ST. MARY'S UNIVERSTIY
SCHOOL OF GRADUATE STUDIES
MBA IN ACCOUNTING & FINANCE

Determinants of Commercial Banks Deposit Mobilization

By

Yoseph Ayana Dagnaw

June, 2019

Addis Ababa, Ethiopia

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A Thesis Submitted to the School of Graduate Studies of St. Mary's University in Partial Fulfillment of the Requirements for Master of Business Administration in Accounting & Finance.

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Advisor: - Ass Prof. Abraham G.

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Declaration

I, the undersigned, declare that this thesis is my original work; prepared under the guidance of Ass Prof. Abraham G. All the sources of materials used for this thesis have been dully acknowledged. This work is, an original contribution to the existing stock of knowledge making for its advancement. I further confirm that the thesis has not been submitted either in part or in full to any other higher institution or university for the purpose of earning any degree.

_____   _____

Name   Signature and Date

Endorsement

This thesis has been submitted to St. Mary's University, School of Graduate studies for examination with my approval as a University advisor.

<u>Ass Prof. Abraham G.</u>   _____

Advisor   Signature and date

Dedication

This work is dedicated to Alemitu Ayalew (My Mom), Ayana Dagnaw (My Dad), Meseret Ayana, Tesfanesh Ayana , Mister Abebe (My Wife) , Muse Ayana , H/ Maryam Ayana, Elizabeth Ayana and all Staff of CBE branch – LVB for their patience, encouragement and emotional support throughout these three years. God richly bless you all.

Acknowledgements

Abstract

Deposit mobilization is the major services of commercial banks. However, managing deposits is not possible without knowing and controlling the factors affecting it. The objective of this study was to identify the determinants of commercial banks deposit mobilization by considering six independent variables namely PLS , general inflation rate, the number of branches of banks, per capita income, deposit (interest) rate, exchange rate to USD. This study had shown that prize-linked savings , branch expansion, real per capita income and general inflation are the most significant factors of deposit volume. The deposit volumes of commercial banks are found to be impacted by the schemes of PLS. From the questionnaires a small number of employees agreed that customers come to banks solely due to the existence of PLS. This show there are also other reasons like the number of branches of banks (accessibility) and quality service by which customers stimulated to work with banks. Some employees specified that PLS influenced customers to minimize frequent withdrawal from their accounts. Employees believe prize-linked saving programs positively affect customers' attitude towards saving which in turn affects the level of deposits mobilized by the bank.

Key Words: Prize Linked Saving, Deposits Mobilization, Commercial Banks

List of Acronyms and Abbreviations

CBE - Commercial Bank of Ethiopia

OLS - Ordinary Least Square

DEP-Deposit

INR - Inflation rate

DIR- Average deposit (interest) rate

RPC- Real GDP per capita growth rate

BRX- Branch expansion of each local bank

EXR - Annual exchange rate of Birr to USD

PLS- Prize linked saving

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Chapter One

1. Introduction

This chapter presents the background of the study, statement of the problem, research questions, and objectives of the study, scope of the study, limitation of the study, significance of the study and organization of the study.

1.1 Background of the Study

Deb (1988) stated, mobilization of deposit for a commercial bank is as essential as oxygen for human being. Deposit mobilization is one of the main functions of banking business and so an important source of working fund for the bank. Deposit mobilization is the collection of cash or funds by a financial institution from the public through its current, savings, fixed accounts and other specialized schemes. Since deposits are normally considered as a cost effective source of working fund, the bank's ability to lend more as well as its success greatly lies on its deposit mobilization. However, the bank's ability to manage and mobilize enough funds from the public through its current, savings, fixed accounts and other specialized schemes will depend on the systems employed in this highly competitive industry (Digaria, 2011).

Managing deposits is not possible without knowing and controlling the factors affecting it. Various studies explained different factors affecting commercial bank deposits. As Desinga, (1975), the variables of commercial banks deposits determinants classify into two, namely exogenous and endogenous factors. Exogenous factors are the factors that are not controlled by bank and endogenous factors are factors that are controlled by the bank. Exogenous factors are further sub divided into two, i.e. country specific factors and bank specific factors. The bank specific factors are factors that are specific to the banking system and the country specific factors are factors that are beyond the banking system. Country specific factors includes saving interest rate, inflation, real interest rate, population growth of the country, per capita income of the society, economic growth (as measured by real GDP), consumer price index and shocks. Bank specific factors include liquidity of the bank, profitability of the bank, security of the bank, number of commercial bank's branches, bank size, reserves and transaction cost. The endogenous factors include awareness of the society, convenience of bank's office and services in the bank. The significance of each factor differs across group of countries, countries, and time period (Adams et al, 2012).

Categorizing deposit mobilization programs on a spectrum from coercive to exciting, Tufano and Schneider (2007) consider prize-linked (Herein after PLS) savings a program that could make deposit exciting, by leveraging the excitement generated by gambling and lotteries.

Prize-linked savings here offered as new exciting deposit mobilization instrument in over twenty countries around the world including the U.K., Sweden, South Africa and many Latin American and Middle Eastern countries (Tufano and Schneider, 2007).

PLS account differs from standard deposit account in one specific way. Instead of, or perhaps in addition to, offering a fixed interest return, PLS accounts offer a specific return in that depositors periodically receive a chance to win in the form of in kind prizes as in commonly offer by commercial banks in Latin America or a cash prize awarded to account holders as a part of a regular drawing, as in the case with Britain's premium bonds (Tufano and hurst, 2010).

As predicted by theory and international experience, interest in prize-linked savings is greatest among people who do not have regular saving habits, who have little actual savings, who play lotteries extensively, and who are optimistic about their futures. In this regard Commercial Banks of Ethiopia aimed at increasing house hold saving rates and deposit mobilization through PLS account target low-savers segment of the population. It started in 2012 by state owned commercial bank of Ethiopia. (www.cbe.com.et/more/cbenews) Because PLS programs are fairly new, there is limited research on their influence on deposits growth. Therefore, this study makes an attempt to examine the determinants (along PLS) of deposit mobilization.

1.2 Statement of the Problem

The successful functioning of commercial banks depends on the extent of funds mobilized and deposits constitute a vital source of funds required for banking business underscoring the vitality of sourcing a reliable and low-cost funding for banks to dependably make loans and refinance their operations. Financial resources of banking systems are naturally provided from people's deposits (Mohammad and Mahdi, 2010). As result, examining factors that can affect deposit would help for banks to formulate deposit mobilization strategies.

Various researchers tried to study about factors affecting deposit mobilization in Ethiopia. Tizita (2014) found that branch expansion has negative effect on private saving in the short term. She also reveals that inflation rate influenced private saving negatively and significantly. However, Wubetu (2012) found that Branch expansion had positive and significant effect on total deposit whereas deposit interest rate and inflation rate were insignificant. These contradictory findings

revealed that there is inconsistency among researchers on factors affecting deposit mobilization. By the same token, Ngula (2012) found that the exchange rate between the Ghanaian Cedi and US dollar was found negatively and significantly influence bank deposit. As he explained, the rise in exchange rate might lead to lower levels of deposit. People substitute domestic currency for foreign currencies as a means of financial saving. He also found that banks' ability to mobilize more deposit is reduced when there is an increase in inflation rate. However, Deposit interest rate found to have a positive relationship with bank deposit mobilization.

With respect to Ethiopia, according to literatures (Wubetu, 2012; Tizita, 2014; Shemsu , 2015; Bahredin , 2016) examines the deposit mobilization determinant factors. Determinant variables commonly explained as factor affecting deposit mobilization are, economic growth, inflation, interest rate, population growth, money supply growth, exchange rate,) and branch expansion. However, there are other bank specific and macroeconomic specific variables that were not included. Thus, this study is undertaking similar study by considering additional macroeconomic and bank specific variables.

Commercial banks developed a variety of deposit mobilization strategies and programs to meet their financial targets and ultimately satisfy the economy's massive need for financial resources. Tufano and Schneider (2007) consider prize-linked savings a program that could encourage saving habit in the country and increase the deposit mobilization of commercial banks.

Despite their successful history in other countries, prize linked saving are relatively unstudied by Ethiopian scholars. Guillen and Tschoegl (2002) survey programs around the world, describe Latin American's PLS programs in some detail. They report that in Latin America, PLS products appealed to low income and unbanked individuals. In South Africa, the Million-a-Month Account offered by South Africa's First National Bank (Cole et al., 2007) generated many accounts and mobilized large amount of deposit in two years' time (Mabuza, 2007).

The PLS scheme is started by state owned commercial bank of Ethiopia as a means to achieve deposit mobilization plan. The Commercial Bank of Ethiopia launched PLS program in 2012 and had conducted six rounds of the program (www.cbe.com.et/more/cbenews). The program is linked to all kinds of private deposit accounts through which depositors have a chance to win prizes without losing the conventional benefits of the products. While international evidence suggest a PLS positively affect deposit but its effect on deposit mobilization process in Ethiopia is untouched.

1.3 Research Questions

The following research questions were addressed in the study.

- How PLS program trend looks like?
- What is the effect of PLS program in deposit mobilization?
- How macroeconomic and bank specific factors affect deposit mobilization of commercial banks in Ethiopia.

1.4 Objectives of the Study

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

The specific objectives include;

- To assess the trend of PLS program.
- To examine the effect of PLS on deposit mobilization.
- To investigate the effects of bank specific factor deposit in commercial bank in Ethiopia.

1.5 Scope of the Study

Even though, deposit mobilization program performed by many other banks, this study was limited to commercial bank of Ethiopia which is the only bank that started PLS in Ethiopia. Due to time constraints and other resources, the study focuses on CBE Grade-4branches within in Addis Ababa. The researcher was interested to see the effect of PLS on deposit mobilization. Additionally, to understand the trend of PLS and drew a more valid inference on deposit mobilization determinant factors this study incorporates some of the bank specific and macroeconomic factors. However, this study had conducted on exogenous factors which are more conducive for deposit mobilization, however endogenous factors such as location, type of building and window dressing (furniture, cheque books, vouchers, pay slips etc.) were not included in the research.

1.6 Limitation of the Study

The study had only one dependent variable, deposit of commercial banks and six independent variables namely inflation rate, per capita income, interest rate, branch expansion, and exchange rate. Even if there are many different determinant factors, the researcher was interested to see the effects of the mentioned independent variables on the named dependent variable. Regarding to PLS data gathered only based on questionnaires responses that might not offered much insight on

its effect on deposit and 255 questionnaires were distributed to the respondents which might not as much of representative to the whole population. The use of purposive sampling may limit generalizing research result to the population may rarely limit the study.

1.7 Significance of the Study

Despite the critical role commercial banks play in mobilizing deposit for investment and economic growth (Wubetu, 2012; Tizita, 2014; Shemsu, 2015; Bahredin, 2016), the literature on determinants of deposit mobilization did not identify the effect of PLS on deposit mobilization trend. The experience with PLS accounts in Ethiopia is limited. Consequently, current strategies to enhance deposit mobilization in Ethiopia remain deficit of such vital evidence which potentially compromise the prospect for PLS to fuel economic growth through deposit mobilization. This is a critical information gap which this study sought to fill.

The study also expands the existing body of knowledge on determinants of deposit mobilization. In the context of Ethiopia's financial sectors, the study generates evidence with financial service providers can produce PLS accounts into their products portfolio to increase in total deposit. The study is also essential to provide additional findings on the PLS issue and can also be used as groundwork to do other related research issues.

1.8 Organization of the Study

The rest section of the report organized in to four chapters. Chapter two reviews literature on both theoretical and empirical studies on the link between bank deposits and economic growth, assessment of research work on savings and the variables that influence its mobilization and overview of banking in Ethiopia and the methodology employed for assessing the quantitative significance of the determinants factors of savings mobilization. Chapter three includes questionnaire, interviews and the use of statistical tools Chapter four presents the results of analysis done and Chapter five conclusion and suggests recommendations for policy consideration.

Chapter Two

2. Literature

This chapter deals with a review of both theoretical and empirical literature on the subject under study. In the Tables theoretical review part, the theories that states about the commercial banks deposits and reviewed related literature regarding the role of financial sector for economic development of a country and included explanations as to what deposits are and the types of 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 factors determining commercial banks deposits. In this part, the variables of deposit mobilization and the results of the study under review are discussed.

2.1 Conceptual Review

Commercial Banks deposits are dependent on depositor's money as a source of funds. According to the Keynesian theory of demand for money, there are three main motives why people hold money: transactions, precautionary and investment motives. In order to cater for these motives, commercial banks offer three categories of deposit facilities that are demand, savings and time deposits. Demand deposit facility is most commonly referred to as current account and is designed for those who need money for transaction purposes. This motive can be looked at from the point of view of consumers who want income to meet their household expenditure and from the viewpoint of businessmen who require money and want to hold it in order to carry out their business activities. Hence, the purpose of deposit facility is for convenience or for making daily commitments. Bank deposits represent the most significant components of the money supply used by the public, and changes in money growth are highly correlated with changes in the prices of goods and services in the economy (Sergeant, 2001).

Bank deposits are made to deposit accounts at a banking institution, such as savings accounts, checking accounts, time deposit accounts and money market accounts. The account holder has the right to withdraw any deposited funds, as set forth in the terms and conditions of the account. The "deposit" itself is a liability owed by the bank to the depositor (the person or entity that made the deposit), and refers to this liability rather than to the actual funds that are deposited. For a commercial bank, deposits are the oldest, most stable and, by volume, most significant source of funding. In the traditional model of the bank as an intermediary between savers and

borrowers, deposit is the counterpart of the loan. Stable funding is vital for banks and the financial system. This warrants analysis of the significance of a reliable, low-cost way for banks to refinance their operations. Financial resources of banking systems are naturally provided from people's deposits (Mohammad and Mahdi, 2010).

The bank provides savers with the opportunity to earn interest on surplus funds and make an investment that is nevertheless readily available for withdrawal and also in safe hands, while granting longer-term loan on fixed term and condition to person or companies that do not have enough fund of their own investment or consumption purposes. Deposits are not only a crucial funding instrument for banks, but also one of the most important forms of investment for private individuals. Mobilization of deposits for a bank is as essential as oxygen for human beings. As a result, mobilization of savings is one of the important objectives of the commercial banks and instruments to expand banking operations, by providing subsidy for branch expansion. The successful functioning of commercial banks depends on the extent of funds mobilized (Sophie and Jan, 2012).

