level of prices of goods and services in an economy over a period of time. When the general price level changes; each unit of our currency value comes down and therefore buys less goods and services. The day to day increase in prices of commodities especially of non-food items like oil and gas snatch money from savings of consumers and the uncertainty of prices for both food and non-food items, generate enthusiasm among people to earn more and more. People therefore prefer working over recreation undermining their health, and seeking for loans of which they are sometimes unable to save (Cardoso, 1992). Nevertheless, Fischer (1993) and Barro (1996) found a very small negative impact of inflation on growth. Fischer (1993) however concluded that, "however weak the evidence, one strong conclusion can be drawn: inflation is not good for longer-term growth". Barro (1996) also preferred price stability because he believed it is good for economic growth. Inflation influences the standard of living of people, for that matter mobilization of funds and issue of loans by financial institutions. As the rate of inflation increases, there is a reduction in the real value of money, (i.e. the purchasing power of people) and an increase in the price of goods and services introduces some difficulty in achieving basic necessities therefore leading individuals to depend on loan facilities to sustain their standard of living. These loans are paid back with a higher interest which is a burden on the family economy, because all things being equal, it is the same money that circulates in the economy. Hence most fixed income earners, especially those belonging to middle and lower class, crush in such circumstances. Financial institutions on the other hand are faced with the problem of mobilizing funds leading to the difficulty in issuing loans. A growing theoretical literature describes mechanisms where predictable increase in the rate of inflation interferes with the ability of the financial sector to allocate resources effectively. There is a significant, and economically important negative relationship between inflation, banking sector development and equity market activity. As inflation rises, the marginal impact of inflation on banking lending activity and stock market development diminishes rapidly,

According to Brealey and Myers (2003, cited in Jembere 2014) 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. 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 study undertaken by Mohammad and Mahdi (2010, cited in Jembere 2014) showed that in Latin America the effect of inflation on saving and time deposit to GDP was significantly negative. In this case the classical belief is that, because bank assets and liabilities are expressed in monetary terms and because these assets will normally grow in line with growth in money supply, banks are relatively immune from the effects of inflation. In brief, monetary policy works by controlling the cost and availability of credit. During inflation, the Central bank can raise the cost of borrowing and reduce the credit creating capacity of banks.

According to Devinaga, (2010, cited in Jembere 2014), this will make borrowing more costly than before and thereby the demand for funds will be reduced. Similarly with a reduction in their credit creating capacity, the banks will be more cautious in their lending policies. The banks demand for fund decreases obviously the deposits will decrease. High inflation rates reduce the real value of deposits; inflation technically did not decrease deposit; however it decreases the value of deposit.

B) Deposit Interest rate

According to Dereje (2017) 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.

According Tafirei et.al (2014) Domestic savings comprise of public and private savings. To encourage private savings, the real interest rates should be positive. Furthermore, innovative saving schemes and investment bonds should be introduced to mobilize resources. Higher interest rates lead to increased savings and financial intermediation in improving the efficiency

of savings and investment. The higher real interest rates increase the extent of financial intermediation which in turn raises the rate of economic growth in developing countries

C) Money Supply

According to Al-Qudah & Jaradat (2013, cited in kibebe 2016), Money supply is a measure of the total amount of money in an economy. Money supply (M2) is the summation of currency in circulation, demand deposit, time deposit and saving deposit.

Money supply is the amount of money within a specific economy available for purchasing goods or services. The broad definition of money supply (M2+) is adopted which includes currency in circulation, demand deposits, quasi-money and foreign currency deposits. The money creating activities of the deposit money banks impact directly on money supply and given that the central bank is responsible for controlling money supply in an economy, it is important to evaluate the role of these banking institutions on the convergence process. Excess money supply, whether created though the direct or indirect channels, influences economic activity (growth) and may provide downside risks on macroeconomic stability, impacting negatively on inflation, interest rates and exchange rate.

D) Per capita GDP

According to Jim (2008, cited in by Shemsu 2016), per capita is the level of GDP divided by the population of a country or region. 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. If households and firms desire to hold more money, deposits will increase. So the relationship between income and deposits is positive that is as the income of the society increases the same happens for the commercial bank' deposits.

According to M. A. Baqui et.al (1987, cited in by Shemsu 2016) income is expected to have a positive effect on deposits. Therefore as society's per capita income increases the same will happen for commercial banks deposits.

2.2.6.2 Internal determinants

The Bank specific factors are factors that are related to internal efficiencies and managerial decisions. Such factors include determinants such as Return on equity and Loan to deposit ratio.

A) Return on Equity

According to Tigist (2014) Return on equity is the return to shareholders on their equity. This means that, return on equity reflects the capability of a bank in utilizing its equity to generate profits.

Relatively high or low ROE ratios will vary significantly from one industry group or sector to another. When used to evaluate one company to another similar company the comparison will be more meaningful.

Sustainable growth rates and dividend growth rates can be estimated using ROE assuming that the ratio is roughly in line or just above its peer group average. Although there may be some challenges, ROE can be a good starting place for developing future estimates of a stock's growth rate and the growth rate of its dividends. These two calculations are functions of each other and can be used to make an easier comparison between similar companies.

This analysis is referred to as the sustainable growth rate model. Investors can use this model to make estimates about the future and to identify stocks that may be risky because they are running ahead of their sustainable growth ability. A stock that is growing slower than its sustainable rate could be undervalued, or the market may be discounting risky signs from the company. In either case, a growth rate that is far above or below the sustainable rate warrants additional investigation. (investopedia.com)

B) Loan to deposit ratio

The loan-to-deposit ratio (LDR) is used to assess a bank's liquidity by comparing a bank's total loans to its total deposits for the same period. The LDR is expressed as a percentage. If the ratio is too high, it means that the bank may not have enough liquidity to cover any unforeseen fund requirements. Conversely, if the ratio is too low, the bank may not be earning as much as it could

be. Also, the LDR helps to show how well a bank is attracting and retaining customers. If a bank's deposits are increasing, new money and new clients are being on-boarded. As a result, the bank will likely have more money to lend, which should increase earnings. Although it's counterintuitive, loans are an asset for a bank since banks earn interest income from lending. Deposits, on the other hand, are liabilities because banks must pay an interest rate on those deposits, albeit at a low rate.

The LDR can help investors determine if a bank is managed properly. If the bank isn't increasing its deposits or its deposits are shrinking, the bank will have less money to lend. In some cases, banks will borrow money to satisfy its loan demand in an attempt to boost interest income. However, if a bank is using debt to finance its lending operations instead of deposits, the bank will have debt servicing costs since it will need to pay interest on the debt. (investopedia.com)

2.2.7 Empirical evidence from different studies

The empirical literature part discusses past studies that were conducted on the area of determinants of deposit mobilization in commercial banks. In this part the variables that were included, the methodology that is used to undertake the study are discussed. These will help to see where the literature on this area is and how this study will add to the existing literature. The researchers study in different explanatory variables from one to four related to our variables. Hence putting them under each explanatory variable will cause repetition. Hence, presented as follows;

Hasan et.al (2017), investigated the effects of interest rate, on savings and deposits in Pakistan Hence, the researcher tried to investigate Savings & deposit as dependent variable in two different models and deposit interest rate as explanatory variable; the amount of deposits has been taken that is explained in local currency in the financial statements of SBP. Least square regression method has been applied to investigate the relation between interest rate and savings &deposits in Pakistan with the help of E-views statistical software. The result shows that deposit rate is positively affected by interest rate whereas savings is adversely influenced by interest rate but comparatively interest rate is strongly significant for savings.

