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DETERMINANTS OF DEPOSIT MOBILIZATION IN PRIVATE COMMERCIAL BANKS OF ETHIOPIA

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ID. NUMBER: SGS/0047/2005B

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LIST OF ACRONYMS

ATM	Automated Teller Machine
ANOVA	Analysis of Variance
β	Beta
CBE	Commercial Bank of Ethiopia
CSA	Central Statistics Authority
DBE	Development Bank of Ethiopia
DIR	Deposit interest Rate
εi	Error terms
E-Views	Econometric views
ER	Exchange Rate
GDP	Gross Domestic Product
GTP	Growth and Transformation Plan
IR	Inflation Rate
LATDR	Loan to Deposit Ratio
LB	Liquidity of The bank
NBE	National Bank of Ethiopia
NOB	Number of Branches
OLS	Ordinary List square
PCBE	Private Commercial Bank of Ethiopia
RGDP	Real Gross Domestic Product
SAP	Structural Adjustment Program
SPSS	Statistical Package for Social Science
TD	Total Deposit

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ABSTRACT

The study had looked at the potential of the country regarding deposit mobilization by taking seven private commercial banks as evidence. The study had used both primary and secondary data. Primary data analysis was used to the request of Bank employees in order to assess the perception towards the determinants of private commercial banks on deposit mobilization. The empirical results from regression analysis showed that bank branches, Deposit rate, inflation, and liquidity affects deposit of the bank positively whereas, exchange rate and gross domestic products affects the deposit of the private banks negatively. Different diagnostic tests were tested to know whether the model is valid or not, having the model is valid the regression analysis and hypothesis testing is performed using E-Views and SPSS software. Because of the hypothesis, testing it was found that the four variables (EP, GDP, Liquidity and BS) could affect total deposit significantly while the remaining two/DIR and INF are affecting insignificantly. On the other hand, the feedback of respondents depicted that management efficiency, government policy, convenience of bank office, technology, bank size and awareness of savings by society affected deposit level of the banks. Thus, management bodies of private commercial banks should strive to strengthen the identified significant factors and government bodies should see the adverse effect of tight polices imposed on the existing private commercial banks as well as for the new entrant banks. Finally, the study had recommended private commercial banks should expand their branch's to the country side rather than concentrated on the capital and regional cities of the country and The government should have free and fair policies among the state and private owned banks to have liberalized economy to achieve welfare of the societies.

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Chapter One

Introduction

1.1. Background of the study

Banks play an intermediary role of mobilizing funds from savers and subsequently lend them to investors- individual/corporations as mostly the case in developing and developed countries (Tuyishime, et al, 2015).

According to Mohammad and Mahdi (2010), financial resources of banking system are naturally provided from people's deposit. Therefore, we can say that deposits are the most important resource of commercial banks. Thus the amount of deposit a commercial bank should have at hand should be enough to make the bank involve in the market and to satisfy the financial needs of its customers. Given this general facts the bank is expected to manage its deposit.

According to (Banson, et al, 2012), Mobilization of deposit for a bank is as essential as oxygen for human being". Deposit mobilization is the collection of cash or funds by a financial institution from the public through its current, savings, fixed, recurring accounts and other banks specialized schemes.

(Tareq, 2015), stated that _ People mostly mobilize resources to develop their enterprises and well-being slowly over time. Financial services enable them to leverage their initiatives, to accelerate the process of building incomes as well as to provide asset and economic security. For the economy, institutionalized savings increase the amount of national resources and decrease foreign indebtedness needed for domestic investment and consumption demand. Countries with low internal savings rates borrow from abroad and create a debt service burden. This underlines the importance of savings mobilization to sustain economic growth with national financial resources. According to (Zeidy, 1996) the low level of domestic saving is a typical feature of low-income economies such as Ethiopia.

Nowadays, competition among commercial banks in Ethiopia in terms of deposit mobilization is becoming stiff. Bank's mobilize deposits from individuals, household's, traders and organizations that save surplus fund at the time of conducting trading activities among their respective customers or wage or salaries gained from their rendering services. Banks have used these mobilized saving deposits for the financing of credit, payment for the purchase of bill from Development Bank of Ethiopia and the transactions of different import purposes.