2.1.1 The Role of Financial Sector for Deposit Mobilization

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

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

2. Non-depository institutions (e.g. finance companies, mutual funds, securities firms, insurance companies, pension funds) that finance their investment activities from the sale of securities or insurances. Commercial banks are the most dominant depository institution. They serve investors by offering wide variety of deposit accounts, and they transfer deposited funds to deficit units by providing direct loans or purchasing debt securities

2.1.2 The Function of Banks in Financial Systems

Understanding the many roles that banks play in the financial system is one of the fundamental issues in theoretical economics and finance. The efficiency of the process through which savings are channeled into productive activities is crucial for growth and general welfare. Banks are one part of this process. Lenders of funds are primarily households and firms. These lenders can supply funds to the ultimate borrowers, who are mainly firms, governments and households, in two ways. The first is through financial markets, which consist of money markets, bond markets and equity markets. The second is through banks and other financial intermediaries such as money market funds, mutual funds, insurance companies and pension funds. Financial sector is broad which consists of the banking sector and other financial institution (such as insurance corporations and pension funds, brokers, public exchange and securities markets etc.). However, in the context of African continent the banking industry carries the greater share of the financial system (Sheku, 2005). Most of the business relies on banking sector as a source of financing (Medhat, 2004). Banks have historically been viewed as playing role in financial markets for two reasons. One is that they perform a critical role in facilitating payments. Commercial banks, as well as other intermediaries, provide services in screening and monitoring borrowers; and by developing expertise as well as diversifying across many borrowers, banks reduce the costs of supplying credit (Samolyk, 2004). Thus, in their role as lenders, banks are often not merely buying someone's debt, rather they are providing significant financial services associated with extending credit to their customers and to the extent that investors want to hold banks liabilities, banks can fund borrowers directly. The main providers of additional financing are domestic commercial banks (Herald &Heiko, 2008).

- Banks perform various roles in the economy (Franklin & Elena, 2008): - They improve the information problem between investors and borrowers by monitoring the latter and ensuring a proper use of the depositors' fund.
- They provide inter temporal smoothing of risk that cannot be diversified at a given point in time as well as insurance to depositors against unexpected consumption shocks. Because of the maturity mismatch between their assets and liabilities, however banks are subject to the possibility of runs and systematic risk.
- Banks contribute to the growth of the economy.

Russell & Bamindele (2009) states that Commercial banks are institutions that engages in two distinct types of activities, deposit-taking and lending. So that banks are playing mainly intermediation function. Mahendra (2005) also states banks as the backbones of the trade and commerce playing the intermediary role of capital formation and supply. Even if other financial institutions are available banks play a major role in facilitating the way the financial sector operates. Therefore, banks are important of all other financial institutions. Adam (2005) argue banks influence macroeconomic environment, as to, bank failures involve significant macroeconomic costs. Adam (2005) has developed evidence that bank failures have significant and apparently permanent effects on real economic activity. Therefore, banks are also important influencers in macroeconomic environment. Banks mobilize, allocate and invest much of society's savings. Households and businesses are mainly using banks to save their money to get loan for their project undertakings. Kelvin (2001) said that commercial banks are important financial intermediaries serving the general public in any society.

2.1.3 Deposit Classifications

Commercial banks offer three categories of deposit facilities that are demand, savings and time deposits respectively (Desinga, 1975).

A. Saving accounts

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

B. Demand or current accounts

These deposits are generally used by business persons to settle debts usually through use of cheques. They are most often ready for Payment upon demand anytime and usually no interest is paid on these accounts.

C. Time or Term Deposits

These deposits are kept by the bank for specified period of time per the agreement between the bank and depositor. Higher interest rate is paid by the banks for such kinds of deposits depending

upon the amount of deposits and the length of period for keeping the deposits provided there is no Breach of the agreement.

2.1.4 Purpose of Deposits

From depositors' point of view, the key purposes to use deposit in bank are safety of their money, easy access and a possible real return. In general depositors keep their money in banks for a motive to undertake some activities in the future.Deposits are the foundation upon which Banks thrive and grow. They are a unique item on banks' balance sheet that distinguishes it from other types of business firms.

A. Source of Fund for Loan

Herald and Heiko (2009) states deposits are the main source of banks to provide loan. This deposit is mainly provided by people (Mohammad and Mahdi, 2010). However, deposits can also be provided by business organizations, NGOs, government and so on. Therefore, whether deposits are from individuals, businesses and government they are important financial source of banks.

B. cheaper than raising equity

Banks as any other business organizations can collect funds from debt and/or equity. In the banks context, raising equity is more expensive or costly than attracting deposits. (Lorenzo et al 2010) states that, if the lending channel plays a role, the deposit growth should lead to an increase in the supply of loans due to the additional source of financing for banks. As demand for loan increases because of the development work done by individuals, businesses and government, banks should extend their deposit base. When a commercial bank creates a deposit by lending to a business man, it is clearly performing a function for which it is entitled to a return in the form of interest payments (Harold, 1946).

C. Fund investment and/or development projects

Debt is largely held by domestic commercial banks which are funded mainly from deposits, the government demand for bank assets enabled banks to continue to expand their deposit base rapidly (Herald &Heiko, 2008). Individual investors and government are mainly depending on the deposits of banks to fund their investments and/or development projects.

D. Profit Making

Deposits provide most of the raw materials for bank loans and thus represent the ultimate source of the bank's profits and growth (Mahendra, 2005). Banks make profit by using their deposits,

therefore it is said that depositors can disciple banks. (Maria & Sergio, 2001), found that depositors discipline banks by withdrawing deposits and by requiring higher interest rates. For depository corporations mainly deposit money banks, their principal objectives are undertaking financial intermediation to make profit and increase their shareholders value (Sheku, 2005). They achieve their objectives mainly by attracting deposits and investing the money on profitable investment portfolio.

Generally, the banking system can be viable only if it can mobilize deposits at the required rate. And this can be done only by making a bank deposit more attractive (Bhatt, 1970). The ability of a bank's management and staff to attract checking and savings accounts from business and individuals is an important measure of the bank's acceptance by the public (Mahendra, 2005). Banks' management major concern is the variability of deposits for several reasons. Kaufman (1972), mentioned the reasons why the variability of banks' deposit is important as follows: -

- Deposit variability is frequently included as an important determinant of portfolio strategy. The more volatile a bank's deposits are the more liquid its mix of assets will be.
- To the extent deposit variability affects bank holdings of cash and excess reserves, variability affects the distribution of total member bank reserves within the banking system and thereby the path and speed of monetary policy actions.
- To the extent deposit variability affects the mix of banks assets; it affects the availability of funds for loans and consequently the loan rate.
- To the extent deposit variability affects both the mix of earnings assets and the frequency of engaging in costly reserve adjustments, variability affects the profitability of individual banks.
- Deposit variability is an important factor influencing bank use of the Federal Reserve discount window and thereby affects discount administration.

2.1.5 Determinants of Deposits

Currently financial liberalization has intensified competition among financial institutions, thus forcing commercial banks to compete for deposits in various forms (Sudin et al, 2006). This is because deposits are the major raw materials for provision of loans on which banks make the intended profits to the owners.

The success and efficiency of any credit agency, which is also a banking institution is, depend on the ability to mobilize the savings of the community in the form of deposit. But deposit mobilization is very difficult task. It depends up on various factors claimed to have effect on the banking system (Desinga, 1975).

As (N. Desinga, 1975), classify the variables which are claimed to have effect on the commercial banks deposits into two, namely exogenous and endogenous factors. Exogenous has further divided into country specific and bank specific factors for clarification purpose. Endogenous factors can be controlled by the banking system; however, the exogenous factors cannot be controlled by the banking system.

The bank specific factors are factors that are specific to the banking system and the country specific factors are factors that are beyond the banking system. Exogenous factors are the general economic environment of the region, the volume of business transaction of the region, the confidence of the people on the banking system, the banking habit of the people and the saving potential of the region. Even when exogenous factors are more conducive for deposit mobilization, banks may fail because of unfavorable endogenous factors such as location, type of building and window dressing (furniture, cheque books, vouchers, pay slips etc), which assure the customers about the physical fitness of a bank (Desinga, 1975).

Endogenous factors can be controlled by the banking system; however, the exogenous factors cannot be controlled by the banking system. The bank specific factors are factors that are specific to the banking system and the country specific factors are factors that are beyond the banking system.

2.1.5.1 External Factors (Country &Bank Specific Factor)

These are factors that are from country and banks that can affect the growth of commercial banks deposits (Herald &Heiko, 2008) There are discussed as follows: -

The country's economic, social and political factors can affect the commercial banks deposit. According to Herald &Heiko (2008), country specific risks such as political, economic and financial risks may affect the propensity for depositors to place funds in the banking system. Any single bank operates under the rule and regulation of the country where it belongs, also different problems and shocks that has happened in the country has its own concern in the banks operation. Generally, a bank success in their operation is mainly depends on the environment where the business is undertaken. There are around ten country specific factors that have affected

the commercial banks deposits. They are saving interest rate or PLS, deposit rate, inflation, real interest rate, number of commercial banks available in the country, population growth, per capita income of the society, economic growth, consumer price index, gross domestic product (GDP), shocks and exchange rate.

A. Bank Specific Factor

1. Prize Linked Saving

The survival of every commercial bank highly depends on bank deposit because deposit mobilization is a major activity of all commercial banks. As the result, the issue of banks deposit and its determinants is crucial to the financial sector of developing country like Ethiopia.

Prize-linked savings are offered as new exciting saving instrument in over twenty countries around the world including the U.K., Sweden, South Africa and many Latin American and Middle Eastern countries (Tufano and Schneider (2007). However, the scheme is at its early stages in Ethiopia. It started in 2011 by state owned commercial bank of Ethiopia and reward the winners of the prize for two six and now starting the seventh round 'save and win' campaign. Policy initiatives aimed at increasing house hold saving rates like prize –linked saving (PLS) account that adds a lottery like feature to on other wise standard saving account, creating an asset structure that might hold great appeal to the target low-savers segment of the population.

PLS account differs from standard saving account in one specific way. Instead of, or perhaps in addition to, offering a fixed interest return, PLC accounts offer a specific return in that depositors periodically receive a chance to win in the form of in kind prizes as in commonly offer by commercial banks in Latin America or a cash prize awarded to account holders as a part of a regular drawing, as in the case with Britain's premium bonds. (Kearnyet al, 2010).The save to win program was very successful in helping Michigan residents in America learn the habit of saving. The Michigan program encouraged residents that were classified as non-savers to open the first saving account specifically ,56% of the Michigan participants in a program were non savers to prior to the program.

The program successfully attracted non-savers, assert poor and low to moderate income groups to open an account and also made positive impact on their saving behavior (Doorways, 2010).

PLS products combine saving with the thrill of winning prizes (but without the risk of losing principal), PLS would appeal to lottery players and gamblers. (Tufano et al, 2010).

Kumar (2000) stated that, these are some of the more important expected changes in banking industry operations in the near future. Most banks will adopt at least a few of these policies to maintain enough cash deposit and profitability. Perform a savings account comparison to take advantage of improved bank rates and terms. Take advantage of the positive changes in this group and closely examine their new income ideas. Always compare your institution with its competitors to learn of the best and most cost-effective offers. Go beyond interest rates to attract new customers. Most banks will not be able to beat the interest rates offered on a national level. One of the most difficult things for a bank to communicate to potential customers is the quality of customer service offered. Use testimonial-based advertisements to highlight the benefits of customer service. This is particularly important for long-term loan relationships such as mortgages. If customers believe that a loan officer at your bank will be attentive to their individual needs, they may be more likely to overlook differences in interest rates (Kumar, 2000). Increase customer access to funds by expanding ATM networks and improving online banking offerings. ATMs and online banking are less expensive than training and paying tellers. But building an ATM network is expensive, particularly if you're not a franchise of a larger national bank. Many smaller banks have gotten around this issue by subsidizing fees paid to out-of-network ATMs. This allows smaller banks to offer the same ease of access as larger banks at a relatively low cost (Kumar, 2000). Create time-limited marketing incentives to attract new deposits. Offer to pay termination and transfer fees from old banks. Offer cash payments for deposits over a certain amount. To maximize effectiveness, limit the offer to a period of 60 days or less and emphasize that fact in advertisements. Offer tiered rewards depending on the level of deposit made. In most cases, customers will stay with a bank that they have opened an account with for years (Kumar, 2000). Measure the effectiveness of your marketing. Try to run only a few marketing initiatives at any one time so you can more easily measure their effectiveness. Repeat promotions that have measurable results, and curtail the campaigns that fail. Consider how profitable a campaign was per dollar amount (Kumar, 2000). Offer higher interest rates on savings accounts and lower interest on loans to existing customers with high bank balances. It's much less expensive to keep a customer that you already have than to attract a new one. Tiered accounts create incentives for your customers to keep their business with you rather than shop around elsewhere (Kumar, 2000). Adding "rewards" features to transaction accounts (checking, money market accounts, etc.). The success of rewards credit cards is sparking interest in offering

similar features to other deposit and transaction accounts. Individuals should examine these offers from their current institution and competing programs from other banks. Compare money market rates and "rewards" to find the best program for you (Kumar, 2000).

Prize-linked savings (PLS) products offer savers a return in the form of the chance to earn large prizes, rather than in more traditional forms of interest or dividend income or capital appreciation. The probability of winning is typically determined by account balances, and the aggregate prize pool can be set to deliver market returns to all savers. Categorizing savings programs on a spectrum from coercive to exciting, Tufano and Schneider (2007) consider prize-linked savings a program that could make saving exciting, by leveraging the excitement generated by gambling and lotteries. This overlap between prize-linked savings and lotteries is important as survey results show that low-income families believe they are more likely to build wealth by playing the lottery than by traditional saving with compound interest (Holton, 2000; Consumer Federation of America, 2006). This attitude of savers that they can accumulate wealth by playing lotteries has to change by the increase in promotional efforts of commercial banks towards bank savings.

The introduction of the PLS program alters the attitude of individuals, who now have the option of investing in a novel financial product which possesses the salient features of lottery tickets, with the appeal of skewness, and traditional savings, with liquidity and principal security (Tufano et.al, 2008). PLS accounts combine the traditional savings account feature that guarantees the principal investment with a lottery that provides a chance for a life changing payoff (Kearney et.al, 2011). Hence, a high level of PLS promotional effort by commercial banks helps change the attitude of savers favorably which intern boosts the level of deposit.

2. Branch Expansion

There is a relationship between commercial banks deposits and commercial bank's branch expansion. Not only are deposits influenced by bank branches, but the expansion of bank branches is also influenced by the level of deposits in any area (Baqui et al, 1987). It is expected that banks make decisions on expanding their facilities by considering factors such as level of competition, deposit potential, regional income and existence of road and vehicles. As deposit potential is one thing that banks consider in expanding its branches, the deposit can also be a reason for branch expansion strategy that the banking sector uses. According to Erna and Ekki

(2004), there is a long run relationship between commercial bank branch and commercial banks deposits.

In the study of Bruce and George (1965), the following variables are mentioned and claimed to have effect on the banks' deposits: - Banking industry is one of the service giving industries. Consequently, a major factor influencing decisions of whether to hold commercial bank deposits is convenience of bank offices. Branch expansion are believed to increase total deposit of banks in an area by capturing some funds which otherwise would have either been placed in banks outside the area or escape the banking system (Bruce and George, 1965). As to them other things being equal deposit growth may be expected to be positively associated with increases in the number of banking offices. Moreover, they conclude that other things being equal states permitting branch banking would experience faster deposit growth than states which forbid branch banking and the more liberal the branching regulations, the faster the deposit growth.