Helani et.al (2018) investigated the factors affecting for deposit mobilization in srilanka followed by a random sampling method, the data has been analyzed using "descriptive statistics" and "regression analysis". The study revealed that, there is a significant and positive relationship between deposit mobilization and deposit interest rate, security, branch expansion, services, technology and awareness. There is a significant relationship between living area and the amount of deposits and the demographic variables, such as, gender, occupation, education level and income significantly affect for deposit mobilization.

Dereje (2017) investigated the determinants of deposit in Ethiopian private commercial banks for the periods 2001-2015. From total of sixteen private Banks which are engaged in commercial activities, six selected based on the historical time formation of banks. The results reveal that disposable income, real GDP growth, branch expansion, are positively and statistically significant on bank deposit growth; whereas, loan to deposit ratio (bank's liquidity)influence is negatively and statistically significant on bank deposit growth. Deposit rate and profitability had insignificant positive influence on bank deposit growth. Whereas population growth and capital to loan ratio (capital adequacy) had insignificant negative influence on bank deposit growth.

Seyte et.al (2018) studied the determinants of commercial banks deposit in Ethiopia. The data covered the period from 2002-2016 for the sample of seven commercial banks in Ethiopia. Quantitative approach to research was used. This study include loan to deposit ratio, loan loss provision, capital adequacy, profitability, and branch expansion and inflation rate. The result of the study revealed that loan loss provision and loan to deposit ratio have negative and statistically significant impacts on deposit of Ethiopian commercial banks while profitability, capital adequacy ratio and branch expansion have positive and statistically significant impact on deposit.

Akaninyene et.al (2018) investigated inflation rate effect on the deposit mobilization in Nigeria Banks. The study covered period from 1994-2014.Findings reveals among others that there exist a significant and negative relationship amongst demand, savings and time deposit with inflation in Nigeria ,and that interest rate impacted significantly and positively on saving and time deposit

Jembere (2014), investigated the determinants of deposit mobilization in private commercial banks of Ethiopia. Hence, the researcher investigated the impact of bank branches, exchange

rate, real gross domestic product, capital adequacy and liquidity on private commercial banks deposits. The empirical results from regression analysis showed that the bank branches, exchange rate, real gross domestic product have a positive effect on the deposit of private banks whereas the capital adequacy and liquidity have a negative effect on deposit of the private banks.

Ketema (2017) investigated the determinants of commercial banks by giving attention to private commercial banks for the periods 2000-2015. From total of seventeen Commercial Banks which were 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.

The results revealed that credit risk, exchange rate, and Bank Profitability were 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.

Mamo (2017) investigated factors that determine deposit mobilization in the case of commercial bank of Ethiopia by using data for 20 years and applying both descriptive and econometric analysis by taking five explanatory variable such as loan, existence of competitors, interest rate and branch expansion. The result of the econometric result indicate that loan provision, branch expansion and number of customers are found to have significant positive impact for the growth of deposit mobilization. However the emergence of new competitors and interest rate is not found to have positive impact to induce deposit mobilization in the bank.

Shemsu (2015) investigated determinants of commercial bank deposits in Ethiopia taking commercial bank of Ethiopia as a case. Accordingly, the researcher adopted quantitative and qualitative data covering 1998-2014 using 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. The results from economic analysis showed that all the explanatory variables were positively correlated with the explained variable.

Giragn (2015) have tried to explore the determinants of deposit mobilization and related costs of commercial banks in Ethiopia. The researcher collected the relevant data of twelve years (2001/2-2012/13) and from questionnaires and interviews. The study revealed 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.

Tseday (2017) tried to adopted quantitative methods of research approach using secondary panel data of six commercial banks from year 2002 to 2016. The results from the regression analysis estimated by pooled panel regression model showed that liquidity and National Bank of Ethiopia bill have positive and statistically significant effect on time deposit. On the other hand, lending rate is found to have negative and statistically significant effect on time deposit of commercial banks whereas Gross Domestic Product, inflation, profitability and reserve requirement have positive but insignificant effect on time deposit of commercial banks.

Solomon et.al (2016) analysed using descriptive, correlation and regression analysis. The key findings were that inflation has inverse relationship between issues of loan and mobilizations of fund, but mobilizations of fund and issues of loan had a direct relationship.

Tafirei et.al (2014) analyzed the relationship between banks' deposit interest rates and deposit mobilization in Zimbabwe for the period 2000-2006. The study found a positive relationship between deposit rates and banks' deposits for the period under study and all the other explanatory variables were statistically significant.

Kibebe (2016) analyzed time series data from 2000-2014 for analysis made using Classical linear regression method. The result shows that, Age dependency ratio, Investment and money supply, are positive most significant factors of deposit mobilization activity. The other variable such as Per capita income has positive insignificant power to influence the dependent variable.

2.3 Research gap

It was discussed on the literature part, most of the study undertaken are related to the topic determinants of deposit mobilization in all or selected commercial banks using some internal and external factors of industry. Different researchers in different research techniques and different independent variables showed different effect on bank deposit.

1. Inflation rate results positive effect by four researchers and negative effect by three researchers who used as independent variable.
2. Deposit interest rate result showed positive effect by eight researchers and negative effect by one researcher.
3. Return on equity ratio result not investigated by any of the researchers.
4. Growth per capita GDP result showed positive effect and was researched by two researchers
5. Broad money supply result showed positive result by three researchers and negative result by one researcher.
6. Loan to Deposit ratio showed negative effect by four researchers and positive by one researcher

Thus the inconsistency findings among researchers as shown on item 1, 2 and 5 above. There were also items which did not researched by the above researchers such as item 3and given little attention on its role in the determinant of the overall deposit mobilization in private commercial banks, the researcher interested to undertake a research in those independent variables which have inconsistency results and those independent variables not touched by more than one researcher including not researched one. These are Inflation rate, Deposit interest rate, Return on equity, Growth per capita GDP, Broad money supply and Loan to Deposit ratio to check their impact and to fill the gap.

2.4 Chapter Summary

The above chapter reviewed the various theories and empirical studies that explain the relationship between deposits and independent variables. The dependent variable is the growth of deposits in commercial banks. The independent variables are Inflation rate, Deposit interest rate, Return on equity, Growth per capita GDP, Broad money supply and Loan to Deposit ratio. The relationship between the independent and dependent variables were explored using the available literature. Literature seems to indicate that there is no consensus on the relationship between the growth of deposits and the independent variables.