All private and government banks in Ethiopia have already identified deposit mobilization as one of the critical issues in its corporate strategic documents and drawn up detailed strategies to achieve the corporate goals and annual targets. To achieve its deposit mobilization target and overcome the tight competitive environments banks can take different measures in order to mobilize deposit. Private Banks have established deposit mobilization committee at its head office level and down the ladder, instituted validation center, use different interest rate payment rate to those deposit amounts by banks, use of different art technology in order to improve the service quality of their business and the like.

In theoretical point of view, several factors are to be determinants of deposits. , Desinga, 1975 had divide factors affecting commercial banks deposit into two namely internal and external factors. Internal factors is bank specific factors such as liquidity of the bank, profitability of the bank, security of the bank; number of commercial bank's branches, bank size, reserves and transaction cost. external 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 (N. Desinga, 1975).

Historical background of Private Commercial Banks in Ethiopia

According to Alemayehu Geda, 2008, research paper under the title "The structure and performance of the financial sector on pre and post reform periods "stated that, the current Private commercial banks structure is a two-decade life in the Ethiopian financial system. Before the Dergue, in the imperial era, private commercial banks used to operate in the economy. Nevertheless, after Dergue came to power, private commercial banks were nationalized and

amalgamated with the state owned banks, then after that Ethiopian economy was dominated by state owned banks. Moreover, in the time of Dergue they were not allowed and not only banks but also there were no other private sector. After the downfall of the Dergue private commercial banks were allowed to operate, they started to have market share, and now they have some growing market share in the Ethiopian economy and are some of the major players in the economy. The number of private commercial banks would also grow from time to time. but there was an entry constraint set by National Bank of Ethiopia (NBE), minimum paid up capital requirement was initially set 75 million and gradually raised to 500 million and within the next 5 years they should raise to 2 billion, which is practically impossible not only for new entrants but also for those who joined lately. No new private commercial bank has entered to the market since 2013. Following the Proclamation of Licensing and Supervision of Banking Business Proclamation No. 84/1994, Awash International Bank S.C was registered as the first private commercial bank in modern Ethiopia banking business. So far, 16 private commercial banks are operating in the country. Annex The following table contains list of private commercial banks and their year of establishment.

Table 1: List of private commercial banks

S.No.	Name of the Bank	Year Established
1	Awash International Bank S.C	1994
2	Dashen Bank S.C	1996
3	Bank of Abyssinia S.C	1996
4	Wegagen Bank S.C	1997
5	United Bank S.C	1998
6	NIB International Bank S.C	1999
7	Cooperative Bank of Oromia	2005
8	Lion International Bank S.C	2006
9	Oromia International Bank S.C	2008
10	Zemen Bank S.C.	2009
11	Buna International Bank S.C	2009
12	Berhan International Bank S.C	2010
13	Abay Bank S.C	2010
14	Addis International Bank S.C	2011
15	Debub Global Bank S.C	2012
16	Enat Bank S.C	2013

Source: National Bank of Ethiopia

1.2. Statement of the problem

To the vision of country's development plan to become a middle income level country, it is vital for the banking industry to develop a safe, efficient and reliable infrastructure that enhance the effectiveness of monetary policy and broad access of financial service to the public .The financial sector is an indispensable financial service sector supporting development plans through intermediating flow of funds from those who have surplus capital to deficit units and supporting financial and economic government policies. Through loans and investments, banks promote economic development, job creation, and easy transfer of fund between individuals or businesses and pay remarkable amount of money to the government in the form of tax are, in effect, a community economic engine (Hoening, 2010).

According to Benson (For the economy, institutionalized savings increase the amount of national resources and decrease foreign indebtedness needed for domestic investment and consumption demand. Countries with low internal savings rates borrow from abroad and create a debt service burden. This underlines the importance of savings mobilization to sustain economic growth with national financial resources. According to (Zeidy, 1996) the low level of domestic saving is a typical feature of low-income economies such as Ethiopia.