Andinet (2016) had examined factors influencing deposit mobilization in private commercial banks in Ethiopia by explain variables such as number of bank branches, deposit interest rate, liquid asset to deposit ratio, lagged value of bank deposits, net interest margin, inflation rate and economic growth (GDP). He showed that number of bank branches was significantly and positively correlated with total deposit. Sisay (2013) had examined deposit mobilization of private commercial banks at Awash International Bank S.C. and he had stated aggressive branch expansion of CBE is strongly influence the deposit mobilization process.

3. Saving Interest rate

One of the most effective factors for deciding to deposit in banking system is the interest rate (Mohammad & Mahdi, 2010). Herald &Heiko (2008) also mentioned interest as one of the determining factor for commercial banks deposits. Moreover, Philip (1968) states that the offering of attractive interest rate on bank deposits may be considered to have had a beneficial effect. Mustafa &Sayera (2009) said that low deposit rates are discouraging saving mobilization. Bhatt (1970) said that the banking system is unlikely to be in a position 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.

Interest rate in the banking system is held as investment cost from the investor's point of view and opportunity cost from the depositor's point of view (Mohammad & Mahdi, 2010). Thus, capital market forces balance interest rates. In other words, the just and correct interest rate

should be determined through market mechanism, that is, interest rate is balanced in supply and demand conditions in proportion with the inflation rate. Eustacius& David (1995) states that deposits are more interest rate sensitive and banks may choose to increase investments in interest rate sensitive assets and to decrease investments in loans. That is commercial bank deposits are interest rate sensitive, therefore as the interest rate changes the deposit of the commercial banks will change.

Other things equal, the alternative offering higher interest rate would be expected to attract the greater amount of funds (Bruce and George, 1965). Therefore, they state that deposits may be expected to grow faster where banks offer higher interest.

B. Country specific factors

1. Inflation

As to Herald &Heiko (2008) inflation is one of the factors that determine commercial banks deposits. Mahdi (2010) showed that in Latin America the effect of inflation on savings and time deposit to GDP was significantly negative. The classical belief is that, because bank assets and liabilities are expressed in monetary terms and because these assets will normally grow in line with growth in money supply, banks are relatively immune from the effects of inflation (Devinaga, 2010). In brief, monetary policy works by controlling the cost and availability of credit. During inflation, the Central bank can raise the cost of borrowing and reduce the credit creating capacity of commercial banks. This makes borrowing costlier than before and thereby the demand for funds will be reduced. Similarly, with a reduction in their credit creating capacity, the banks will be more cautious in their lending policies. Since the banks demand for fund decreases obviously the deposits will decrease. Banking system was affected by inflation in terms of deposit absorption and facilities grant (Mohammad & Mahdi, 2010). As to Mohammad & Mahdi (2010) in developed countries negative correlation between inflation and absorbed deposits and granted facilities has been documented.

Inflation is seen as an economic problem in developed countries in the second half of 20th century. Inflation with effect in economic growth, employment, income distribution and wealth as well as social and political conditions of a country can influence its entire dignity (Mohammad & Mahdi, 2010). Banking system as an important effective factor in economic performance has also been under the influence of inflation. As far as the effect of inflation on financial sector conceived the literature demonstrates that inflation affects the capacity of

financial sector for optimal allocating of resources. That is as inflation rate increases, true yield rate of money and assets decreases; therefore, deposits are no longer attractive. Also the increase of inflation rate has a negative effect on the performance of financial sector through the market credits and in turn, on the performances of banks and capital markets and finally on the long term economic growth (Mohammad & Mahdi, 2010). With respect to the effect of inflation on savings, it can be mentioned that in general, all individuals who save a part of their incomes in banks are directly damaged by the inflation and their assets decrease in proportion with money value decrease (Mohammad & Mahdi, 2010). In that case as Mohammad & Mahdi (2010) describes people try to change their cashes and savings to more reliable and stable forms such as land, jewelry, antiques, art collections, foreign currencies that causes to definite decrease in commercial bank's total deposit.

There are many diverse scholarly works to investigate the consequence of several factors on banking industry. Valahzaghard et al. (2012) explored the influence of macroeconomic indicators on credit risk in the banking system of Iran and stated that no significant relationship between the inflation rate, employment rate, unemployment rate, the dollar, the euro, with import growth of credit risk in the banking system in Iran.

Shemsu (2015) had investigated to identify factors affecting bank deposit in by taking Commercial Bank of Ethiopia as evidence. He had considered deposit interest rate, overall inflation rate, and number of branch opening, gross domestic product and individual foreign remittance as variables. In his findings overall inflation rate affect CBE's deposit positively.

2. Per capita income of the society

Income is the consumption and savings opportunity gained by an entity within a specified time frame, which is generally expressed in monetary terms. It is money that an individual or business receives in exchange for providing goods, services or through investing capital. For households and individuals, income is the sum of wages, salaries, profits, interests' payments, rents and other form of earnings received in a given period of time. One assumption would be that as incomes rises; deposits with banks do so as well. According to the Narasimham Committee (1991) the growth of bank deposit is a function of the level of income and savings. Poul and Bhattacharyay (1986) had studied the behavior of bank deposit and their components during 1971-81, and reported as income, either permanent or current, seems to be the dominant variable affecting bank deposits. The study concluded that, income to deposit ratio is statistically

significant and positively related. According to (Jim, 2008), 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 since relationship between income and deposits is positive that is as the income of the society increases the same happens for the commercial bank' deposits. Income is expected to have a positive effect on deposits (M. A. Baqui & Richard L. Meyer, 1987). Therefore as society's per capita income increases the same will happen for commercial banks deposits. (Mahendra, 2005), also indicates that income of the society matters for banks' deposit growth.

According to Jim (2008), 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 (Evan *et al*, 2006). 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's deposits. Therefore, as society's per capita income increases the same will happen for commercial banks deposits.

3. Exchange rate

Exchange rates are quoted as foreign currency per unit of domestic currency or domestic currency per unit of foreign currency (Bishop, 2006). Exchange rate allows denominating the cost or price of a good or service in a common currency. As Thomas's explanation, the term depreciation and appreciation is used to show the decrease and increase in the value of currency. Depreciation is a decrease in the value of currency relative to another currency. Appreciation is an increase in the value of a currency relative to another currency. As ECONOMIC Help online explained, the main factors that influence exchange rate are: inflation, interest rate, speculation, and change in competitiveness, balance of payment, government debt, government intervention and Economic growth / recession.

According to Nugel (2012) as currencies depreciated in one country deposit will be reduced since investors tend to withdraw deposit and exchanged to keep it by appreciating currency (Hard currency) or invest in another form of investment rather than bank deposit. Alemayeh

(2015) also confirms that for developing country in general saving is negatively correlated with unstable exchange rate.

Herald and Heiko (2009) had written a working paper which empirically examines the demand for commercial banks deposits in Lebanon, a regional financial center. They classified the variables into two, i.e. macro and micro level variables. At the macro level, they found that domestic factors such as economic activity, prices, and the interest differential between the Lebanese pound and the U.S. dollar are significant in explaining deposit demand, as are external factors such as advanced economic and financial conditions and variables proxying the availability of funds from the Gulf.

4. Population growth of the country

The twin objectives of commercial banks, i.e. acquiring deposits and advancing credit cannot be attained without good banking habits of the people (Mahendra, 2005). Moreover (Mahendra, 2005) states that, the number of deposit accounts is more important because it ensures that the probability of account is more important because it ensures that the probability of account holders withdrawing cash at a time decreases as the number of deposit account increase, thereby creating advantage for banks in terms of increasing the size of the loan able fund. So the higher number of deposit accounts the greater is the advantage to banks. The number of deposit accounts depends on the number of deposit account holders.

5. Economic growth

An article from Economic online defined economic growth based on two meanings: Firstly, and most commonly, growth is defined as an increase in the output that an economy produces over a period of time, the minimum being two consecutive quarters. The second meaning of economic growth is an increase in what an economy can produce if it is using all its scarce resources. An increase in an economy's productive potential can be shown by an outward shift in the economy's production possibility frontier (PPF).The simplest way to show economic growth is to bundle all goods into two basic categories, *consumer* and *capital* goods. An outward shift of a PPF means that an economy has increased its capacity to produce. If there is a real growth in the economy, the deposit will grow as well. This hypothesis was proved by the Chakravarty Committee in 1985. The committee reported that the growth rate of deposit in India at an accelerated pace was attributed to the higher real growth achieved by the economy

According to (Herald & Heiko, 2008), growth is one of the determining factors for commercial banks deposits. GDP is calculated by adding up the value-added at each stage of production (deducting the cost of produced inputs and materials purchased from an industry's suppliers. (Erna & Ekki, 2004), finds four variables, GDP, number of Islamic bank's branch offices, profit sharing rate, and interest rate that are thought to have influence on the volume of deposits. So, GDP can influence the growth of commercial banks deposits.

6. Exchange rate

Exchange rates are quoted as foreign currency per unit of domestic currency or domestic currency per unit of foreign currency (Bishop, 2006). Exchange rate allows denominating the cost or price of a good or service in a common currency. As Thomas's explanation, the term depreciation and appreciation is used to show the decrease and increase in the value of currency. Depreciation is a decrease in the value of currency relative to another currency. Appreciation is an increase in the value of a currency relative to another currency. According to Nugel (2012) as currencies depreciated in one country deposit will be reduced since investors tend to withdraw deposit and exchanged to keep it by appreciating currency (Hard currency) or invest in another form of investment rather than bank deposit. Alemayeh (2015) also confirms that for developing country in general saving is negatively correlated with unstable exchange rate.

2.1.5.2 Endogenous Factors

In the literature three endogenous factors are identified that can affect the growth of commercial banks deposits. They are awareness of the society for using banks to deposit their money, convenience of Bank's office and service in the banks.

a) Awareness of the Society

According to Baqui *et al* (1987), some analysts argue that demand for deposits is influenced by education level which in turn increases the awareness of the rural people about banking services. Since the study of Baqui *et al* (1987) conducted by taking rural area as its base it is obvious that it considers the awareness as a factor of deposit mobilization. It was also found that literacy as a proxy for awareness about banking, positively influence deposits.

b) Convenience of Bank's Office

Road and vehicles directly influence interest bearing deposits because of the reduction in depositors' transaction costs through reduced time spent in travelling to and from banks (Baqui

et al,1987). Banks can mobilize more deposit when they make themselves closer to their customers (depositors).

c) Services in the Bank

It is known that banks are service giving organizations and the service delivery can affect their business undertakings. Baqui *et al* (1987) stated that there is some empirical evidence demonstrating the positive influence of services rendered to depositor.

2.2 Empirical Review

The empirical literature part discusses past studies that were conducted on the area of factors determining commercial bank 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 was discussed. These help to see where the literature on this study is and how this study add to the existing literature Quite a number of empirical studies have been carried out by different scholars on the relationship between interest rate and bank deposits or savings; some of these studies are reviewed below.

Mobilization of deposit for a bank is as essential tool for the survival of the banking industry (Deb, 1988). Deposit mobilization is one main functions of banking business and so an important source of working fund for the bank. Mobilization deposit is the collection of cash or funds by a financial institution from the public through its current, savings, fixed, recurring accounts and other specialized schemes (Maende, 1992). Since deposits are normally considered as a cost effective source of working fund, the bank's ability to lend more as well as its success greatly lies on its deposit mobilization. However the bank's ability to mobilize enough funds from the public through its current, savings, fixed, recurring accounts and other specialized schemes will depend on the systems employed in this highly competitive industry, (Digaria, 2011).

Banking over the years has lived up to its definition of safe keeping of customers funds and ensuring that the customers get the money upon demand. And this has been the basic function of banking just as a raw material is for a business; to banking institution is cash (Giovanni, 1985). Deposit mobilization therefore the world over has continually been part of the primary and important component of banking. In the past few years, a lot of modifications in the financial economies have taken place in the world (Hyuya, 1991). The world has witnessed many banks in

North American filed for insolvency. One of such was the Leman Brothers, when the company declared insolvency security and it became a surprise because their business has been in operation for past 159 years. This affected banks across Europe and other countries around the world. The challenges of the banking industry have effects on the performance of other businesses. Other businesses cannot assess loans to finance their activities thereby disturbing their production and services operations (Refiee, et al, 2013).

There are many diverse scholarly works to investigate the consequence of several factors on banking industry Beikzad and Ghorbannejad Maleki (2012) examined the operative factors on bank resource mobilization and established that, information and communication technology, service diversity, human resource skills, internal atmosphere service and locations were considered to be some of the factors influencing cash resource mobilization. Karami et al. (2012) presented a combination of Balanced Score Card (BSC) and Data Envelopment Analysis (DEA) method for assessing the activities of banking sector. The study revealed various important factors related to each of the perceptions of BSC and applied an analytical order process to rank the methods. Khodaei Valahzaghard et al. (2012) explored the influence of macroeconomic indicators on credit risk in the banking system of Iran and stated that no significant relationship between the inflation rate, employment rate, unemployment rate, the dollar, the euro, with import growth of credit risk in the banking system in Iran.

With respect to Ethiopia, various studies relating to bank deposit growth were carried out. Bahredin (2016) had studied to find the determinants of commercial banks deposit growth in Ethiopia by using these variables inflation, deposit interest rate, loan-to-deposit ratio, bank branches, money supply growth, per capita income growth, and lagged bank deposit. In his study stated that stimulation of economic growth, banks presence, financial intermediation bank branches and per-capita-income growth influence is positively and statistically significant on bank deposit growth; whereas, lagged bank deposit and loan-to-deposit ratio influence is negatively and statistically significant on bank deposit growth.Andinet (2016) had examined factors influencing deposit mobilization in private commercial banks in Ethiopia by explain variables such as number of bank branches, deposit interest rate, liquid asset to deposit ratio, lagged value of bank deposits, net interest margin, inflation rate and economic growth (GDP).

He showed that number of bank branches, deposit interest rate, net interest margin and GDP were significantly and positively correlated with total deposit while Lagged value of bank deposit was significantly and negatively correlated with total deposit. Shemsu (2015) had investigated to identify factors affecting bank deposit in by taking Commercial Bank of Ethiopia as evidence. He had consider deposit interest rate, overall inflation rate, number of branch opening, gross domestic product, individual foreign remittance as variables. In his findings branch opening, individual remittances from Diasporas, deposit interest rate, overall inflation rate, number of branch opening and gross domestic product, affect CBE's deposit positively.

Sisay (2013) had examined deposit mobilization of private commercial banks at Awash International Bank S.C. and he had assessed reconstruction of Addis Ababa roads, Aggressive branch expansion of CBE, condominium house construction program, peoples attitude towards using private banks and poor parking area are strongly influence the deposit mobilization process.

The Commercial Bank of Ethiopia has developed a variety of deposit mobilization strategies to meet its stretched financial targets. As a means to achieve this, the bank launched the Prize Linked Saving (PLS) program in 2012 and had conducted six rounds of the program.The effects of PLS on deposit mobilization measured through comparing deposit growth performance during PLS periods than without it, whether attracting new customers and influence customer to save regularly and to save extra deposit in the bank.Additionally deposit determined through introducing a lottery savings among customers with lowest savings and income (Atalay, 2012).