2.5 Conceptual frame work

From the above research gap the factors that determine the deposit of the bank is divided in to two main parts those are the internal and external factor. This study used both internal and external determinants of bank deposit that are indicated as research gaps. The study has quantified how these variables are determining the deposit of all private commercial banks. The conceptual frame work of the relationship between the dependent variable (bank deposit) and independent variables (Inflation rate, Deposit interest rate, Return on equity, Growth per capita GDP, Broad money supply and Loan to Deposit ratio)

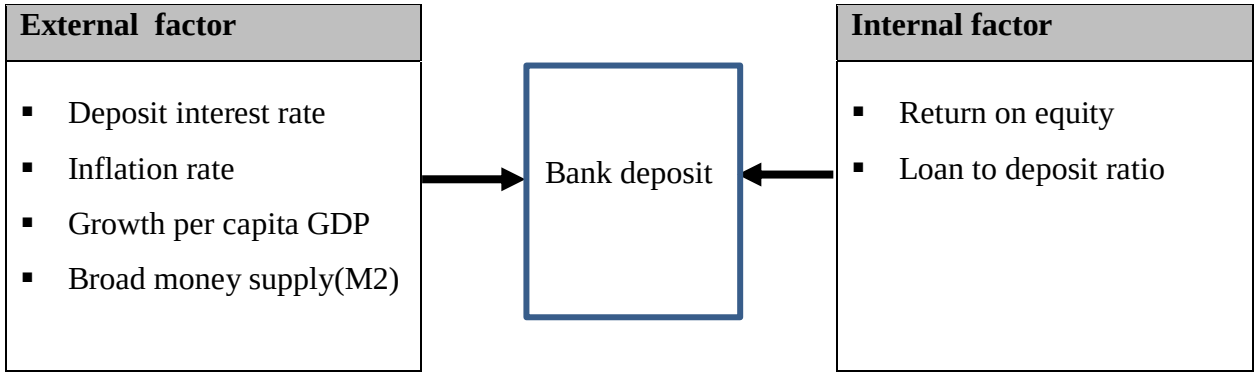

Figure 1.Factors affecting Bank Deposit

Source: developed by researcher

CHAPTER THREE:

Research Design and Methodology

3.1 INTRODUCTION

According to Jembere (2014) a research design is the logic that links the data to be collected (and the conclusions to be drawn) to the initial questions of the study (Yin, 2003). If empirical research has no an explicit research design; it has an implicit plan which guides through the research process. For determining the case study design, five components need to be taken into account: the study's questions, its propositions, its unit of analysis, the logic linking the data to the propositions and the criteria for interpreting the findings (Yin, 2003).This study adopted a case study approach (i.e. private commercial banks in Ethiopia as a case).

3.2 The Research Approach and Research Design

The researcher investigated effect and relationships between deposit growth and its determinant, therefore it is an explanatory research and the factors identified which affect the outcome have numeric value. This indicates that it is quantitative approach.

Therefore the researcher employed quantitative research methodology and techniques using an econometric model and Descriptive statistics Analysis in order to address the research questions. Multiple regression using OLS (Ordinary Least Square) estimates of the dependent(Total Deposit growth) and independent four external variables Inflation, Deposit interest rate, Broad Money Supply, Growth per capita GDP and two internal factors Return on equity and loan to deposit ratio were employed. It uses time series data covering the period from 2009 through 2018.

3.3 Data Types and Source

The researcher used secondary data as source. The researcher gathered data from the annual reports of seven commercial banks. The specific data were collected from financial statements (i.e. Balance Sheet and Profit & Loss Statement) of each selected private commercial banks included in the sample and macroeconomic data were collected from NBE. The data were collected from 2009 to 2018 on annual base and the figures for the variables were on June 30th of each year under study.

3.4 Sample and Population

There were sixteen private commercial banks as at June 30, 2018. These were as shown in table below including their establishment year:

Table 1. List of Private Commercial Banks

ITEM	NAME OF BANK	YEAR OF ESTABLISHMENT
1	Awash International Bank	1994
2	Dashen Bank	1995
3	Abyssinia Bank	1996
4	Wegagen Bank	1997
5	United Bank	1998
6	Nib International Bank	1999
7	Cooperative Bank of Oromia	2005
8	Lion International Bank	2006
9	Oromia International Bank	2008
10	Zemen Bank	2008
11	Bunna International Bank	2009
12	Birhan International Bank	2009
13	Abay Bank	2010
14	Addis International Bank	2011
15	Debub Global bank	2012
16	Enat International Bank	2013

Source NBE annual report consolidated

The sixteen private commercial banks treated as a population of the study. To arrive on generalized idea the researcher used availability of data and service years of private commercial banks to achieve the maximum number of observations through purposive sampling technique. Out of sixteen commercial banks that were registered and operated in Ethiopia, seven were selected. The sampled commercial Banks were Awash International Bank S.C, Dashen Bank S.C, Bank of Abyssinia S.C, Wegagen Bank S.C, United Bank S.C, Nib International Bank S.C, and Lion international bank.

3.5 **Variables Descriptions**

According Fisseha (2017) different studies classified factors that affect commercial bank deposit in different. For example the study made by Bruce & George (1965) classifies the factors in to structural factors and economic factors whereas the study by Finger & Hesse (2009) divides the factors as macroeconomic and bank specific factors. Another study by Vink (2010) categorizes the in to factors related to the market which called market related factors and factors related to the bank which called bank related factors. Yet again other study by Rim & Olga (2013) divides the factors in to 3 subcategories bank specific factors, internal factors (factors related to the economy of the country of the bank), external factors(factors related to the countries of non-resident deposits). And finally the study made by N. Desinga (1975, in cited Fisseha 2017) groups the factors in to exogenous and endogenous factors. The researcher categorized the variables in to two, namely internal and external variables. The internal factors that are controlled by the management of the banks themselves whereas the external factors are factors operating beyond the control of banks management which are macro-economic and policy issues.

Many factors can be raised under that have influence on deposit mobilization activity of banks as illustrated in the literature review part, the researcher has focused on the following major internal and external factors for analysis.

The variables considered for internal factor are;

- Return on equity
- Loan to deposit ratio

External factors

- Inflation rate
- Deposit interest rate
- Growth per capita GDP
- Broad money supply

Table 2. List of variables

Variables	Definition	Notation	Expected sign
Inflation	General inflation in Ethiopia	INF	–
Deposit interest rate	Interest paid by banks for depositors	DEPIR	+
Return on equity	Profit before tax divided by equity	ROE	–
Growth per capita GDP	Growth per capita GDP	GPCGDP	+
Broad money supply	Broad money supply	BMS	+
Loan to deposit ratio	Total loan divided by total deposit	LDR	+

Source: Developed by researcher

3.6 **Model Specification**

Model specification refers to the determination of which independent variables should be included in or excluded from a regression equation. In general, the **specification** of a regression **model** should be based primarily on theoretical considerations rather than empirical or methodological ones.

Model specification refers to the determination of which independent variables should be included in or excluded from a regression equation. In general, the specification of a regression model should be based primarily on theoretical considerations rather than empirical or methodological ones. A multiple regression model is, in fact, a theoretical statement about the causal relationship between one or more independent variables and a dependent variable. Indeed, it can be observed that regression analysis involves three distinct stages: the specification of a model, the estimation of the parameters of this model, and the interpretation of these parameters. Specification is the first and most critical of these stages. Our estimates of the parameters of a model and our interpretation of them depend on the correct specification of the model.