Starting from the year 2009 the government of Ethiopia has forced to take further steps to strengthen the financial sector in order to achieve the five years Growth and Transformation Plan (GTP). However, some of the measures that had been taken by the government were likely to weaken financial intermediation and make the playing field between private and public banks more uneven as the public banks have a competitive advantage over private banks economic outlook by Deloitte 2016. For instance, the financial sector is dominated by state-owned banks (Commercial Bank of Ethiopia) which engaged in aggressively branch expansion to Control the main market share of the banking industry. Households partial saving for low cost house of condominium project are allowed to be deposited only in CBE at low interest rate and CBE and DBE are gaining competitive advantageous as they set free from purchasing of bonds through

Directive No.MFA / NBE BILLS /001 /2011 while private banks ordered to purchase 27% bill bond against any loan granted to customers effective 4th April, 2011 with 3% interest rate that will be maintained for five years which decreased the deposit of private banks by 49.9 billion birr in the last five years (2015/16 Annual Report of NBE), any export item to China market is channeled through Commercial bank of Ethiopia only and the merger of Construction and Business bank and commercial Bank will certainly exert pressure on private commercial banks. These indicates that discriminatory policies likely to decrease the deposit mobilization of private Banks and made the Banks unable to fulfill the credit demand of their clients Under Global center on cooperative security, 2014 policy brief paper. So the restrictions may lead these banks to involve in unfair competition in the market to attract potential depositors. NBE report indicated that banks deposit is low enough as traditional way of hoarding money is also common in Ethiopia, and limited banks to mobilize less amount of deposit. As per the country's second growth and transformation plan document (2008-2012 E.C) the financial sector will reach 28.34 percent of funds raised for investments from internal source from the current 21.8 percent. On March, 2016 the National Bank of Ethiopia wrote a letter under reference number NBE/1728/2016 to each commercial banks of Ethiopia to revised their five-year strategic plan align with the second growth and transformation plan of the country. Due to this, the regulatory body i.e. NBE has ordered each commercial bank to increase the total deposit by 30% each year for the next five years (i.e., in the second GTP). In order to meet this requirement and will win the market share, private banks are focused on identify the determinant factors of deposit mobilization and its effect on the overall performance of the bank.

This research is limited in number and scope further study is required. So this study is helpful in filling this research gap by identifying the factors that affect the deposit mobilization of Private commercial banks of Ethiopia in order to manage and control through different strategies in the future.

1.3. Research questions

- Does Exchange rate of dollar to birr, deposit interest rate, inflation rate, and liquidity of the bank, Gross domestic product and number of bank branches determine deposit mobilization of private Commercial Banks in Ethiopia?

 Does the NBE rules and regulations, the art of technology, distribution of bank office and employee's knowledge about the deposit mobilization affect the deposit mobilization of private commercial banks?

1.4. Objectives of the Study

General objective

The general objective of the study is to identify factors that affect deposit mobilization of private commercial banks in Ethiopia.

Specific objectives are-

 To observe the effects of deposit rate on private commercial banks deposit mobilization.

 To observe the effects of inflation rate on private commercial banks deposit mobilization.

 To see the effects of branch expansion on private commercial banks deposit mobilization.

 To observe the r/ship of liquidity with deposit mobilization in private commercial banks.

 To see the effects of exchange rate on deposit mobilization of private commercial banks.

 To observe effects of real GDP on deposit mobilization of private commercial banks.

 To examine the effects of qualitative variables such as government policy issued, convenience of bank's Office, management efficiency, employees knowledge about the product and using of advanced technology.

1.5. Scope of the Study

All financial institutions except Development bank of Ethiopia and insurance companies perform deposit mobilization in Ethiopia. These include commercial banks, and micro finance institutions. However, this study is limited to private commercial banks, which is regularly mobilizing deposits and maximize profits on interest on loans (as per Banking Business Proclamation number 592/2008 in Ethiopia). Private commercial banks which cover under the study are Awash International Bank s.co, Dashen Bank s.co, Abyssinia Bank s.co, Wegagen bank s.co, united bank s.co, Nib international bank s.co, and Cooperative bank of Oromia s.co, The scope covers these banks ten years data because they have the largest share of the deposits mobilized in the private bank sector (i.e,68.3 percent of the total private commercial banks deposit amount of birr 221.69 billion birr) in the country and the availability of ten years consistent data in their archive.