2.3 Summary and knowledge gap

Based on the above theoretical as well as empirical review, deposit mobilization is the major activities for all banks especially for commercial banks since their function is mobilizing deposit to meet the required liquidity for credit customers of banks. Commercial banks developed a variety of deposit mobilization strategies and programs to meet their financial targets and ultimately satisfy the economy's massive need for financial resources. Tufano and Schneider (2007) consider prize-linked savings a program that could encourage saving habit in the country and increase the deposit mobilization of commercial banks.

Despite their successful history in other countries, prize linked saving are relatively unstudied by Ethiopian scholars. The PLS scheme is started by state owned commercial bank of Ethiopia as a means to achieve deposit mobilization plan. The Commercial Bank of Ethiopia launched PLS

program in 2012 and had conducted six rounds of the program (www.cbe.com.et/more/cbenews). The program is linked to all kinds of private deposit accounts through which depositors have a chance to win prizes without losing the conventional benefits of the products. While international evidence suggest a PLS positively affect deposit but its effect on deposit mobilization process in Ethiopia is untouched.

2.4 Conceptual framework of the study

From the above theoretical and empirical reviews, there is clear consensus that supports there are variables that can affect commercial banks deposit positively or negatively. The variables involved in this particular study are six variables, which is one dependent variable (deposit of commercial banks) and five independent variables (inflation rate, interest rate, exchange rate, branch expansion, per capita income). This conceptual framework describes the relationship among the dependent variable with the independent variables involved in by using the following figure.
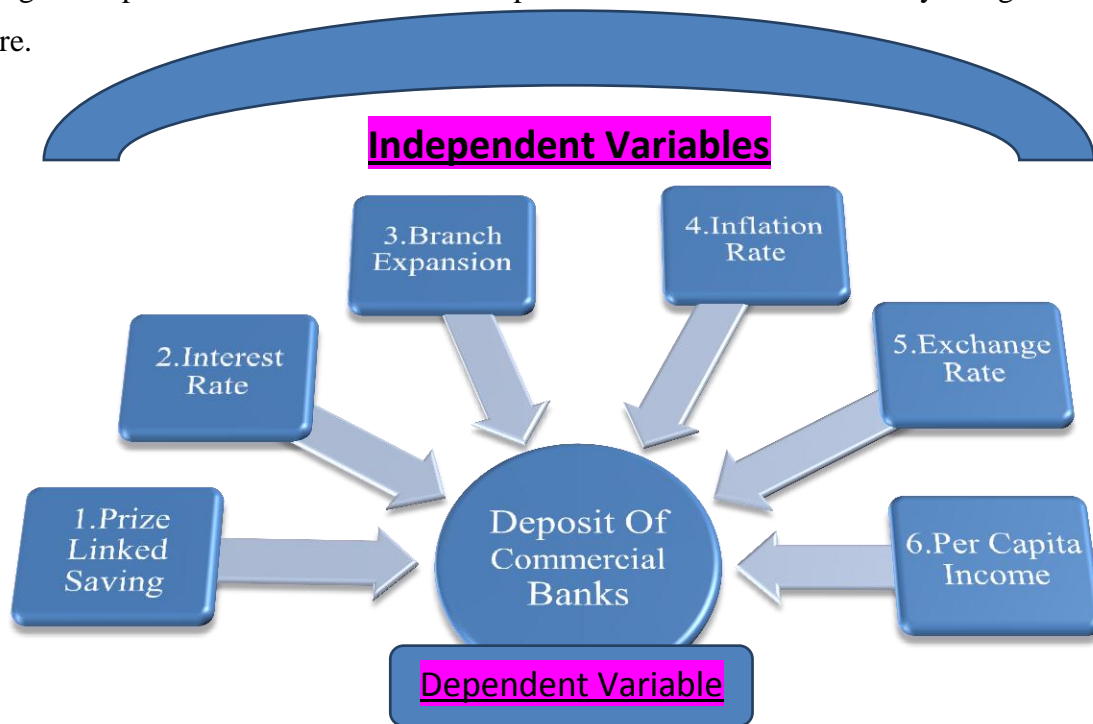
Figure. 2.7 Conceptual framework of the study

Sources :(Tufano et.al, 2008), (Bishop, 2006) , (Jim, 2008) etc.

Chapter Three

Methodology

3.1. Introduction

This chapter presents the research methodology that was used to obtain primary and secondary qualitative and quantitative data for the study. It presents the focus of the study, sampling techniques and sample size, data types and collection method. The chapter further presents the data analysis procedures employed to generate results upon which inference were made on the entire population under study.

3.2 Research Design

The study employed both descriptive and explanatory research design. Explanatory research design is an empirical inquiry that investigates a contemporary phenomenon and examines the cause and effect relationships between dependent and independent variables (Kothari, 2004). That is, explanatory research looks for cause and effects. Researcher has intended to describe the qualitative data received from respondents and explain the relationship between deposit (dependent variable) and independent variables (explanatory variables (independent variable) using correlation and the effect of variables using multiple regressions. This shows that the research was descriptive and explanatory (casual) in nature.

3.3 Research Approach

Researcher adopts mixed approach to achieve the study objective as well as to test the hypothesis. The motivation of using both quantitative and qualitative research approach in this study is to deal with a given research question from any relevant angle, making use where appropriate of previous research and/or more than one type of investigative perspective. The data collection involves gathering both numeric information as well as text information so that the final database represents both quantitative and qualitative information. It utilizes the strengths and overcomes the weaknesses of the two continuum approaches. Therefore, the combination provides an expanded understanding of the research problems (Greener, 2008).

The qualitative data to be collected were described as explanatory variables. In addition, through statistics tools, the quantitative data of the dependent variable (explained variable) which is deposit and the independent variables (explanatory variables) such as inflation rate, per capita

income, interest rate, branch expansion, and exchange rate were used. And also some of the qualitative data regarding to PLS program in this study cannot be described and manipulated numerically (Greener, 2008).

The introduction of the PLS program alters the attitude of individuals, who now have the option of investing in a novel financial product which possesses the salient features of lottery tickets, and traditional savings. Additionally, PLS influence savers to minimize frequent withdrawal from their saving accounts. Hence, PLS program helps change the attitude of savers favorably and which intern determines the level of deposit that banks are able to mobilize. Here to gather such information and issues concerning the PLZ scheme from customers and employees it was better deploy questionnaires as data gathering tool (Tufano, 2008; Pfiffelmann, 2008).

3.4 Target population

The study used both primary and secondary data. Commercial bank of Ethiopia is the only bank that started PLS in Ethiopia. Therefore, the target population of this study was employees of CBE who are working in Grade-4 branches in Addis Ababa city and purposively selected customers of CBE. According to the CBE 2019, the bank has a total of 31,146 employees. However, this research was focus only Grade-4 branch employees. The bank gives ranking for its branches from Grade-1 up to Grade-4. In CBE Grade-4 branches have larger proportion of bank deposit high volume of transaction, large number of employees, customers and as well as better branch facilities than the remaining grade branches. The researcher assumes the selected target population has well experience and knowledge in CBE about the effect of PLZ scheme on deposit mobilization. In addition to these to improve the quality of the study the researcher incorporated customers of CBE. Here in addition to employees the researcher included purposively 30 customers to improve the quality of the study. The target population under analysis of secondary data was macroeconomic and bank-specific determinants of bank deposit over the seventeen years from 2000 - 2017.

3. 5 Data Types

The researcher gathers quantitative data from the year 2000GC to 2017GC. The researcher used annual reports of all commercial banks as the secondary data sources, data from the regulatory body of banks in Ethiopia-National Bank of Ethiopia (NBE) and from Central Statistical Authority (CSA). In addition, deposit mobilization performance was assessed to study the effect

of PLS programs using data from 2012-2017 and comparisons made with the performances of 2006 and 2011 similar periods. Questionnaires were employed in gathering from the clients and employees of commercial banks of particularly for those employees who actively participated in PLS programs and deposit mobilization tasks.

3.6 Sample Technique

A purposive sampling technique was used for customers and for employees simple random sampling technique was used in this study. Purposive sampling was used to select commercial banks with an objective of ensuring that only those which had operated since 2000 G.C are included in the sudy to allow analysis of trend in deposit mobilization for the last 17 years.

3.7 Sample size determination

To determine the sample size of the study, the total targeted employees of CBE were being taken. The employees were selected using random sampling from the different branches in CBE. The study utilized data from a sample of 225employees determined using the approach recommended by Krejcie & Morgan (1970) presented in Appendix 1. This sample size was appropriate to carry out the analysis and generate precise evidence. It gives the researcher an idea of how large the sample size needs to be to ensure a reasonable accuracy of results.

Table 3.7 Number of employees working in special Grade-4

Branch Name	Number of employees
Addis Ababa	174
AradaGiorgis	76
AratKillo	68
Finfine	99
Nefas Silk	79
Selassie	64
Total	**560**

A total of sample size from employees of CBE are =225 employees and

Purposively selected sample size form CBE customers =30 customers

From the above calculation the sample size of this research was255 employee and customers of CBE. Therefore, a total of 255 questionnaires were distributed to collect relevant data with regard to the research purpose

3.8 Data Analysis

Prior to the multiple liner regression, descriptive analysis is used to describe the behavior of the individual variables over the period under review. The descriptive analysis also included a brief situation of the bank specific and macroeconomic variables. The data collected was collated and processed by editing and coding to eliminate all errors. It was then synthesized and analyzed using both qualitative and quantitative analytical techniques to draw valid conclusions and inferences using STATA. Cross tabulations were used to bring-out all interrelated inferences. Tables and figures were used in the case of the quantitative technique, while descriptions were used in the case of the qualitative analysis.

The questionnaires were analyzed based on Likert scale of five ordinal measures regarding the relative importance of each variable towards each statement. The questionnaires were rated using a number scale from 1-5. The numbers indicate the degree of agreement of each variable of the respondents to each of the specific questions. The degree of agreements or disagreements of the respondents are outlined as follows.
1= Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree and 5= Strongly Agree.

A Likert scale is a psychometric response scale primarily used in questionnaires to obtain participants preferences or degree of agreement with a statement or set of statements. Likert scales are a non comparative scaling technique and are one-dimensional (only measure a single trait) in nature. Respondents are asked to indicate their level of agreement with a given statement by way of an ordinal scale. The main reason of selecting this simple scale is first, to make the respondent feel comfortable and simple in answering those questions and second, for easy evaluation of the collected answers (Heng, 1988).

3.9 Ordinary Least Square

The model of multiple linear regressions is presented below:

$$Y = \alpha + \beta 1 X1 + \beta 2 X2 + \beta 3 X3 \ldots + \varepsilon$$

Where' y' is the dependent variable

α is the constant term

β are coefficients of each of the independent variables

X1, X2 and X3 are the independent variables.

ε - the error term

Our model for this study can simply be put as follows

DEP= α + β1 INR+ β 2DIR+ β3RPC+β4BRX+ β5EXR + β6 PLS+ ε

DEP -Deposit

INR - Inflation rate

DIR- Average deposit (interest) rate

RPC- Real GDP per capita growth rate

BRX- Branch expansion of each local bank

EXR- Annual exchange rate of Birr to USD

PLS- Prize linked saving

ε: is representing the random error term of the linear regression model. This may include variables like investment income, population growth, profitability and shocks which is likely to influence the study. β represent the estimated parameters or represent the slope co-efficient to the dependent variable.

This paper examines the determinants of banking sector deposit mobilization in Ethiopia. The researcher has used the determinants from previous studies to guide the choice of independent variables. While deposit (D) is used as the explained variable between inflation rate (I), interest rate (R), exchange rate (E), branch expansion (B), per capita income (C) and prize linked saving (PLS) are used as explanatory variables of the study after a thorough review of extant literature. Moreover, the study use 17 year annualized economic data spanning from 2000 to 2017 G.C.

Independent Variables in this study are factors that mostly affect the commercial banks deposits. These are overall between inflation rate, interest rate exchange rate branch expansion per capita income and prize linked saving (PLS).

3.9.1 Prize linked saving (PLS)

Policy initiatives aimed at increasing house hold saving rates like prize –linked saving (PLS) account that adds a lottery like feature to on other wise standard saving account, creating an asset structure that might hold great appeal to the target low-savers segment of the population. Prize linked savings are offered as new exciting saving instrument in over twenty countries around the world including the U.K., Sweden, South Africa and many Latin American and Middle Eastern countries (Tufano and Schneider (2007). The program successfully attracted non-savers, assert poor and low to moderate income groups to open an account and also made positive impact on their saving behavior (Tufano et.al, 2010).

HA: *PLS* has a ***positively*** *and significantly effect on deposit of commercial banks.*

3.9.2 Inflation

As to Carroll (2006), inflation can influence saving through its impact on real wealth. As inflation accelerates, deposits become less attractive, depending on the interest rate. In this case, the assumption would be that as deposit interest rates rise, deposits would increase in principle as well. The narrower the spread between deposit rates and inflation, the less attractive it should be to hold deposits above the required level. Inflation is one of the factors that determine commercial banks deposits (Herald and Heiko, 2009). Banking system was affected by inflation in terms of deposit absorption and facilities grant (Mohammad and Mahdi, 2010). As to Mohammad and Mahdi (2010), in developing countries banks boost deposits and increase self-sufficiency in a period of inflation. The latter is the persistent increase in the general price level for a specified period of time. Thus, it is a fall in the market value of money (purchasing power) as a result of persistent rise in prices. Real value of money declines resulting in benefit to debtors and loss to creditors (Brealey and Myers 2003).

HA: *Inflation positively and significantly affects deposit of commercial banks.*

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3.9.3 Interest Rates

Deposit interest rate is the rate paid by commercial or similar banks for demand, time, or savings deposits. The level of inflation has influenced the rate of interest that banks give to their depositors. According to a NBE report, inflation and investment policy changes directly affect the bank deposit rate. This means the level of inflation influences that of deposit interest rate, while deposit interest rate in turn influences bank deposits. The central bank's policy on interest rate is setting the minimum   bank deposit rate, currently at 5 %, while the banks are free to pay above the minimum and to set their own lending rates (NBE Report 2019).

HA: Interest Rates positively and significantly affect deposit of commercial banks.

3.9.4 Exchange Rate

According to Nugel (2012) as currencies depreciated in one country deposit will be reduced since investors tend to withdraw deposit and exchanged to keep it by appreciating currency (Hard currency) or invest in other form of investment rather than bank deposit.

HA: *Exchange positively and significantly affects the deposit of commercial banks.*

3.9.5 Branch Expansion

Branch expansion is opening new branches or service outlets in and outside the country. According to Baqui (1987) there is a relationship between commercial banks deposits and commercial bank's branch expansion. Deposit is influenced by branch expansion and expansion of bank branches is also influenced by the level of deposits in any area (Baqui et al, 1987). Banks usually makes decisions on expanding their branch by considering different factors.