Consequently, problems can arise whenever we misspecify a model. There are two basic types of specification errors. In the first, we misspecify a model by including in the regression equation an independent variable that is theoretically irrelevant. In the second, we misspecify the model by excluding from the regression equation an independent variable that is theoretically relevant. Both types of specification errors can lead to problems of estimation and interpretation.

The regressions were conducted using statistical package STATA version 13.

Based on the objectives of the study, the functional model is specified as follows:

$DPG = \beta_o + \beta 1 * INF + \beta 2 *$DEPIR $+\beta 3 *$ROE $+\beta 4 *$PCGDP $+ \beta 5 *$BMS $+ \beta 6 *$LDR

Where:

DPG = Deposit growth

INF = General Inflation

DEPIR = Deposit interest rate

ROE= Return on equity

PCGDP = per capita GDP

BMS = Broad money supply

LDR =Loan to deposit ratio

β_o = Regression intercept

$\beta 1$- $\beta 6$= Coefficient of the independent variables to the dependent variable

CHAPTER FOUR:

Data Analysis, Results, and Discussion

4.1 Introduction

This study is aimed to identify the determinants of deposit mobilization in private commercial banks in Ethiopia by taking the period from 2009-2018. Hence, this chapter presents the descriptive statistics and diagnostics test results of multicollinearity, heteroscedasticity and also results of the regression analysis.

4.2 Descriptive Statistics

This section presents the descriptive statistics of dependent and explanatory variables used in this study. The dependent variable used in this study was deposit growth in private commercial banks and the explanatory variables were inflation (INF), Deposit Interest Rate (DEPIR), Return on Equity (ROE), Growth per capita GDP (PPCGDP), Broad Money Supply (BMS) and Loan deposit ratio(LDR). The descriptive statistics includes mean, median, maximum, minimum, standard deviation and others statistics value. The result of the descriptive statistics and its interpretations are presented as follows.

Table 3. Summary of descriptive statistics

Variable	Obs	Mean	Std. Dev	Min	Max
DPG	10	25.766	8.981129	14.78	42.45
INF	10	15.06	11.44234	2.8	36.4
DEPIR	10	5.208	0.3732381	4.5	5.4
ROE	10	27.691	4.304627	23.52	34.14
GPCGDP	10	11.02	8.343434	0.9	32.2
BMS	10	27.04	5.454295	19.9	39.2
LDR	10	80.239	15.79942	54.54	96.73

Source: STATA 13 output

As shown in the table 3 above, the mean value of deposit growth is around 25.77 percent which implies that on average, private commercial banks achieved 25,77 percent deposit growth from depositors for the period of 2009-2018. The standard deviation for deposit growth was 8.98 percent which indicates that deposit growth of private commercial banks may deviate from the

mean value by 8.98 percent. From the above table, it can also be noticed that the private banks deposit growth have a minimum and maximum amount of 14.78percent to 42.45 percent.

The mean value of general inflation in the country over the sample period was 15.06% percent during the study periods. This shows the average increase in price of goods and services within the economy during the study period. The rate of inflation was highly dispersed which exhibits higher dispersion larger than its mean value over the periods under study towards its mean with standard deviation of 11.44%. The maximum inflation was recorded in the year 2009 which was 36.4 and the minimum was in the year 2010 which was 2.8% which indicates that there more variation from the mean value during the period 2009-2018 in terms of cost of living as measured by consumer price index or inflation.

Deposit Interest rate with a mean value of 5.2 percent and the standard deviation was found to be 0.37 percent. Moreover, the minimum and maximum amounts range from 4.5 and 5.4 respectively**.**

Return on equity with a mean value of 27.69 which means that the average profitability of banks is 27.69 percent. The standard deviation of was found to be 4.30 percent which indicates that private commercial banks may deviate from the mean value by 4.3 percent. Moreover, the minimum and maximum amounts range from 23.52 and 34.14 respectively.

Growth per capita GDP with a mean value of 11.02 percent and the standard deviation was found to be 8.34percent. Moreover, the minimum and maximum amounts range from 0.9 and 32.2 respectively.

Broad money supply with a mean value of 27.04 percent and the standard deviation of was found to be 5.45 percent. Moreover, the minimum and maximum amounts range from 19.9 and 39.2 respectively.

Loan to deposit ratio of private commercial banks in Ethiopia on average is 80.24 percent. Since commercial banking is about financial intermediation, the result shows that much of the asset is held in the form of current asset so as to meet the demand by depositors. And hence, the more liquid commercial banks become, the more they would like to raise long-term finance to the public. The standard deviation shows an amount of 15.80percent.Moreover, the minimum and

maximum values of liquidity of private commercial banks in Ethiopia were 54.54 and 96.73 respectively which indicates that the liquidity of banks varies over the sample period. Thus, it can be said that private commercial banks with higher liquidity ratio are more loanable fund and this may resort banks to deposit growth to provide loan.

4.3 Model Validity

This study focused on the relationship between deposit growth and the determinants of deposit mobilization. The researcher used econometric model of multiple regressions which contains one dependent variable, six independent variables, the constant term and the error term. The model chosen has taken the common classical regression model (CLRM) to analyze the relationship between the dependent and independent variables. Accordingly, all the assumptions of the classical linear regression model have been checked. Heteroscedasticity was checked using Breustch-Pagan / Cook-Weisberg test. Moreover, multicollinearity test was done by using the correlation matrix to check for the violation of this assumption. As these tests prove the validity of the model, the study continued into regression analysis. Accordingly, the output of the tests are presented and interpreted as follows.

4.3.1 Heteroscedasticity Test

It has been assumed that the variance of the errors is constant which is known as the assumption of homoscedasticity. If the errors do not have a constant variance, they are said to be Heteroscedasticity. There is no evidence for the presence of heteroscedasticity if the p-values are considerably in excess of 0.05. Thus, the result is presented below.

Heteroscedasticity Test

. estathettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance

Variables: fitted values of DPG

chi2(1) = 0.22

Prob >chi2 = 0.6377

Source: STATA 13 output

As shown above, the p-values is greater than 0.05 which indicates the absence of heteroscedasticity. Hence, it can be said that the variance of error term is constant.

4.3.2 Specification error Test

The specification error test is basically to check whether we need more variables in our model by running a new regression. We used linktest to test the model specification. The thing to look for here is the significance of _hatsq in the table below:

Table 4.Link test

Source	**Ss**	**Df**	**Ms**	Number of obs=10 F(2,7)=395.58 Prob>F =0.0000 R-squared =0.9912 Adj R-squared =0.9887 Root MSE = 0.9537		
Model	719.5793	2	359.78965			
Residual	6.36674049	7	.909534355			
Total	725.94604	9	80.6606711			
DPG	**Coef**	**Std.Err**	**t**	**P>|t|**	**[95%Conf.Interval]**	
_hat	.8733826	.2589681	3.37	0.012	.2610204	1.485745
_hatsq	.0022865	.0046322	0.49	0.637	-.008667	.0132399
_cons	1.579975	3.343054	0.47	0.651	-6.325093	9.485042

Source: STATA 13 output

The p-value of –hatsq is 0.637 and it is greater than 0.05.Hence it is not significant and implies that there is no specification error.