1.6. Significance of the study

The study would conduct on the title of Factors that Determine Private Commercial Banks deposit mobilization. Accordingly, the following two are the significances that are focused by the study.

- This study will help private commercial banks to manage their deposit by letting them and change their habitual deposit mobilization system strategically. That is which factor is more significant and which one is not significant for the growth of deposit in the working environment.

_ the study have a great contribution to the body of knowledge by identifying the potential relationship between bank deposit and factors determining it

Finally this study gives good insight to the researcher about this specific topic and general knowledge about any research

1.7. Limitations of the study

This research work should cover some selected private commercial banks in Ethiopia to collect facts however the inadequacy of previous work in such topic, unavailability of consistent data in their archive and confidentiality of information due to stiff competition in the market banks may not disclose detail information as we want for example market strategy of banks not properly answered by the respondent but this was indirectly collected by other type of questions. This can limit the verifiability of the major factors that determine deposit, especially on the qualitative factors.

1.8. Organization of the paper

This paper consists of five chapters with different sections and sub sections, and it was structured as follows. Chapter one presents the introduction for the main part of the paper. Chapter two reviews the most significant analytical and empirical studies. Chapter three focuses to present the methodology of the study. Chapter four also provides the analysis of the results and discussion. Chapter five, as usual, gives conclusion and recommendation and further research direction.

CHAPTER TWO

LITERATURE REVIEW

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

2.1 Theoretical Literature

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 Africa, particularly the banking industry carries the greater share of the financial system (Sheku, 2005). Most of the businesses rely on banking sector as a source of financing (Medhat, 2004). 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 (Katherine, 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.

Commercial banks are institutions that engage in two distinct types of activities, one on each side of the balance sheet deposit taking and lending (Anil et al, 2002). So that banks are playing mainly intermediation function, (Russell and Bamindele, 2009) support this. Mahindra (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 (Eduardo et al). Therefore, banks are important of all other financial institutions. Banks influence macroeconomic environment, as to Adam (2005), bank failures involve significant macroeconomic costs. Adam (2005) has developed evidence that bank failures have significant and apparently permanent effects on real economic activity. Therefore, banks are also important influencers in macroeconomic environment.

Banks mobilize, allocate and invest much of society's savings (Berger et al, 2004).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 public in any society. In most cases, commercial banks hold more assets than any other financial institutions. Apart from their many functions, commercial banks facilitate growth and development. Banks lend in many areas or sectors of the economy.

Bank deposits represent the most significant components of the money supply used by the public, and changes in money growth are highly correlated with changes in the prices of goods and services in the economy (Kelvin, 2001). Commercial banks are critical to the development process. By granting loans in areas such as agriculture, manufacturing, services, construction and energy sectors, banks contribute to the development of the country.

2.1.1. Commercial Bank Deposits

Commercial Bank deposits are major liabilities for commercial banks. Kelvin (2001) said that deposits of commercial banks account for about 75% of commercial bank liabilities). Due to the fact that commercial banks are using this liability to lend it and gain return on it their deposits are using them do their business. Therefore, banks will be better if they are mobilizing more deposits. However, as N. Desinga (1975) indicates deposit mobilization is a very difficult task. The cost of intermediation for mobilizing deposits is also very important part of overall intermediation cost of the banking system as E. A. Shaw (1995) indicates. Despite all these deposits play an important role in the banking system, whether cooperative or commercial? Deposits provide limits to the working capital of the bank concerned. The higher the deposits, the higher will be the funds at the disposal of a bank to lend and earn profits (N. Desinga, 1975). Therefore, to maximize its profit the bank should increase its deposit. Mahendra (2005) had also mentioned deposits as a foundations up on which banks thrive and grow and unique items on a bank's balance sheet that distinguish them from other type of business organizations.

Commercial banking is a service industry with a high degree of built in profit potential (Meenakshi, 1975). The number one expense item for a bank is interest paid. Commercial banks mainly depend on the funds deposited with them by the public to lend it out to others in order to earn interest income (Davinaga, 2010). Hamid (2011) said that if banks lose their deposit base they rely on non deposit based funding which is expensive.