HA: *Branch Expansion positively and significantly affects the deposit of commercial banks.*

3.9.6 Per capita income

Income and wealth are the prime determinants of saving deposit. The effect of these variables on the level of saving and rate of saving are assumed to be positive and significant. In essence, as the disposable income of a household increases, saving increases both marginally and on average.

According to Jim (2008), the relation between income of the society and deposit volume is expected to be positive and significant.

> **HA:** *Per capita positively and significantly affects the deposit of commercial banks.*

3.10 Reliability and Validity Test

Reliability can be equated with the stability, consistency, or dependability of a measuring tool. To test reliability, the Chronbach's coefficient alpha was calculated for the entire questionnaire. The most identical values of alpha indicate that the mean and variances in the original scales do not differ much, and thus standardization does not make a great difference in alpha.For scale acceptability, Hair et al. (1998) suggested that Cronbach's alpha coefficient of construct is 0.6. If each domain obtains the value 0.6, it means that, the items in each domain are understood by most of the respondents. For the entire questionnaire of this study Chronbach's Alpha value of STATA result showed 0.874, indicated that a good reliability of the entire questionnaire. If Chronbach's Alpha result is below than 0.6 the questionnaire showed is rejected. Thereby, it can be said that it is proved that the questionnaire is valid, reliable, and ready for distribution for the population sample.

<center>Chapter Four</center>

<center>## 4. Results and Discussions</center>

This chapter consists of the analysis of qualitative and quantitative data. Firstly, the qualitative data obtained from questionnaires regarding the qualitative part of deposit mobilization and PLS was presented. Secondly quantitative data obtained from the National Bank of Ethiopia, CBE and CSA was analyzed through multiple linear regressions and presented.

<center>## 4.1 Analysis of Qualtitative Data</center>

This chapter focuses on the analysis of the qualitative data gathered from the study on the topic 'Determinants of Deposit mobilization'. This chapter gives insight into the background of the sampled respondents; trend of PLS and effect of PLS on deposit mobilization. The researcher has used questionnaires to collect data regarding the qualitative aspect of deposit mobilization through PLS scheme. In total 255 questionnaires were distributed to both CBE employee and customers, out of these only 206 respondents were properly filled the questionnaires and returned back to the researcher. This means the overall response rate of the questionnaires were 81.17%.

<center>## 4.2 Respondents' personal information</center>

<center>### 4.2.1 Age distribution of respondents</center>

Figure 4.1 represents the age distribution of the respondents or customers who do business with the bank. The data gathered indicates that, 12% of the respondents were between the ages of 18-25 years, 45 % between the ages of 26-35 years, 38 % between the ages of 36-45 years and 5% of the respondents above 46 years. This is a good indication of the potential future growth of the bank as majority of their were in the youthful ages and they will be long term clients of the bank.

Figure 4.2.1 Age distribution of respondents
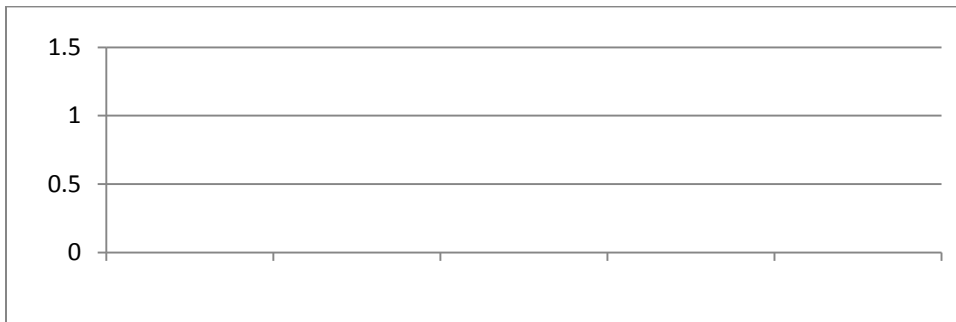
Source: Survey result, 2019

4.2.2 Gender of the respondent

Figure 4.2.2 indicates that 68% of respondents were male and 32% respondents were female.The result shows that the numbers of male respondents were greater than female respondents both from employees and customers' of CBE . This shows that females have a less inclination to banking and related issues. Here , CBE and concerned bodies should work the gap between male and female respondents, because female account almost half of the total population.

Figure 4.2.2 shows Gender of the respondent
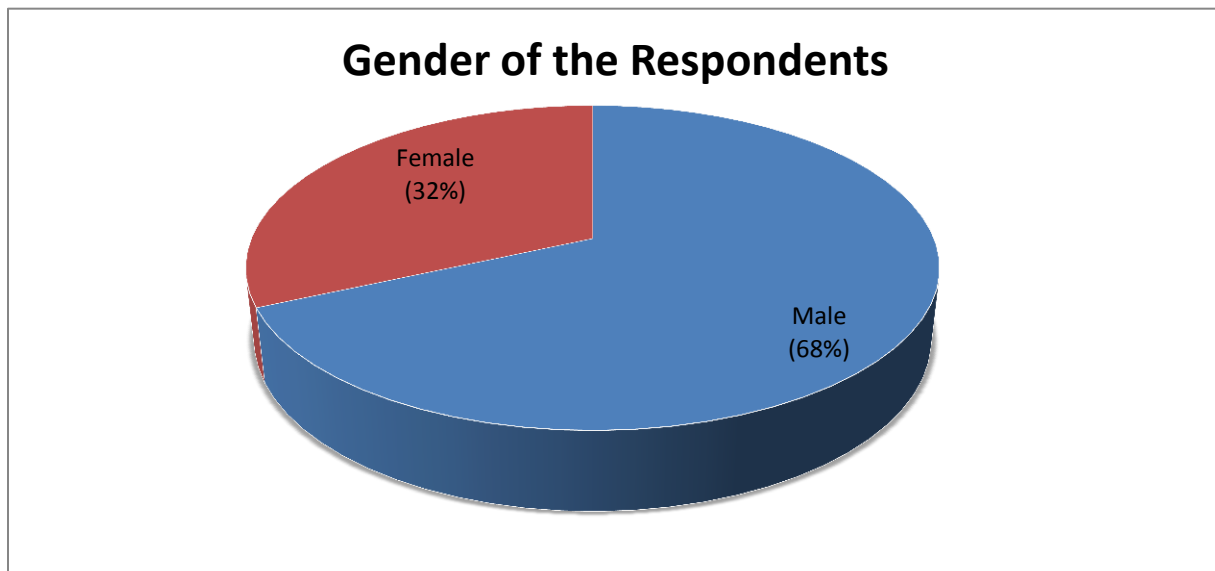
Source: Survey result, 2019

4.2.3 Educational background of the respondent:

An analysis of the educational status of the respondents was important given the technicalities of the issues under review. It also revealed the abilities of the customers to understand and appreciate the issues at hand. Figure 4.6.2 above shows that 23.30%of respondents educational background were college diploma and below, 50.48%of respondents educational background were first degree and the remaining 26.21%respondent's educational background were master's degree and above. The result showed that the majority of respondents are educated which means above 76% of respondents educational backgrounds are first degree and masters degree and above. The fact that majority of respondents are having degree would help respondents understand and fill the questionnaires correctly so that the findings would be viable.

Figure 4.2.3 shows the frequency and percent of educational background of the respondents.

Educational qualification of respondents
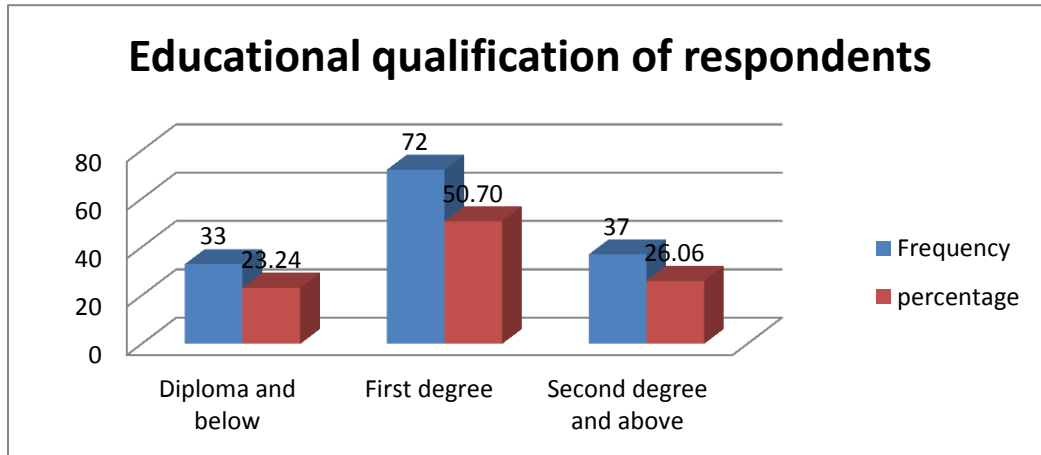
Source: Survey result, 2019

4.2.4 Duration for Doing Business with CBE

Figure 4.6.3 below shows that 67 (32.52%) of respondents were working in CBE as employee or use service of CBE as customer for less than 5 years, 106 (51.45%) of respondents were working in CBE as employee or use service of CBE as customer between 5-10 years and the remaining 33 (16.02%) of respondents were working in CBE as employee or use service of CBE as customer more than 10 years. The result shows that out of the total respondents above 67% of responds were working in CBE as employee or use CBE as customer for more than 5 years. This indicates that the respondents are well experienced about PLS program of the bank . Moreover sampled customers have beendoing business with the bank for more than 5 years.These were loyal customers who were dedicated to the course of the bank and hence, can be relied upon for a good review of the operations of the PLS program.

Figure 4.2.4 shows duration for doing business with CBE.

Exposure of Respondnts with CBE
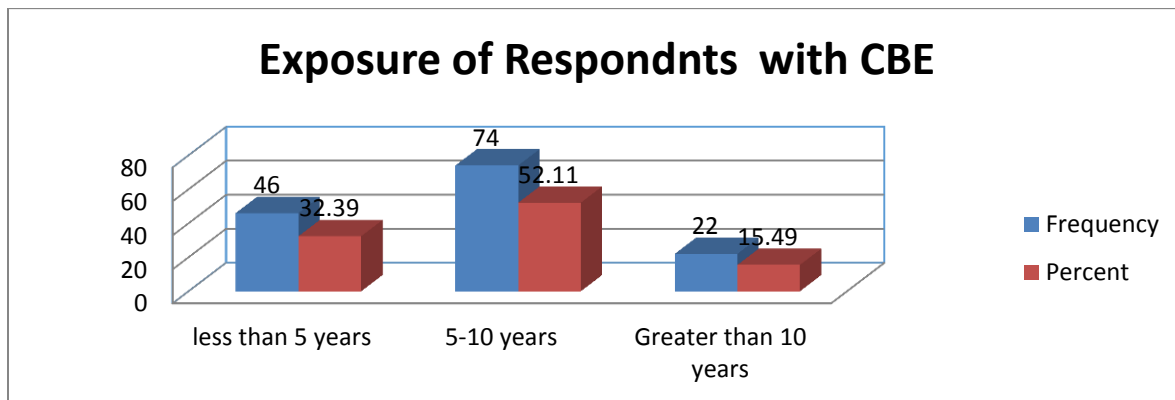
Source: Survey result, 2019

4.3 Prizes Linked Saving and Deposit Mobilization

The Commercial Bank of Ethiopia has developed a variety of deposit mobilization strategies to meet its stretched financial targets. As a means to achieve this, the bank launched the Prize Linked Saving (PLS) program in 2012 and had conducted six rounds of the program.The effects of PLS on deposit mobilization measured through comparing deposit growth performance during PLS periods than without it, whether attracting new customers and influence customer to save regularly and to save extra deposit in the bank.Additionally deposit determined through introducing a lottery savings among customers with lowest savings and income (Atalay, 2012).

4.3.1 Frequency of Savings during Prize Linked Saving

The frequency of savings has a direct impact on the deposit mobilization of the banks. Hence, the study sorts to ascertain the rate of savingsduring PLS amongst the sampled respondents. It is clear from the analysis as presented in figure 4.2.5 that, 18% do their savings with the bank occasionally, 10% save at the bank every day and 53% do their savings with the bank regularly.

 Around 56% of customers replied that the scheme influenced them to save regularly and to save extra deposit in the bank.

Figure 4.3.1 frequency of savings during **Prize Linked Saving**
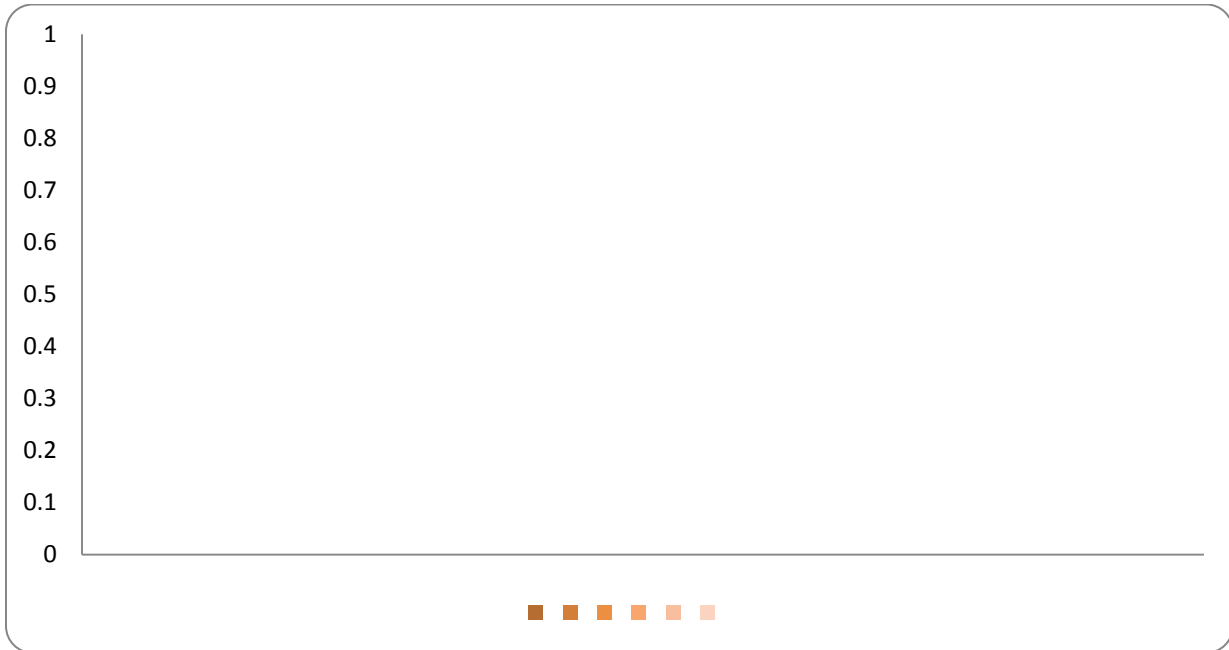
Source: Survey result, 2019

4.3.2 Frequency of Withdrawal during Prize Linked Saving

Also, the Frequency of withdrawals has a direct influence on deposit mobilization of banks and hence all the banks are always bringing out more innovative and enticing products to customers for minimizing cash withdrawal. Therefore, the study also sorts to identify the cash withdrawal rate of clients during PLS. It is evident from the figure below that, 18% do their withdrawals with the bank occasionally, 10 % do withdrawals at the bank regularly 2% daily and 7% never withdraw at all. Some 63% customers specified that PLS influenced them to minimize frequent withdrawal from their accounts. This implies that, PLS is appealing products and motivates customers to keep their money with CBE rather than withdrawing them to other competitors.