4.3.3 Multicollinearity Test

The test for multicollinearity was done by using correlation matrix. Correlation is a way to index the degree to which two or more variables are associated with or related to each other. Thus, the result of the test for the existence multicollinearity between independent variables is presented in the test analysis using only independent variables as shown under on Table 5.

Table 5. Correlation Matrix

	DPG	INF	DEPIR	ROE	GPCGDP	BMS	LDR
DPG	1.0000						
INF	.0071	1.0000					
DEPIR	0.2267	-0.1964	1.0000				
ROE	-0.4132	-0.5592	0.3623	1.0000			
GPCGDP	-0.0610	0.4424	0.2484	-0.1793	1.0000		
BMS	0.3197	0.0381	0.3281	-0.3739	0.1882	1.0000	
LDR	-0.0514	0.2304	-0.1660	-0.6642	0.5373	0.2294	1.0000

Source: STATA 13 output

As to Lewis (1980), in order to find out the multicollinearity problem, the correlation among the independent variables should be less than 0.8, that is, the existence of correlation of about 0.8 or more indicates a problem of multicollinearity. Thus, as shown on the correlation matrix on table 5 above, all the figures are below 0.8 which indicate that there is no problem of mulicollinearity. Therefore, all the variables were retained for use in the estimations.

4.4 Interpretation, Analysis and Discussion

In this research, the regression analysis was used to test if an independent variable influences a dependent variable and whether the effect is positive/negative and therefore, one dependent variable and six independent variables were regressed using econometric software called STATA 13. The dependent variable is deposit growth of private commercial banks(DPG) and the six independent variables are inflation rate (INF), Deposit interest rate(DEPIR),Return on Equity(ROE),Growth per capita GDP(GPCGDP),Loan to deposit ratio(LDR), Broad money supply(BMS). The regression by ordinary least square method was done with the data of successive 10 years from the 2009 to 2018. This section presents the regression result of factors affecting the deposit in private commercial banks in Ethiopia.

$DPG = \beta_o + \beta 1 * INF + \beta 2 *$ DEPIR $+\beta 3*$ ROE $+\beta 4*$GPCGDP $+ \beta 5*$ BMS $+ \beta 6*$LDR

Accordingly, Table 6 below presents the result of regression model that examines the effect of explanatory variables on deposit growth. Hence, DPG is dependent variable whereas inflation rate (INF), Deposit interest rate(DEPIR),Return on Equity(ROE),Growth per capita GDP(GPCGDP),Loan to deposit ratio(LDR),Broad money supply(BMS) are explanatory variables.

Table 6.Regression

source	**SS**	**Df**	**MS**	Number of obs =10		
Model	719.357702	6	119.89295	F(6,3)=54.59		
				Prob>F =0.0037		
Residual	6.58833796	3	2.19611265	R-squared =0.9909		
				Adj R-squared =0.9728		
Total	725.94604	9	80.6606711	Root MSE = 1.4819		
DPG	**Coef**	**Std.Err**	**t**	**P>|t|**	**[95%Conf.Interval]**	
INF	-.9947211	.0848772	-11.72	0.001	-1.264838	-.724604
DEPIR	12.59466	1.782554	7.07	0.006	6.921781	18.26755
ROE	-5.12341	.3084676	-16.61	0.000	-6.105092	-4.141728
GPCGDP	1.00295	.1178333	8.51	0.003	.6279517	1.377948
LDR	-.9589835	.0722301	-13.28	0.001	-1.188852	-.7291151
BMS	-.8402552	.1284675	-6.54	0.007	-1.249096	-.4314143
cons	205.6417	16.57037	12.41	0.001	152.9074	258.376

Source: STATA 13 output

Based on the regression result, the relationship between the variables included in the model can, therefore, be represented as follows

DPG = 205.642-0.995$*INF$ + 12.595$*$ DEPIR -5.123$*$ ROE +1.003$*$GPCGDP -0.8403$*$BMS -0.959*LDR

Where the dependent variable is deposit growth (DPG) and independent variables are inflation rate (INF), Deposit interest rate(DEPIR),Return on Equity(ROE),Growth per capita GDP(GPCGDP),Loan to deposit ratio(LDR),Brad money supply(BMS)

4.4.1 Interpretation of R-squared

R-squared tells how well the model containing the explanatory variables that were proposed actually explain variations in the dependent variable. Thus, table 4 shows R-squared coefficient of 0.9909 obtained from the estimated model revealing that 99.1 percent of variation in Deposit growth (DPG) is explained by the selected explanatory inflation rate (INF), Deposit interest rate (DEPIR), Return on Equity (ROE), Growth per capita GDP (GPCGDP),Loan to deposit ratio (LDR),Broad money supply(BMS).

The R-square result is valid because the researcher only included the above six variables of the bank specific, industry and macro factors. These and other remaining factors can account for the remaining 0.9 percent.

4.4.2 Interpretation of Adjusted R-squared

In this research, Adjusted R2 was inferred to see how much of the variables could be explained by the factors. From the table above the value of R2 was found to be 0.9728 shows that approximately 97.28 percent of dependent variable is explained by the independent variables included in the model and the remaining 2.72% is unexplained. Thus, the result shows more satisfactory association of dependent and independent variables

4.4.3 Inflation Rate

As to Finger and Hesse (2009), inflation is the persistent increase in the general prices of goods and services within an economy over a given period. The inflation rate is the rate at which the price level increases. According to them, price can also determine commercial banks' deposit and it can be indicated by consumer price index. As shown on table 6, inflation rate has negative and significant impact on deposit growth. Inflation is supposed to have negative effect on deposit growth. This is because the increase in inflation will result a decrease in deposit growth. The coefficient of this relationship of -.9947211indicates that holding other things constant, a unit increase in inflation rate will lead to a 0.995 unit decrease in deposit growth but the relationship is statistically significant at 5% significance level. The result is consistent with previous studies like Akaninyene (2018); Solomon et.al(2016) and Ketema (2017) found out that inflation has

negative effect on deposit. Contrary to this, Seyte et.al (2018); Shemsu (2015); Giragn (2015) and Tseday (2017)who found out that the impact of inflation on deposit is positive.

4.4.4 Deposit interest Rate

According to Helani et.al (2018) statement one of the most effective factors for deciding to deposit in banking system is the interest rate. Harald and Heiko (2009), also mentioned interest as one of the determining factor for commercial banks deposits. Philip (1968, in cited Helani et.al 2018), also states that the offering of attractive interest rate on bank deposits may be considered to have had a beneficial effect. Moreover, Mustafa and Sayera (2009) said that low deposit rates are discouraging saving mobilization. Bhatt (1970), said that the banking system is unlikely to be able to meet the demand for bank credit unless concerted policy is pursued to raise the rate of saving generally and the rate of saving in the form of deposits in particular.