Deposits are of three kinds (Davinaga, 2010), namely:

1. Current or demand deposits
2. Fixed or Time deposits / Term deposits.
3. Savings deposits

Hence, the competition for deposits is really a competition for profits. Commercial banks compete for deposits in order to become profitable and thus to be able to supply more funds to the public. However, such financial growth is profitable only if the commercial bank does not incur additional expenses to obtain and retain cash (Davinaga, 2010).

Commercial banks earn a return on their deposits and capital by investing deposit funds and capital funds in assets (Richard E, 1971). That is for commercial banks to attain profit deposits are one of the most important sources of capital. Moreover, according to Richard (1971) capital structure in commercial banks are raised from shareholders' funds, borrowing and deposits. Therefore, deposits are one of the sources of capital for commercial banks.

2.1.2. The Importance of Deposits for Banks

1. Deposits as a source of fund for loan

Herald (2009) states deposits are the main source of banks to provide loan. This deposit is mainly provided by people as 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.

2. Attracting deposit is cheaper than raising equity

Banks like any other business organizations funds are obtained 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 businessperson, it is clearly performing a function for which it is entitled to a return in the form of interest payments (Harold, 1946).

3. Banks make profit using their deposits

Mahindra (2005) said that deposits provide most of the raw materials for bank loans and thus represent the ultimate source of the bank's profits and growth. Banks make profit by using their deposits, therefore it is said that depositors can disciple banks.

Maria and 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 is 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.

4. 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 and profitably (Herald and Heiko, 2009). Individual investors and government are mainly depending on the deposits of banks to fund their investments and/or development projects.

Generally, the banking system can be viable only if it can mobilize deposits at the required rate. In addition, 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.

2.1.3. The Factors Affecting Commercial Banks Deposits

An important indicator of the success and efficiency of any credit agency, which is also a banking institution is, the extent to which it is able 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 exogenous as well as endogenous, to the banking system (N. Desinga, 1975). Exogenous factors are the general economic environment of the region, the volume of business transaction of the region, the confidence of the people on the banking system, the banking habit of the people and the saving potential of the region. Even when exogenous factors are more conducive

for deposit mobilization, banks may fail because of unfavorable endogenous factors such as location, type of building and window dressing (furniture, cheque books, vouchers, pay slips etc), which assure the customers about the physical fitness of a bank (N. Desinga, 1975).

A. External Factors

The country's economic, social and political factors can affect the commercial banks performance. According to Herald and Heiko (2009), 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 to 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. The researcher has identified ten country specific factors that have effect on the commercial banks deposits from the literature. They are saving interest rate or 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) and banking

1. **Saving interest rate (Deposit rate)**

One of the most effective factors for deciding to deposit in banking system is the interest rate (Mohammad and Mahdi, 2010). Moreover, this article shows the impact of interest rate on the performance of the banking system to achieve the goals that are expected from the banking system. Herald and Heiko (2009), also mentioned interest as one of the 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. Moreover, Mustafa and Sayera (2009) said that low deposit rates are discouraging saving mobilization. Bhatt (1970), said that the banking system is unlikely to be 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.

2. Inflation

As to Herald and Heiko (2009), inflation is one of the factors that determine commercial banks deposits. Fischer showed that in Latin America the effect of inflation on savings and time deposit to GDP was significantly negative (Mohammad and Mahdi, 2010).

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).

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 and Mahdi, 2010). In that case as Mohammad and 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. High inflation rates reduce the real value of deposits (M. A. Baqui et al, 1987). According to M. A. Baqui et al (1987), inflation technically did not decrease deposit; however, it decreases the value of deposits.

3. Real Interest Rate

Real interest rate is nominal interest rate minus inflation rate. Mohammad and Mahdi (2010) said that in negative real interest rate condition, people withdraw their resources from banking system. According to Mohammad and Mahdi (2010), some research supposed that decrease in real interest rate could decrease the demands for money (in its extensive definition including savings and time deposits). Therefore, it states that the interest rate and deposit of the banks have positive relationship.