Figure **4.3.2. Frequency of Withdrawal during Prize Linked Saving**
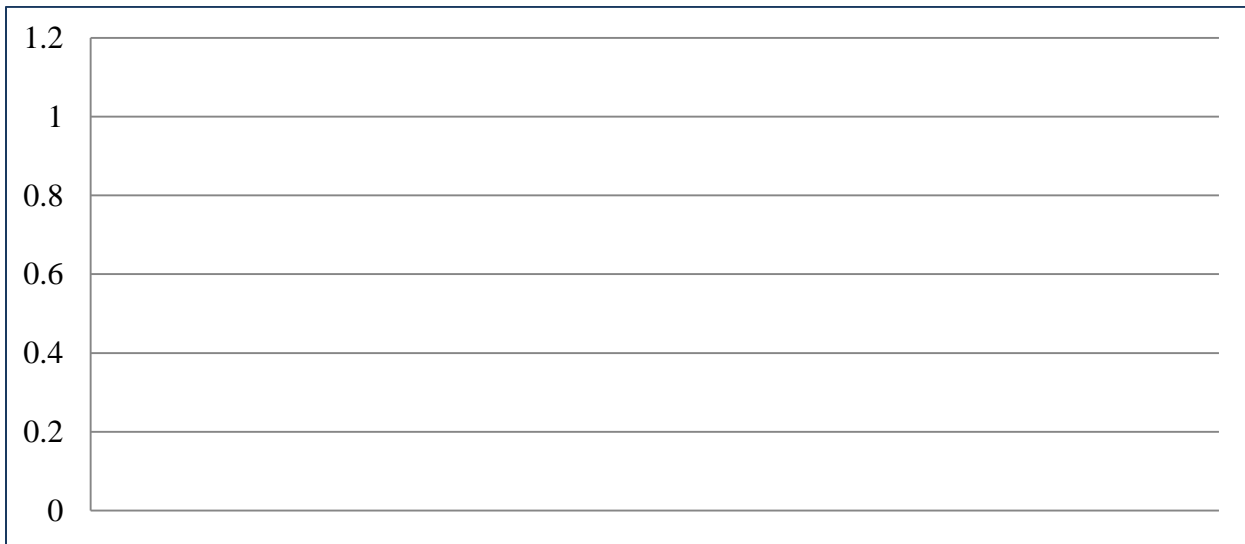
Source: Survey result, 2019

4.3.3 Effect of Prize Linked Saving on Deposit growth

This section highlights the effect of PLS on deposit mobilization. One of the major issues to deal with the PLS is related to its ability to attracting new customers ,to increase deposit , to minimize frequent withdrawal and to influence attitude towards saving.The effects of PLS on deposit mobilization measured through comparing deposit growth , attracting new customers and influence customer to save regularly and to save extra deposit in the bank (Atalay, 2012).

Table 4.3.3 : Effect of Prize Linked Saving Deposit Mobilization

Effect of PLS on Deposit Mobilization	Disagree	Not Sure	Agree
PLS is attracting new customers in CBE branches.	6%	25%	69%
PLS scheme influenced customers to save regularly and to save extra deposit in the bank.			
Prize-linked saving programs positively affect customers' attitude towards saving.			
During the PLS periods there was a significant monthly deposit increment			
PLS influenced customers to minimize frequent withdrawal from their accounts.			

Source: Survey result, 2019

From Table 4.3.3 , 69% of the sampled customers agree that PLS was attracting new customers as a major effect on deposit , 25% were not sure whilst 6% disagree to the assertion. This implies that, PLS is attracting new customers in CBE branches. This result is consistent with the findings in Guryan& Kearney (2008), who also find strong same-store effects for selling a winning lottery ticket and much smaller spillover effects to other nearby stores. The results show that prize linked savings, can indeed create a "buzz" that results in significant and permanent increases to savings held in the PLS product even by those who did not win a prize.

About 76% of respondents suggested that the Prize-linked saving programs positively affect customers' attitude towards saving. Atalay (2012) also found an increase in total deposit through introducing a lottery savings based on an online experiment. These results appear to be stronger among customers with lowest savings and income.

Around 58% of employees replied that the scheme influenced customer to save regularly and to save extra deposit in the bank. Atalay (2012) confirm that offering savings products with a lottery element may increase total savings overall from both existing and new savers. The fact that PLS accounts have a greater potential in stimulating even individuals in the low-income segment to save is important. Here, prize linked saving accounts promote positive saving culture that serves an additional benefit to the society.

About 72.89% employees agreed that PLS influence customers to minimize frequent withdrawal from their accounts. The introduction of the PLS program influenced savers to minimize frequent withdrawal from their accounts (Tufano, 2008).

4.3.4 Trend of Prize Linked Saving

This section highlights the trend and success level of PLS program.It is necessary for the institution to consider marketing strategy for savings mobilization in order to ensure the success of that scheme. Without ongoing, creative marketing support, prize-based account holders appear to lose interest in the product or be distracted by competing gaming offerings. While offering PLS program, CBE should publicize prize winners in a way that connects with their member community, announce drawings or create countdowns to generate natural reminders and provide promotional materials to all branches(Gardiol, 2004).

Table 4.3.4 Trend of PLS

	Disagree	Not Sure	Agree
Prize items included in the program are appealing for savers.			
Employees and customers are well aware of the PLS program and its guidelines.			
post-execution of the program like publicizing winners and conducting promotion using them is sufficient			
CBE is arranging reliable prize drawing mechanism.			
Coupon distribution via customers mobile is a suitable arrangement.			
CBE is doing sufficient promotion about the PLS program.			

Source: Survey result, 2019

In the above table 4.3.4about 60% of customers who have suggested that the prize items included in the program are attractive and improving through time. Large number of respondents that is 75.11%agreed with the statement both customers and employees are well aware of the PLS program and its guidelines. This shows that the bank is doing sufficient promotion about the PLS program. Only 32% of respondents agreed that post-execution of the program like publicizing

winners and conducting promotion using them is sufficient, suggesting that a larger number of the respondents do not agree on this. About 43% respondents suggested the bank is arrange reliable prize drawing mechanism .CBE should modify existing type of prizes and drawing. Some 62% of respondents agreed that coupon distribution via customers mobile is a suitable arrangement. This shows the bank is doing well in creating suitable platforms by distributing coupons electronically via customers mobile for successful execution of the program and working well towards timely distribution of coupons to eligible customers.

A small number of customers agreed that they became customers of CBE solely due to the existence of PLS. However, service excellence and branch proximity were also reasons by which customers were stimulated to join CBE. Customers' response also indicated that as their length of business relationship with the bank decreased, the share of customers attracted by the PLS scheme also decreased. The PLS program successfully attracted non-savers, assert poor and low to moderate income groups to open an account and also made positive impact on deposit mobilization process.

4.4 Analysis of Quantitative Data

4.4.1 Prize Linked Saving

CBE has developed a variety of deposit mobilization strategies. As a means to achieve this, the bank launched PLS program in 2012 and had conducted six rounds of the program. The program is linked to all kinds of private deposit accounts through which depositors have a chance to win prizes without losing the conventional benefits of the products.

PLS accounts are a potential solution to the deposit mobilization problem. The effective implementation of PLS programs encouraged many individuals to save more, and research has shown that they are especially attractive and beneficial for the financially vulnerable segment of the population. PLS accounts attract unbanked and under banked individuals into the banking system and increase overall saving in a given financial institution (Wages, 2018).

This paper made comparisons the below figures show private deposit performance comparisons from 2012-2018 and with the performances of 2006 and 2011 similar periods. Even though in Ethiopia there was untapped potential for deposit, figure 4.4.1 A shows private deposit growth rate was low from 2006 to 2011 when there were no PLS.

Figure 4.4.1.A shows private deposit growth before PLS program

deposit growth before PLS program

1.2

1

0.8

deposit 0.6 ——— yaer
——— deposit

0.4

0.2

0
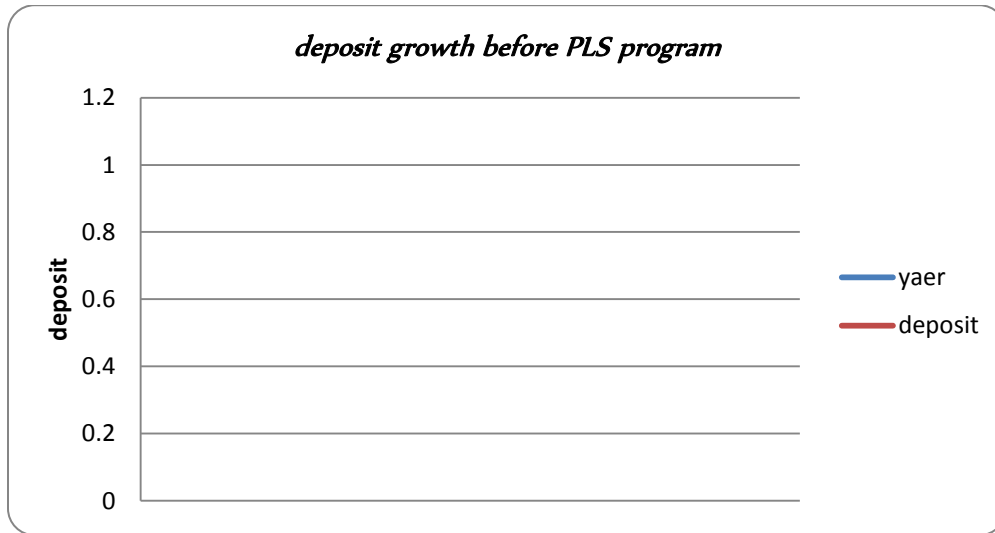
Source: CBE, 2019

Figure 4.4.1B shows private deposit growth before PLS programsince 2012 shows comparatively better deposit growth existed during PLS periods than without it. The incremental of deposits during PLS period show improved performance in deposit mobilization years since 2012. Here in total deposit of CBE show significant increment during the PLS periods. Kanz (2013) argues that provision of prizes on savings may enhance long term formal banking interaction and financial capability. Also, Cole (2011) found an increase PLS accounts a month after a winner is announced at winners' branches.

Figure 4.4.1B shows private deposit growth during PLS program

deposit growth durign PLS program

1.2

1

0.8

deposit 0.6 ——— deposit
——— year

0.4

0.2

0
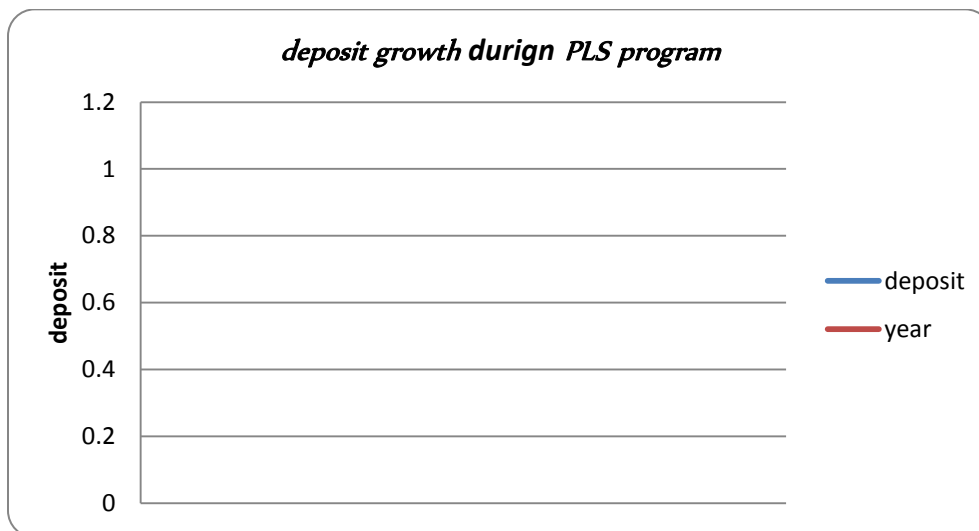
Source: CBE, 2019

4.4.2 Deposit Mobilization of Commercial Banks

Deposit of commercial banks is the dependent variable in this study. Since the study conducted by taking commercial banks of Ethiopia as evidence, total deposit was analyzed along with independent variables. Deposits are mobilized to meet the required liquidity for credit customers of banks. But, this depends on the availability of credit facilities which in turn depends on the level of funds loaned (Desinga, 1975).

Figure 4.4.2 shows Total Deposit of local banks in Ethiopia
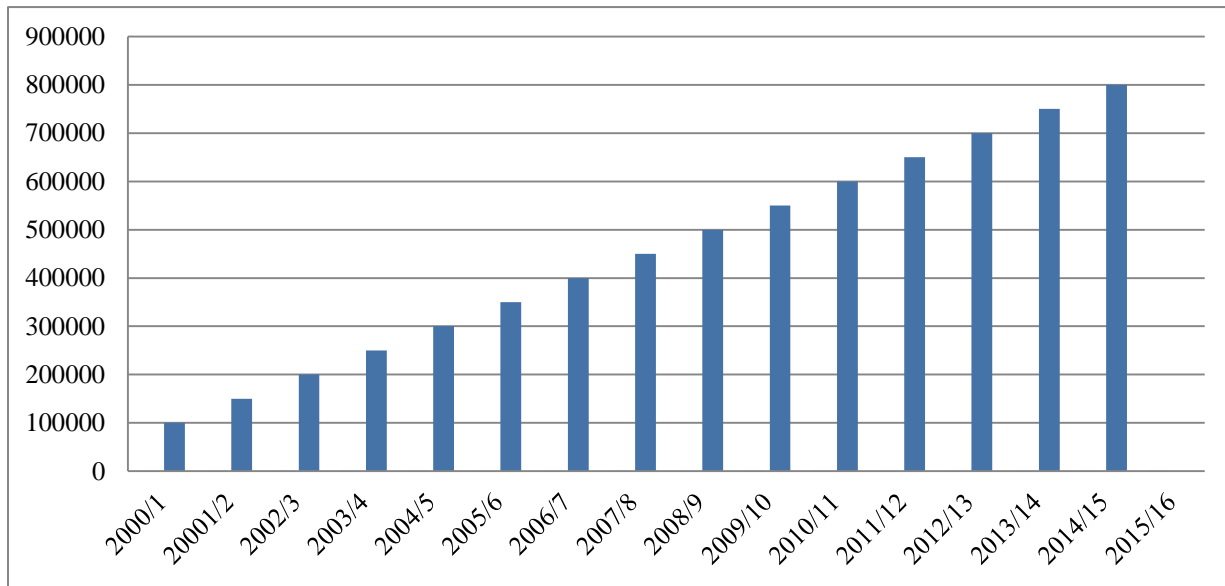
Source: NBE, 2019

Figure 4.4.2 shows that the total deposit balances of commercial banks are growing every year. The reason for the growing of deposit   is partially the result of newly introduced savings instruments and expansion in financial services through the aggressive opening of banking branch networks. Today more than ever before commercial banks have emphasized the mobilization of deposit as an integral part of financial intermediation and an important source of funds. So that it has aggressively expanded its presence in all directions of the country. In addition to, improving the outreach of its operation, this is important to reduce transaction costs for customers.   Close geographic proximity to the depositors is also an important step in establishing a permanent relationship to build confidence between potential depositors and banks. As banking is all about confidence this is a key factor for successful for mobilizing deposit.