The deposit interest rate is paid by financial institutions to deposit account holders. Deposit accounts are attractive places to park cash for investors who want a safe vehicle for maintaining their principle, earning a small amount of fixed interest and taking advantage of insurance. Financial institutions typically offer better rates for accounts holding larger balances. This is used as an incentive to attract high-value clients with considerable assets. By virtue of attaining a higher interest rate, naturally the greater the sum that is deposited, the larger the return over time. While this may still be seen as a slower growth approach to generating returns, such accounts can offer more stability compared with more volatile, high-risk financial products.

As shown on table 6, deposit interest rate has positive and significant impact on deposit growth. Deposit interest rate is supposed to have positive effect on deposit growth. This is because the increase in deposit interest rate will result an increase in deposit growth. The coefficient of this relationship of 12.59466 indicates that holding other things constant, a unit increase Deposit interest rate will lead to a12.595 unit increase in deposit growth and the relationship is statistically significant at 5% significance level. The result is consistent with previous studies like Solomon(2016);Hasan(2017);Helani(2018);Tafirei(2014);Dereje(2017);Akaninyene(2018);

Ketema (2017); Mamo (2017) and Shemsu (2015) who found out that the impact of deposit interest rate on deposit is positive. Contrary to this, Giragn (2015) found out that deposit interest rate has negative effect on deposit.

4.4.5 Return on Equity

ROE illustrates how much profit a company generates with the money shareholders have invested and how successful the firm's management team is at turning the cash put into the business into greater gains and growth for the company and investors. Companies cannot increase their earnings faster than they can boost their ROE without raising additional cash by taking on new debt or selling more shares.

As shown on table 6, return on equity has negative and significant impact on deposit growth. Return on equity is supposed to have negative effect on deposit growth. This is because the increase in deposit return on equity will result a decrease in deposit growth. The coefficient of this relationship of -5.123 indicates that holding other things constant, a unit increase in return on equity will lead to a5.123 unit decrease in deposit growth but the relationship is statistically significant at 5% significance level. We did not find research to compare the result.

4.4.6 Growth per capita GDP

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. If households and firms desire to hold more money, deposits will increase. So the relationship between income and deposits is positive that is as the income of the society increases the same happens for the commercial bank' deposits.

As shown on table 6, Growth per capita GDP has positive and significant impact on deposit growth. Growth per capita GDP is supposed to have positive effect on deposit growth. This is because the increase in Growth per capita GDP will result increase in deposit growth. The coefficient of this relationship of 1.003 indicates that holding other things constant, a unit increase in Growth per capita GDP will lead to a 1.003 unit increase in deposit growth but the relationship is statistically significant at 5% significance level. The result is consistent with previous studies like kibebe (2018); Giragn (2015) who found out that the impact of Growth per capita GDP on deposit is positive.

4.4.7 Broad money supply

Mushtaq& Siddiqui (2016 cited in Nwe Ni Tun) mentioned two possible ways for the relation of money supply and deposit. If money supply increase, loanable funds may be cheaper, thus reducing cost of borrowing for corporate and individual customers. Therefore, consumption will be increased and reduce savings. Thus, money supply and deposits will have an inverse

relationship. However, there may be argument that as more money is supplied to the economy, more deposits could put in banks accumulating the fund for transactional and investment purposes. As shown on table 6, money supply has negative and significant impact on deposit growth. Money supply is supposed to have negative effect on deposit growth. This is because the increase in deposit money supply will result a decrease in deposit growth. The coefficient of this relationship of -.840 indicates that holding other things constant, a unit increase in return on equity will lead to a0.840 unit decrease in deposit growth but the relationship is statistically significant at 5% significance level. The result is consistent with previous studies like Ketema (2017) found out that inflation has negative and insignificant effect on deposit. Contrary to this, Akninyene (2018);Kibebe(2018) and Giragn(2015) who found out that the impact of broad money supply on deposit is positive.

4.4.8 Loan to Deposit ratio

Loan to Deposit ratio is the ratio between the bank's total loans and total deposits. Loan to Deposit ratio is used to measure a banks' liquidity, which in turn influences the profitability of the banks.

Total loan in the numerator are considered as investments or assets for a bank in the balance sheet. The total deposit in the denominator can be considered as debt since the individual depositors are essentially depositing money to the bank having an expected return equal to the prevailing deposit rates. This deposits can be called by the depositor upon at any time.

If the ratio is lower than one, it would mean the bank using its own deposits to make loans to its customers. A ratio greater than one would mean that to extend loan, the bank itself is borrowing money from external source, which is then re-loaned at higher rates to its customer. As shown on table 6, loan to deposit ratio has negative and significant impact on deposit growth. Loan to Deposit ratio is supposed to have negative effect on deposit growth. This is because the increase in deposit loan to Deposit ratio will result a decrease in deposit growth. The coefficient of this relationship of -0.959 indicates that holding other things constant, a unit increase in return on equity will lead to a 0.959 unit decrease in deposit growth but the relationship is statistically significant at 5% significance level. The result is consistent with previous studies like Dereje (2017); Seyte et.al (2018); Jembere (2014) and Ketema (2017) who found out that the impact of

loan to deposit ratio on deposit is negative. Contrary to this, Tseday (2017) found out that loan to deposit ratio has positive effect on deposit.

4.5 Result vs. Hypothesis

The finding in this study revealed that most of the variables' result is as per the hypothesized sign except for loan to deposit ratio and deposit interest rate. The hypothesized sign and effect against the result is discussed hereunder.

H1; average deposit interest rate has positive significant effect on private commercial banks deposit in Ethiopia

The researcher expected to get a positive correlation between deposit interest rate and deposit because the increase in deposit interest rate will result in an increase in deposit and thus, banks will need to increase more deposit interest rate which will lead to an increase in deposit. The result is consistent with the hypothesized sign the impact of deposit interest rate on deposit is found to be significant and therefore, the hypothesis formulated is accepted.

H2; return on equity has negative significant effect on private commercial banks deposit in Ethiopia

In this research, Return on equity was expected to have negative and significant effect on deposit. This is because as return on equity increases, the deposit will decrease. Accordingly, the hypothesis formulated is accepted due to the significant effect of return on equity on deposit as per the hypothesis formulated.

H3: Inflation rate has negative and significant impact on private commercial banks Deposit in Ethiopia

Inflation was expected to have an inverse relationship with deposit. The result revealed that Inflation and deposit have negative relationship which is consistence to the hypothesis. The finding shows that increase in inflation will result decrease in commercial banks deposit. Accordingly, inflation has negative significant effect on deposit, the hypothesis formulated is accepted due to the negative correlation between inflation and deposit.

H4; loan to deposit ratio has positive significant effect on private commercial banks deposit in Ethiopia.

A positive correlation was expected between loan to deposit ratio and deposit because more disbursement of loan are likely to attract depositors. The finding revealed that loan to depositors have negative correlation with deposit but the hypothesis formulated is rejected due to the negative significant impact of loan to deposit ratio on deposit.

H5; Growth per capita GDP has positive significant effect on private commercial banks deposit in Ethiopia.