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) stated that, the number of deposit accounts are 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. Therefore, 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. Per capita income of the society

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, 2006). Income is expected to have a positive effect on deposits (M. A. Baqui et al, 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. Eshetu & Mammo(2009), Ethiopia is one of the poorest countries in the world with an estimated per capita income of just $203(IMF 2007 cited by the Financial Standards Foundation).

6. Economic growth

Economic performance is generally being measured through GDP (Gross Domestic Product), a variable that has also become the de facto universal metric for 'standards of living (Yanne et al, 2007). It is universally applied according to common standards, and has some undeniable benefits mainly due to its simplicity (Yanne et al, 2007).

According to Herald and Heiko (2009), growth is one of the determining factor 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) (Jim, 2008). Erna and 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. Therefore, GDP can influence the growth of commercial banks deposits.

7. Shocks

Aggregate shocks affect deposits and interest rates during crises regardless of bank fundamentals and investors' responsiveness to bank risk taking increases in the aftermath crises (Maria and Sergio, 2001). Therefore, given all other variables the shocks happened in the economy can affect the banks' deposits.

B. Internal Factors that affect the performance of banks

1. Liquidity of the banks

The concept of liquidity in finance principally lies in two areas (ISMAL, RIFKI, 2010):-

a) Liquidity of financial instruments in the financial market

b) The liquidity related to solvency.

The former related to liquid financial markets and financial instruments, smooth transactions and no barriers. As to ISMAL, RIFKI, (2010), the latter discusses the obligation of banks to make payments to third parties (Fiedler, 2000:442).

An important measure of liquidity is loan to deposit ratio. The loans to deposit ratio is inversely related to liquidity and consequently the higher the loans to deposit ratio the lower the liquidity and vice versa (Devinga, 2010).

A higher degree of financial intermediation (peroxide by the loan-to-assets ratios) may signal a bank's success in generating income as well as a need for it to attract more deposits to support its increased lending activities (Herald and Heiko, 2009). A higher liquidity buffers (measured by the ratio of liquid assets to deposits) tend factor favoring deposit demand (Herald and Heiko, 2009). Liquid banks as well as banks with a higher loan exposure are associated with higher deposit growth. Herald and Heiko (2009), states that the liquidity situation of the bank also plays a significant role in determining banks deposit growth.

2. Profitability of the bank

Erna and Ekki(2004) finds the long run relationship between commercial banks deposits and the profitability of the banks. Higher bank profits would tend to signal increased bank soundness, which could make it easier for these banks to attract deposits (Herald and Heiko, 2009). However, the effect of bank profitability and bank size are found to be insignificant once controlling for the other variables. Therefore, the effect of profitability and banks size on commercial bank deposit is lower as compared with other variables.

3. Security of the bank

Security of banks matters in mobilizing deposit. Riskier banks would be able to attract deposits only paying higher Interest rates. The security of bank has its own impact on its attractiveness for depositors. For example in the existence of deposit insurance, the depositors no longer are concerned about the soundness of their banks because their deposits are insured in the event of bank failure. So the bank should secure its system so as to mobilize more deposit than before and to attract new depositors and maintain the exiting depositors.

4. Banking accessibility

There is a relationship between commercial banks deposits and commercial bank's branch expansion. Not only do bank branches influence deposits, but the level of deposits in any area (M. A. Baqui et al, 1987) also influences the expansion of bank branches. 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.

5. Reserves

Richard Goode and Richard S. Thom (1959) said that reserves that are fixed legally can influence the deposits that banks can hold. According to them reserve requirements determine the maximum amount of loans and investments that each commercial banks and the banking system as a whole may maintain in relation to deposits. Thus, if the reserve requirement is 20 percent of deposits, loans and investment (of the bank's own choosing) may not exceed 80 percent of deposits.

Therefore, reserve requirements limit the total expansion of bank deposits that can occur because of any primary increase in deposits. Reserve requirements also have the effect of limiting the reduction in bank credit and deposits that is forced up on the banking system by a primary decrease in deposits. The commercial banks can obtain currency to pay out to customers only by drawing down their reserve deposits at the central bank or by using till money (Richard Goode and Richard S. Thom, 1959). Until money, according to Richard Goode and Richard S. Thom (1959) is the currency that banks keep on hand to satisfy day-to-day needs. They pointed out that bank deposits are largely backed by money supply in virtually all countries.