4.4.3 Branch Expansion

Figure 4.4.3 show that the total number of branches opened by commercial banks is showing drastic increase since 2010. Before 2009, there was limited branch expansion while during the period of 2000 and 2009 only forty additional branches were opened throughout the country. Since 2009, commercial banks aggressively increased the number of its branches, mainly intended to mobilize deposit.

Figure 4.4.3 branch expansion
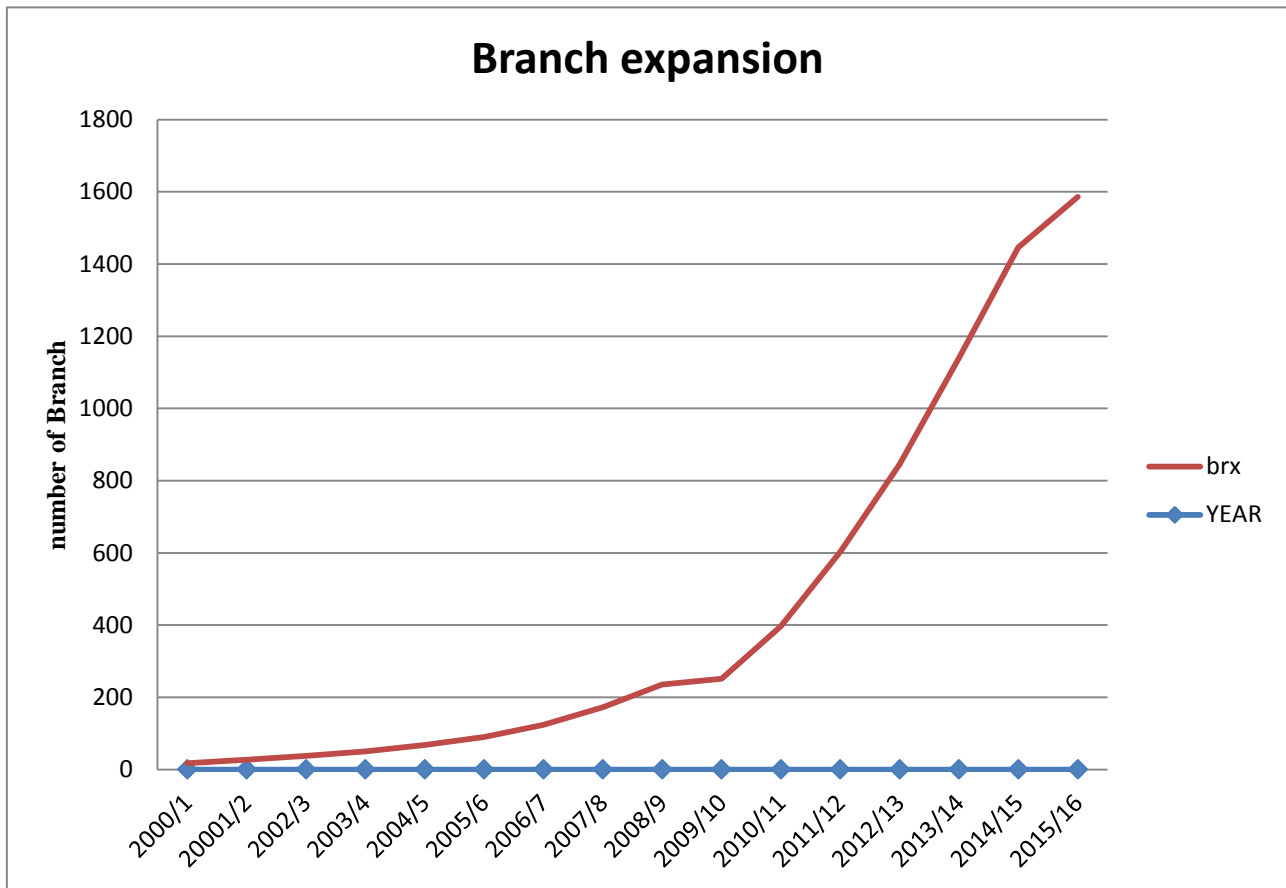
Source: NBE, 2019

4.4.4 Per Capita Income

If households and firms desire to hold more money, deposits will increase (Evan *et al*, 2006). 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's deposits. Therefore, as society's per

capita income increases the same will happen for commercial banks deposits. In Ethiopia, per capita income of the society has been increasing in the five years.

Figure 4.1.2 per Capita Income
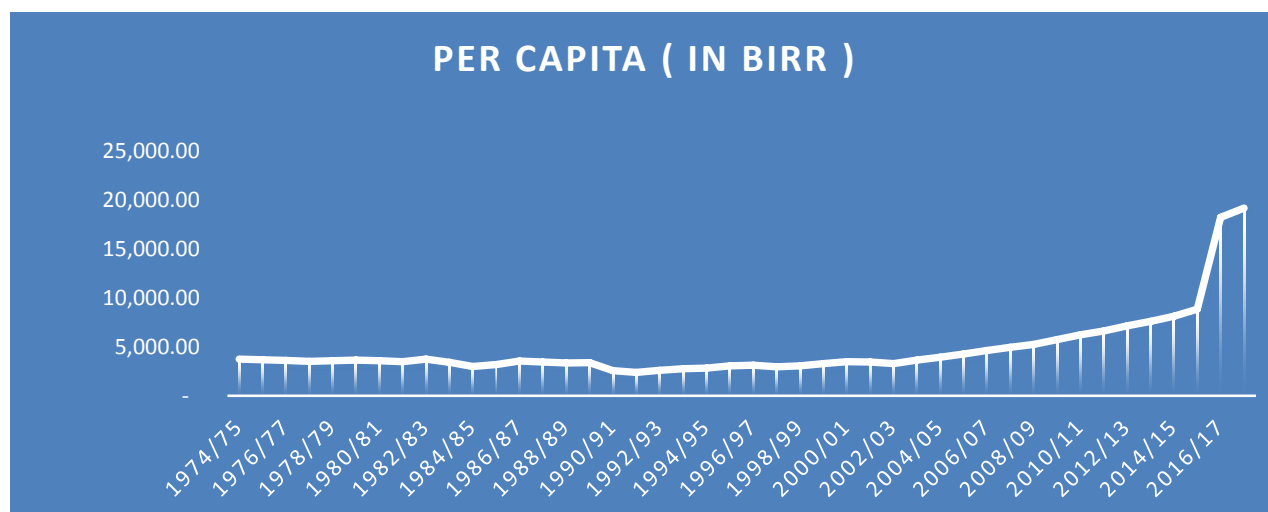
Source: NBE, 2019

4.5 Estimation Techniques

In studying the determinants of deposit mobilization of conventional banks, the study uses recent techniques in panel econometrics. The first step of the analysis, using the Augmented Dickey-Fuller (ADF) test, is to test for the presence of unit roots of the variables in the system.

4.5.1 Unit Root Tests

For pooled data analysis, the variables are expected to be stationary with a mean of zero and constant variance. In order to examine their stationary, the Augmented Dickey-Fuller test is used to test the null hypothesis of non-stationary or unit root. A rejection of the null hypothesis indicates that the series is not stationary at level and therefore requires differencing either in the first order or second order to achieve stationary. The logarithm values of the time series data were taking before Ordinary Least Square (OLS) techniques are used for estimating a model for bank deposits. The logarithm is used in the model in order to transform the nonlinear data into linear form. All variables in the system have to be stationary in the VAR model before estimation.

Therefore, it is necessary to test the stationary of each data series. Under the ADF test, the null hypothesis of a unit root, H0: b1 = 0 (unit root), is tested using the following specification.

The original level data and the first-differenced level data are both tested for unit roots. If the test statistics (t-ratio) is greater than the critical values given in Fuller (1976), the null hypothesis is rejected and the data is said to be stationary.

TABLE.4.5.1 Unit Root Tests

MODEL	VARIABLE ENTERED	VARIABLES REMOVED	METHOED
1	Inflation Interest Rate Per Capital Income Branch Expansion Exchange Rate		**enter**

All requested variables entered.

Dependent Variable: DEP

Source: STATA regression out put

Table 4.5.1 displays the variables entered or variables removed from the study at any point in time from the beginning till the end of the work. As it is indicated in variables entered column there are six independent variables entered for the study, those are annual exchange rate of Birr to USD, the number of branches of banks, the per capita income society, annual general inflation rate and deposit(interest) rate.

4.6 Correlation results

Correlation is a way to index the degree to which two or more variables are associated with or related to each other. The most widely used correlation statistics is the Pearson product movement coefficient, commonly called the Pearson correlation which was used in this study. Correlation coefficient between two variables ranges from +1 (i.e. perfect positive relationship) to -1 (i.e. perfect negative relationship). From the correlation table we see that the most significant factors for deposit volume is the branch expansion, the general inflation and per capita income. Deposit rate and the exchange rate of Birr to USD influences at a lesser

magnitude. All factors are found to have positive relations with the deposit volume except the deposit rate having a negative relation with deposit volume.

**Table 4.6 Correlations (*Source: STATA software output)*

		DEP	IFLR	BRX	EXR	PCI	IR
Pearson Correlation	**Depots**	**1.0000**					
	Inflation Rate	**0.8160**	**1.0000**				
	Branch Expansion	**0.9333**	**0.3471**	**1.0000**			
	Exchange Rate	**0.4896**	**0.1971**	**0.9411**	**1.0000**		
	Per Capita Income	**0.9590**	**0.2645**	**0.9569**	**0.9710**	**1.0000**	
	Interest Rate	**0.4258**	**0.2906**	**0.2253**	**0.4977**	**-0.4641**	**1.0000**

Source: STATA regression out put

4.7 Regression Analysis

The main variables in this analysis were dependent and independent variables their relationship between was regressed using STATA software. Dependent variable was bank deposit which was determined by independent variables. Independent variables were factors that mostly determine commercial banks deposits. But for the purpose simplicity the researcher includes only these six explanatory variables in this model and others are collectively contained in error term. These are inflation rate, number of branch opening, per capita income, prize linked saving, annual exchange rate of Birr to USD and deposit interest rate. The STATA software is used for the purpose to view the standard deviation, standard error, coefficients of the independent variable included variables that depicted the following Table 4.7: Regression analysis result.

The below table (Table 4.7) shows the results of regression analysis. The coefficient of determination of Adjusted 0.9259 means that 88.89 % of the variation in deposits is being explained by the independent variables in the model and there is a strong relationship between deposits and the independent variables. Moreover, the coefficient estimate of the constant of the

regression is- 3.35714 show that the value of dependent variable if all independent variable becomes zero. This indicates that the total deposit of commercial banks will be decrease by 3.35714. Given all independent variable zero and this indicate that the dependent variables in the model is highly depends on the independent variables.

Table 4.7 Regression analysis result

Dependent variable: LNBDEP(Total bank deposit)

Method :Least square

Date: 18/05/2019

Sample: 2000-2017

Variable	Coefficient	Std.error	t-statistic	Prob.
Cons	-3.35714	1.20756	1.24	0.3056
LNIFL	-0.11733	0.19934	-0.59	0.0469
LNIR	0.44971	3.35372	0.53	0.5094
LNPCI	0.68892	0.05382	2.93	0.0375
LNEXC	0.10417	0.16825	2.05	0.5134
LNBRX	0.4966118	0.92835	3.15	0.0260
R-Squared	0.9259			
Adjusted r-squared	0.8889			

Source: STATA software output

4.7.1 Inflation and Deposit Mobilization

The regression coefficient for inflation is -0.117336. This indicates that if Inflation decrease by 1% leads to increase in deposits by 11.73%. And also probability value of 0. 0469 is less than 0.05 critical values showed that the variable is significant. Inflation is defined as the persistent increase in the general prices of goods and services within an economy over a given period of time. Consistent with economic theory, as inflation soars households forego banking products. Bank's profitability is derived from gathering deposits at one set of interest rates. The finding is

a consistent with the following researches. Giragn (2015) shows inflation is the most significant factor of deposit mobilization activity. Ngula (2012) also shows that inflation rate significantly affects the mobilization of financial savings (deposit) in Ghana. Moreover, Athukorala (2004) found inflation has positive impact on bank deposits of India. In addition, with special emphasis on rural branches, Khalily (1987) found that, inflation influences deposit. Finally, Elias (2012) found that branch expansion had positive and significant effect on total deposit whereas deposit interest rate and inflation rate had positive and insignificant effect on total deposit.

4.7.2 Interest Rate and Deposit Mobilization

Deposit interest rate was found to have a positive relationship with bank deposit. The regression coefficient for inflation is 0.44971. This indicates that a 1% increase in interest rates leads to a 44.97 % increase in deposits. And also probability value of 0.5094 is greater than 0.05 critical value showed that this variable was insignificant in assessing the research problem. In developed countries, the rate of interest is an important determinant of bank deposit. However, in developing countries it may be different. This result is supported by the findings of Herald and Heiko (2009); they mentioned interest as one of the most determining factor for commercial banks deposits. Philip (1968), also states that the offering of attractive interest rate on bank deposits may be considered to have had a beneficial effect. Rose (2001), said that banks increase their deposits by offering higher deposit rate. Siyanbola et al. (2012) also showed that there is a positive relationship between the interest rate has a major influence on deposit mobilization.

4.6.3 Per Capita Income and Deposit Mobilization

Income is expected to have a positive effect on deposits (Baqui & Meyer, 1987). According to Jim (2008), the level of GDP divided by the population of a country or region is what is known as per capita income. The regression coefficient of 0.68892 means that 1% increase in per capita results in 68.89 %increase in CBE deposits. However, there is a positive relationship between deposits and PCI, then again the probability value of 0.0375 indicated that this variable is significant for the deposit Mobilization. The finding of Tizita (2014) and Hadush (2012) supports this result. In growing economy, both individuals and companies' corporate income will increase. This increase leads to increase per-capita income which will intern increase saving. Loayza and Shankar (2000) used co-integration approach in measuring the relationship between savings in India per capita income; they found that per capita income had a positive relationship

with savings. Therefore, as society's per capita income increases the same will happen for commercial banks deposits. Mahendra (2005) also indicates that income of the society matters for banks' deposit growth.