The researcher expected that there is positive relationship between growth per capita GDP and deposit. This is because when growth per capita GDP increases, commercial banks can enjoy higher deposit. The result showed that growth per capita GDP has direct relationship with deposit which could be explained as when growth per capita GDP goes up, deposit also go up in same manner in private commercial banks. Accordingly, the hypothesis formulated is accepted due to the positive relationship.

H6; Broad money supply positive significant effect on private commercial banks deposit in Ethiopia.

In this study, it was expected that there will be a positive relationship between broad money supply and deposit. This is because an increase money supply will result in an increase in deposit since banks have to mobilize more deposit. The finding is contrary with the hypothesized sign and it is found negative effect and accordingly, the hypothesis formulated is rejected.

The summary of the result against the hypothesis is presented under the table below.

Table 7. Summary of the Result against the Hypothesis

Variables	Hypothesis No	Hypothesis	Actual result	Hypothesis status
Deposit interest rate	H1	positive	Positive	Accepted
Return on equity	H2	negative	Negative	Accepted
Inflation	H3	negative	Negative	Accepted
Loan to deposit	H4	positive	Negative	Rejected
Growth per capita GDP	H5	positive	Positive	Accepted
Broad money supply	H6	positive	Negative	Rejected

Source: STATA 13 output

CHAPTER FIVE:

Summary, Conclusions and Recommendations

5.1 Summary of Findings

Chapter One discussed the problem statement and presented the objective of the study. The empirical problem was whether there exists a relationship between deposits and the independent variables. The objective of the study was therefore to determine the factors which affect deposit mobilization of private commercial banks.

Chapter Two gave a brief review of theories that inform the study. The empirical literature was also reviewed so as to establish the research gap. The review indicated that there existed differing opinions on the determinants factor which affect deposits mobilization.

Chapter Three discussed the research methodology. A survey research design was chosen and secondary data was used for analysis. A model linking external and internal factors with deposit mobilization was formulated.

Chapter Four discussed the major determinant factors that affect deposit of private commercial banks in Ethiopia. The study employed quantitative methods on secondary data sourced from financial statements of private commercial banks annual report and reports compiled by NBE. On the basis of the findings discussed earlier on Chapter four, the summary, conclusions and recommendations are presented below.

Summary of Major Findings

In this research, the dependent variable average deposit growth of commercial banks and the independent variables; inflation rate (INF), deposit interest rate(DEPIR),return on equity(ROE),loan to deposit ratio(LDR),Growth per capita GDP(GPCGDP) and broad money supply(BMS) were regressed using STATA 13. Thus, the results from the regression analysis estimated by pooled panel regression model showed that deposit interest rate and growth per capita GDP have positive and statistically significant effect on deposit growth whereas return on equity, inflation, loan to deposit ratio and broad money supply have negative and significant effect on deposit growth of private commercial banks. In this research, Loan to deposit ratio and

Broad money supply were expected to have positive and significant effect on deposit growth but the study revealed that they have negative significant impact.

5.2 Conclusion

The study tried to examine the determinants of deposit growth in private commercial banks in Ethiopia. Hence, on the basis of the major findings shown above, the following conclusions can be drawn.

Loan to deposit ratio has negative and statistically significant effect on deposit growth. This shows that the increase loan deposit ratio indicates that banks may not pay /allow depositors to withdraw their money, when banks fail to pay for its depositors then it faces liquidity risk that makes other depositors not to deposit in that particular bank. The more liquid banks can attract the deposits. From the finding, it can be concluded that Loan to deposit ratio decreases deposit growth.

Broad money supply have negative effect on deposit growth. An increase in money supply makes loanable funds cheaper, thus reducing cost of borrowing for corporate and individual customers. In this case, it is expected that people will increase consumption and reduce savings and thus money supply will have an inverse relationship with deposits growth. From the finding, it can be concluded that broad money supply decreases deposit growth.

Growth Per capita income has positive relationship with growth in deposit. That is, as the income of the individual increases the same happens for the commercial banks' deposits. When Income of individual increase the need for saving increase that in turn increase the deposit of private commercial banks deposit. Therefore as individual's per capita income increases the same will happen for private commercial banks deposits. Thus it can be concluded that increase in individuals per capita income will increases private commercial banks deposit. Therefore banks can mobilize deposit in this situation.

Inflation was proved to have negative and statistically significant impact on deposit growth of private commercial banks in Ethiopia. This is because the increase in inflation will result in a decrease in asset money value. Individuals like to purchase stable materials such as land, building etc. than to put in banks. Therefore, it can be concluded that as inflation decrease growth of deposit in private commercial banks

Deposit interest rate was proved to have positive significant impact on deposit growth in private commercial banks of Ethiopia. The increase in deposit rate will attract individuals to put their money in banks. The need to increase deposit interest rate is to overcome the inflation which has negative impact on deposit rate. Therefore, it can be concluded that as deposit rate increase growth in deposit increase in private commercial banks of Ethiopia.

Return on Equity was proved to have negative significant impact on deposit growth on private commercial banks. These results may imply that deposits are not substantially converted into loans, so larger growth rates of deposits can depress profitability implying having inactive or idle money (Hashem, 2016). Thus, overall results show that bank profitability is inversely related to deposits.

Therefore, it can be concluded that as Return on equity increase, growth in deposit decrease in private commercial banks of Ethiopia.

5.3 Recommendations

The following recommendations are suggested as possible solutions on the basis of the major findings and conclusions.

- Excess broad money supply will cause inflation and have a negative impact to the growth of the deposit of private commercial banks. The government should decrease its excess supply of broad money to the economy.
- Inflation will increase individual's inability to save since it influences the standard of living. Individuals tend to consume rather than saving their money. Therefore government should device mechanism to control inflation such as reducing government expenditure and increasing tax on private business.
- The researcher recommend that, deposit interest rate to be increased as it is a motivator for bank deposit and encourage people to deposit more, when there is a high deposit interest rate, individuals will deposit their money in banks. Therefore, policies should be made accordingly to increase the deposit interest rate to minimize the impact of inflation on depositors which in turn increase national savings.
- The researcher recommend that the government should encourage investment with technology to take steps that ensures and address the high rates of unemployment which

causes growth per capita GDP. It is found that economic growth is good for the growth of deposit in the banking sector.

- The private commercial banks need to convert deposit to loan to increase return on equity. If loan disbursement fail to increase the deposit will have negative impact keeping idle money to pay interest.
- The researcher observed that some of the banks have ratio more than 100% and that banks might not have enough liquidity to cover any unforeseen fund requirement and it may even affect capital adequacy and lead to asset liability miss-match Thus, the optimum goal of a bank can be achieved only with a balanced loan to Deposits ratio. The researcher recommend that private commercial banks to keep loan to deposit ratio balanced as per the regulation.

Limitations of Study

The study did not include qualitative information which should have been gathered by questioner and interview which give adequate data to explain the hidden issues that affect the relationship between deposits growth and other variables which are not shown here. An open ended questionnaire, an interview or discussion would have given qualitative information to strengthen the results.

The study only focused on 10 years data and only on seven banks. It might be worthy using a longer time series and more banks would have benefited different trends and results.

The study also did not put into consideration other factors that could have affected the deposit growth during the study period.

Areas for Further Study

The study suggests that further studies should include a qualitative analysis of the relationship between deposit growth and independent variables private commercial banks. Such a study would involve interview of key informants and questioner that would provide hidden insights.

Further areas of study should be focus on a longer time span. It will support the observed relationship changes over the years.

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ANNEX

. sum

Variable	Obs	Mean	Std. Dev.	Min	Max
YEAR	10	2013.5	3.02765	2009	2018
DPG	10	25.766	8.981129	14.78	42.45
INF	10	15.06	11.44234	2.8	36.4
DEPIR	10	5.208	.3732381	4.5	5.4
ROE	10	27.691	4.304627	23.52	34.14
GPCGDP	10	11.02	8.343434	.9	32.2
LDR	10	80.239	15.79942	54.54	96.73
BMS	10	27.04	5.454295	19.9	39.2

. regress DPG INF DEPIR ROE GPCGDP LDR BMS

Source	SS	df	MS
Model	719.357702	6	119.89295
Residual	6.58833796	3	2.19611265
Total	725.94604	9	80.6606711

Number of obs	= 10
F(6, 3)	= 54.59
Prob > F	= 0.0037
R-squared	= 0.9909
Adj R-squared	= 0.9728
Root MSE	= 1.4819

DPG	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
INF	-.9947211	.0848772	-11.72	0.001	-1.264838	-.724604
DEPIR	12.59466	1.782554	7.07	0.006	6.921781	18.26755
ROE	-5.12341	.3084676	-16.61	0.000	-6.105092	-4.141728
GPCGDP	1.00295	.1178333	8.51	0.003	.6279517	1.377948
LDR	-.9589835	.0722301	-13.28	0.001	-1.188852	-.7291151
BMS	-.8402552	.1284675	-6.54	0.007	-1.249096	-.4314143
_cons	205.6417	16.57037	12.41	0.001	152.9074	258.376

```
. linktest
```

Source	SS	df	MS	Number of obs =	10
				F(2, 7) =	395.58
Model	719.5793	2	359.78965	Prob > F =	0.0000
Residual	6.36674049	7	.909534355	R-squared =	0.9912
				Adj R-squared =	0.9887
Total	725.94604	9	80.6606711	Root MSE =	.9537

DPG	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
_hat	.8733826	.2589681	3.37	0.012	.2610204	1.485745
_hatsq	.0022865	.0046322	0.49	0.637	-.008667	.0132399
_cons	1.579975	3.343054	0.47	0.651	-6.325093	9.485042

```
. estat hettest

Breusch-Pagan / Cook-Weisberg test for heteroskedasticity
         Ho: Constant variance
         Variables: fitted values of DPG

         chi2(1)      =     0.22
         Prob > chi2  =   0.6377
```

. corr

(obs=10)

	YEAR	DPG	INF	DEPIR	ROE	GPCGDP	LDR	BMS
YEAR	1.0000							
DPG	0.1046	1.0000						
INF	0.3974	0.0071	1.0000					
DEPIR	-0.1613	0.2267	-0.1964	1.0000				
ROE	-0.7925	-0.4132	-0.5592	0.3623	1.0000			
GPCGDP	0.4495	-0.0610	0.4424	0.2484	-0.1793	1.0000		
LDR	0.9148	-0.0514	0.2304	-0.1660	-0.6642	0.5373	1.0000	
BMS	0.2093	0.3197	0.0381	0.3281	-0.3739	0.1882	0.2294	1.0000

.

Deposit Growth

year	Awash	Dashen	wegagen	united	NIB	Lion	abyssinia	Average DPG
2009	30.09	28.83	42.55	45.49	33.46	87.51	29.23	42.45
2010	23.04	28	8.9	30.83	25.2	44.62	14.34	24.99
2011	26.82	16.73	-23.83	30.79	24.96	27.5	18.22	17.31
2012	18.86	18.78	-3.33	10.63	13.2	33.86	11.47	14.78
2013	36.3	12.7	31.68	20.26	14	21.26	25.47	23.10
2014	19.89	11.55	12.28	15.72	19.05	27.6	7.06	16.16
2015	23.13	12.06	22.98	24.26	23.35	65.89	22.22	27.70
2016	23.28	14.86	12.23	17.76	27.1	42.09	22.64	22.85
2017	33.98	22.08	26.55	26.59	32.14	38.54	51.82	33.10
2018	42.04	29.53	46.26	39.82	31.69	32.65	24.58	35.22

consolidated from annual report data of banks

Loan to Deposit Ratio

year	Awash	Dashen	Abyssinia	Wogagen	united	NIB	Lion	Averege LDR
2009	51.67	54.9	54.4	28.7	61.7	64.3	66.1	46.77
2010	62.2	62.5	56.8	34.2	56.9	71.4	56.5	49.10
2011	54.7	65.6	66.2	64.1	84.4	66.2	64.1	57.01
2012	71.3	76.6	77.7	97	76.5	86.8	75	69.03
2013	65.6	78.1	88.4	104.8	96.8	97.5	95.3	76.87
2014	86.7	76.5	15.4	94.3	88.3	202.2	84	90.29
2015	95.2	86.6	83.6	87	97.8	109.2	91.3	81.01
2016	89.9	83.1	85.8	107	98	94	94.5	80.93
2017	95.2	93.4	92	109.4	101.1	96.3	89.7	83.59
2018	91	92.3	93.4	13.3	91.6	90.8	91.8	67.26

consolidated from annual report data of banks

Return on Equity

year	Awash	Dashen	Abyssiniya	Wogagen	United	NIB	Lion	Averege ROE
2009	39.81	38.8	28	30.6	25.7	30.2	1.9	27.86
2010	36.6	40.8	33.5	30.2	38.8	31.1	20.5	33.07
2011	37.8	45.1	39.1	34.3	35.8	29.4	17.5	34.14
2012	32.1	48.9	31.8	28.6	36.9	25.5	23.7	32.50
2013	28.2	39.7	31.7	24.6	31.2	22.7	27.8	29.41
2014	31.9	36.9	23	14.3	22.9	21.1	20.3	24.34
2015	27	33	20.7	18.7	21.2	20.2	33.5	24.90
2016	25.06	28.31	22.94	17.1	20.7	18.2	32.7	23.57
2017	28.07	24.54	24.25	21.1	19.4	23.1	24.2	23.52
2018	30.24	19.49	18.04	27.44	23.9	19.5	26.6	23.60

consolidated from annual report data of banks

year	Inflation Rate	Deposit Rate	Growth (PCGDP)	Broad mony supply(m2)
2009	36.4	4.5	7.1	21
2010	2.8	4.5	7.5	26.6
2011	18.1	5.4	10.6	39.2
2012	34.1	5.4	32.2	30.3
2013	13.5	5.38	6.8	24.2
2014	8.1	5.38	14.4	26.5
2015	7.6	5.38	13.4	24.7
2016	9.7	5.38	9.5	19.9
2017	7.2	5.38	7.8	28.8
2018	13.1	8	0.9	29.2

Source: NBE Annual report