4.7.4 Exchange Rate and Deposit Mobilization

A regression coefficient 0.10417 indicates that 1% increase in exchange rate then deposit will be increase by 10.41 %.And also probability value of 0.5134 is greater than 0.05 critical value showed that this variable was insignificant relationship. Bishop (2006) quoted exchange rates as foreign currency per unit of domestic currency or domestic currency per unit of foreign currency Exchange rate allows denominating the cost or price of a good or service in a common currency. According to Nugel (2012) as currencies depreciated in one country deposit will be reduced since investors tend to withdraw deposit and exchanged to keep it by appreciating currency (Hard currency) or invest in another form of investment rather than bank deposit. Giragn (2015) shows that exchange rate of Birr to USD is the most significant factor of deposit mobilization activity.

4.7.5 Branch Expansion and Deposit Mobilization

Conveniently located bank branches can reduce transaction costs significantly and thereby increases the net return earned on deposits (Ali, 2002). Based on the model in Table 4.6 above, the relationship between branch opening or addition and bank deposit had a positive association in commercial banks deposit. The study ascertains that commercial banks aggressive branch opening that has positive relation with deposit mobilization with respect to widening customer base and increased financial inclusion through creating accessibilities to the unbanked rural and urban areas. This is therefore, the study exhibited us branch expansion have positively correlated and highly significant on commercial banks deposit. And also probability value of 0.0269 is less than 0.05 critical values showed that this variable was significant relationship. Similar study by Wubitu (2012) found out that bank branches influence deposit volume. Ukinamemen (2010) focused on Number of bank branches has a positive but weak relationship with bank deposit. Shemsu (2015) branch opening is significant and important strategy for deposit mobilization. Rana, Srinivasan and Meyer, Vasquez, and Wai (1986) found a positive and significant relationship between demand for deposits and expansion of bank branches.

5. Summary of Findings, Conclusion, Recommendation and Further Research Direction

This chapter is presents summary of major findings, conclusions and recommends for financial institutions to support polices concerning deposit mobilization and PLS program and direction for further research.

5.1 Summary of Findings

The study revealed that deposit mobilization is the main focus of many banks. However, finding deposit is becoming a challenging job for the banks in Ethiopia compatible with the growing need of loans. Owing to the growing need for finances from new and existing businesses of the country coupled the banks own desire to make profits from those finances, deposit mobilization is becoming the critical success factor for banks. The fast increasing in expanding number of branches confirm this fact.

The main factors for deposit mobilization are PLS , general inflation rate, the number of branches of banks, in per capita income, deposit (interest) rate, exchange rate to USD. The deposit volumes of commercial banks are found to be impacted by the schemes of PLS.

From the questionnaires a small number of employees agreed that customers come to banks solely due to the existence of PLS. This show there are also other reasons like the number of branches of banks (accessibility) and quality service by which customers stimulated to work with banks. Some 73% employees specified that PLS influenced customers to minimize frequent withdrawal from their accounts. About 76 % of employees believe prize-linked saving programs positively affect customers' attitude towards saving which in turn affects the level of deposits mobilized by the bank.

Most banks pay the minimum interest rate on saving accounts set aside by the regulatory body. The rates are not attractive to the public particularly for those who are saving aiming the interest income. The branch expansion, general inflation, and per capita income, are the most significant factors of deposit volume. Besides the other variables exchange rate of Birr to USD and deposit (interest) have insignificant power to influence the dependent variable. Inflation is also found to

have a significant influence on bank deposits. High inflation rates may cause low savings as people are forced to hoard cash in other currencies rather than deposit it in banks. In addition, during times of high inflation, people may prefer to invest their money elsewhere to saving it in a bank. A stable macroeconomic environment in which inflation is brought under control and maintained within targets is important in aiding the mobilization of financial savings.

5.2 Conclusions

- For successful execution of the program, the bank is doing well in creating awareness about the PLS program and its guidelines. The prize items included in the program are appealing and motivate customers to keep their money with CBE and to save extra deposit in the bank. Deposit mobilization during PLS program is successful because the program attracting new customers, minimize frequent withdrawal from their accounts and influenced them to save regularly.

- PLS influence customers to minimize frequent withdrawal from their accounts. As a result of this the account balance of customers shows increase during PLS program period and deposit growth was better than without PLS period.

- A small number of customers agreed that they became customers of CBE solely due to the existence of PLS. However, service excellence and branch proximity were found to reasons by which customers were stimulated to join CBE.

- It is found out that explanatory variables, inflation, deposit(interest) rate, per capita income, branches expansion and exchange rate of Birr to USD, are factors that would influenced the deposit volume at 92.59 %(R2) of the time. Hence, the factors are found to be influential with this study.

- This study has shown that the branch expansion, real per capita income and general inflation are the most significant factors of deposit volume. Besides, the other variables-exchange rates and deposit (interest) rate have insignificant power to influence the dependent variable.

- A significant relationship was observed in inflation and deposit, 1 percent increase in inflation will results in 11.73% percent decrease in deposit. This is the reality on the

ground; both private and government saving has been increasing year to year. The finding is not in agreement with Tizita (2014) who argued that households in developing countries such as Ethiopia whose income prospects with inflation and macroeconomic uncertainty are barely enough for subsistence.

5.3 Recommendations

Based on the research findings and conclusions above, the following are recommended for commercial banks to mobilize more deposits:

- Commercial banks should promote winners using live transmission television channels and broadcasting so that people can trust the PLS program and employees, are expected to make customers aware that withdrawal of money from their accounts will result in disqualification from participation in the program.

- Commercial banks need to deliver quality service for their customers. PLS only support what the branches do in terms of service quality and other sales activities. Banks are expected to be engaged in promoting the PLS program and provide promotional items to branches before the launch of the program, in addition to the advertisements disseminated over the mass media.

- Commercial banks should increase their network to all regions in Ethiopia in order to increase deposits and increase private investment in certain areas. Majority of Ethiopians' population remain unbanked and it is reliant on the various banks to increase their branch network system. This will also educate the unbanked on the essence of the banking system. Improve infrastructure and incentives for banks to open branches in both remote (central) area and reach the unbanked society. There should be also an investment in strengthening the operational capacity of the existing branches. The empirical evidence indicated that deposit would increase as the number of branch increases.

- The banks should also try to introduce new deposit product types that are appealing to the public to increase market share. There are areas that have to be looked at like online account opening and account maintenance to attract foreign depositors and in the process the legal requirements for account opening has to be comfortable

- The commercial banks should also provide competitive deposit interest rates on selected Stable deposits keeping sufficient margin of profitability. The issue of paying fair interest rates to selected demand deposit customers could also be considered.

- The government should continue to control inflation below its threshold or optimal level because banks ability to mobilize more deposit is reduced when there is an increase in inflation rate.

5.4 Direction for Further Research

This study has covered some of the factors that determine deposit mobilization activity of banks and some recommendations are made based on the findings and conclusions. Yet there are factors such as the level of education and the dependency ratio of the population identified by some literatures to have impact on saving mobilization. Thus a study has to be further strengthened on the significance of these factors on deposit mobilization of commercial banks.

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APPENDIX 1: Table for Determining Sample Size from a Given Population

N	*S*	*N*	*S*	*N*	*S*
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377

170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

Note   *N* - is population size.

S - is sample size.

Appendix 2: Questionnaires

St. Mary's University

School of Graduate Studies

MBA in Accounting and Finance

Questionnaire

Target Respondent: Staff and Customers

I am a university student at St's Marry University pursuing a Master's degree in accounting and finance. In partial fulfillment for the award, I am conducting a survey to identify determinates of deposit mobilization by commercial banks in Ethiopia. You have been selected to participate in this study as your contribution will important

I request you to spare a few minutes of your busy schedule to fill this questionnaires, your response is highly appreciated and will be treated with utmost confidentiality. Thank you for your cooperation.

Section I. Personal Information.

1. Gender

      a.   male ☐   female ☐

2. Age

      A.18-25 ☐   b.26-35 ☐   c.36-45 ☐

      d. 46-55 ☐   e. 56 and above ☐

3. Educational qualification

a. Diploma and below [   ]   b. First degree [   ]   c. Second degree and above [   ]

4. Which of the following do you belong?

    a. Staff [   ]   b. Customer [   ] c. None [   ]

5. IF you are a customer, how long have you been doing business with the bank

    a. Less than 1 year [   ]   b. 1-3 years [   ]   c. 4-6 years [   ]

    d. 7-8 years [   ]   f. 10 and above years [   ]

6. If you are a staff of CBE, how many years have you been with the bank?

    a. Less than 1 year [   ]   b. 1-3 years [   ] c. 4-6 years [   ]

    d. 7-8 years [   ]   e. 10 and above years [   ]

7. How frequent do you operate/put money in your account(s) during PLS?

    a. Daily [   ]   b. Regularly [   ]   c. Occasionally [   ]

    d. monthly [   ] . Never [   ]

8. How often do you withdraw from your bank account(s) during PLS?

    a. Daily [   ]   b. Regularly [   ]   c. Occasionally [   ]

    d. monthly [   ] . Never [   ]

Section II. Prize linked saving effect on Deposit Mobilization of CBE

9. Please tick in the appropriate box using a scale of 1-5, where, 1=strongly disagree, 2= disagree, 3= Not sure, 4= agree, and 5= strongly agree; indicate your level of agreement with regards to the Effects PLS on Deposited Mobilization of CBE.

	1	2	3	4	5
PLS is attracting new customers in CBE branches.					
PLS scheme influenced customers to save regularly and to save extra deposit in the bank.					
Prize-linked saving programs positively affect customers' attitude towards saving.					
During the PLS periods there was a significant monthly deposit increment					

PLS influenced customers to minimize frequent withdrawal from their accounts.					
Prize linked saving program affect bank deposit mobilization.					

10. Please tick in the appropriate box using a scale of 1-5, where 1=strongly disagree, 2= disagree, 3= Not sure, 4= agree, and 5= strongly agree; which factor stimulate you to join CBE?

	1	2	3	4	5
The existence of PLS					
Deposit and withdrawal money using mobile phone					
Service excellence					
Branch accessibility					
Reduce Queuing and waiting time					
Availability and functional modern ICT facilities like ATMs					

Section III. Performance of Prize Linked Saving

11. Please tick in the appropriate box using a scale of 1-5, 1=strongly disagree, 2= disagree, 3= Not sure, 4= agree, and 5= strongly agree. Do you agree with regards to performance PLS program?

	1	2	3	4	5
Prize items included in the program are appealing for savers.					
Employees and customers are well aware of the PLS program and its guidelines.					

post-execution of the program like publicizing winners and conducting promotion using them is sufficient				
CBE is arranging reliable prize drawing mechanism.				
Coupon distribution via customers mobile is a suitable arrangement.				
CBE is doing sufficient promotion about the PLS program.				

APENDEX -3

time variable: year, 2000 to 2017

delta: 1 year

year	I	R	C	D	E	B
		-				
2000	0.641854	2.81341	3.887782	23.52043	2.119611	2.833213
		-				
2001	0	2.65926	3.901914	23.64454	2.145054	3.295837
		-				
2002	0	3.50656	3.86244	23.72229	2.149539	3.637586
		-				
2003	2.879198	3.50656	3.786961	23.81299	2.15405	3.912023
		-				
2005	0.875469	3.50656	3.856303	23.96355	2.157767	4.219508
		-				
2006	2.370244	3.50656	3.908123	24.28269	2.161137	4.382027
		-				
2007	2.379546	3.50656	3.965659	24.44102	2.174104	4.736198
2008	2.714695	-	4.069287	24.62949	2.223986	5.087596

	3.50656					
2009	-4.010963	3.21888	4.114551	24.801	2.343775	5.4161
2010	-0.993252	3.21888	4.159047	24.99311	2.556522	5.484797
2011	-1.987874	3.21888	4.208166	25.20978	2.779924	5.958425
2012	-3.637586	2.99573	4.366385	26.74656	2.848021	6.385194
2014	-3.034953	2.99573	4.399394	27.41511	2.90113	6.727432
2015	-2.00148	2.99573	4.45114	28.09453	2.948368	7.029973
2016	-2.140066	2.99573	4.490292	28.77961	3.000501	7.269617
2017	-2.341806	2.99573	4.535017	29.46717	3.042854	7.362645

Unit root test

dfullerifl, lags(2)

Augmented Dickey-Fuller test for unit root   Number of obs= 17

---------- Interpolated Dickey-Fuller ---------

Test   1% Critical   5% Critical   10% Critical

	Statistic	Value	ValueValue	

Z(t)	-3.236	-3.750	-3.000	-2.630

MacKinnon approximate p-value for Z(t) = 0.0180

. dfullerir, lags(5)

Augmented Dickey-Fuller test for unit root   Number of obs = 17

---------- Interpolated Dickey-Fuller ---------

	Test	1% Critical	5% Critical	10% Critical
	Statistic	Value	ValueValue	

Z(t)	-10.007	-3.750	-3.000	-2.630

. dfuller pc, lags(6)

Augmented Dickey-Fuller test for unit root   Number of obs= 17

---------- Interpolated Dickey-Fuller ---------

	Test	1% Critical	5% Critical	10% Critical
	Statistic	Value	ValueValue	

 Z(t)   -3.434   -3.750   -3.000   -2.630

MacKinnon approximate p-value for Z(t) = 0.0099MacKinnon approximate p-value for Z(t) = 0.0000

. dfuller BRX, lags(0)

Dickey-Fuller test for unit root   Number of obs =   17

---------- Interpolated Dickey-Fuller ---------

          Test   1% Critical   5% Critical   10% Critical

          Statistic   Value   ValueValue

 Z(t)   4.139   -3.750   -3.000   -2.630

MacKinnon approximate p-value for Z(t) = 1.0000

Correlation result

. cor dep iflrbrxexppciir

(obs=17)

```
              |     D      R      B      E      C      I

------------+-----------------------------------------------------

      dep |   1.0000

inr |   0.8160   1.0000

brx |   0.9333   0.3471   1.0000

exr |   0.4896   0.1974   0.9411   1.0000

pci |   0.9590   0.2645   0.9569   0.9710   1.0000

dir|  0.4258   0.2906  -0.2253  -0.4977  -0.4641   1.0000
```

reg DEP IFL IR PCI EXC BRX

```
    Source |    SS      df      MS             Number of obs =     17

------------+------------------------------        F( 5,    10) =   25.00

    Model |   54.03038    5   10.806076         Prob> F   = 0.0000

  Residual |   4.32211418   10  .432211418        R-squared   = 0.9259

------------+------------------------------        Adj R-squared = 0.8889

   Total |   58.3524942   15   3.89016628        Root MSE   = .65743



-----------------------------------------------------------------------------
```

D	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
I	-.11733	.1993104	-0.59	0.0469	-.5614282	.3267543
R	.44971	30.53726	0.53	0.5094	-64.29155	71.79097
C	.688927	5.05382	2.93	0.0375	-6.571687	15.94954
E	.104178	2.168258	2.05	0.5134	-4.727002	4.935359
B	.496618	.9283549	3.15	0.0260	-1.571885	2.565122
_cons	-3.357145	1.20756	1.24	0.3056	-30.52737	37.24166

. tsset year, yearly

   time variable: year, 2000 to 2017

        delta: 1 year