6. Financial technologies

Financial technologies such as card banking, mobile banking, and agent banking enable customers' access to cash services 7-days-24 hours by making large cash carrying unnecessary (Mr Gunnar & Mr Zhao, 2013). It shifts out the traditional frontier of access to banks. Deposit per capita of countries had grown well after the introduction of card payment, ATM and mobile/internet banking technologies in their financial system. A study in Georgia indicated that these technologies have reduced public preference to holding cash in purse

7. Awareness of the society

According to M. A. 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(Mauri; Von Pischke). Since the study of M. A. 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.

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

9. Services in the Bank

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

10. **Regulation**

The banking industry is among the most heavily regulated industries in the world and Ethiopian banking industry is one of the most heavily regulated industries. As quoted from Sudin Haron (1996), the main reason for regulation is to provide a sound, stable and healthy financial system, and Peltzman (1968) was among the first researchers to empirically test the effects of regulation on performance. Instead of profit, he used the bank's capital as a proxy for performance. Peltzman's findings indicated that a prohibition on interstate branching and legal restrictions on new entry had a significant impact on the market value of a bank's capital. Fraser and Rose (1972) also studied whether the opening of new institutions had any significant adverse effect on the growth and profitability of competing institutions. They found that, despite some evidence of slowing in the growth rate of deposits, the profitability of existing institutions was not adversely affected by the opening of new branches by their competitors.

2.2. An Empirical Literature Review

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

2.2.1 Deposit determinants of commercial banks in Malaysia

Professor Sudin Haron and Dr Wan Nursofiza, which investigate the structural determinants of deposits level of commercial banks in Malaysia, wrote the article in 2006 using co-integration techniques. The results suggest that determinants such as rates of profit of Islamic bank, rates of interest on deposits, base lending rate, Kuala Lumpur composite index, consumer price index, money supply and gross domestic product have significant impact on deposits. They also found that in most cases, customers of conventional system behave in conformity with the savings behavior theories. The objective of the study was to examine the effect of selected economic and financial variables on deposits placed at the commercial banks in Malaysia. Both long- and short run relationships between these variables are measured using co-integration techniques. The data for the study were taken from the monthly statistical bulletin of Bank Negara Malaysia (www.bnm.gov.my). The study uses monthly data covering the period January 1990 to December 2003. In examining the determinants of deposit levels of both Islamic and conventional banks, the paper employs recent advances in time series econometrics. These techniques are co-integration and error

2.2.2 Determinants of Commercial Bank's Liquidity in Slovakia

This article was written by (PAVLA) It identifies the determinants of liquidity of Slovak commercial banks deposit growth and empirically analyses them. Finally, it describes the result of the study and recommends how states realize deposit growth. By considering bank specific and macroeconomic data over the period from 2001 to 2010 and analyze them with panel data regression analysis. He has found that bank liquidity drops mainly because of the financial crisis. Bank liquid assets decreases also with higher bank profitability, higher capital adequacy and with the size of bank. Liquidity measured by lending activity of banks increases with the growth of gross domestic product and bank profitability and decreases with higher unemployment. Key interest rates, interest margin, rate of inflation and the level of non-performing loans have no statistically significant effect on the liquidity of Slovak commercial banks.

2.2.3 Macroeconomic determinants of bank deposits in Nigeria

This article was written in 2014 by Nathanael O. Eriemo the main objective of this study was to analyze the effects of various macroeconomic indicators that influence bank deposits in Nigeria. The paper empirically examines the macroeconomic determinants of bank deposits in Nigeria

using data covering the period between 1980 and 2010. It tries to analyze the effects of various macroeconomic indicators, on the performance of banks within the context of deposit mobilization of banks and its determinants. The economic analysis result showed that in Nigeria, bank investment, bank branches, interest rate and the general price level are important determinant of bank deposit. The Vector Error Correction and Johansen co-integration test indicates a long run relationship among the variables and the economic analysis result showed a satisfactory speed of adjustment. It is thus recommended among others that both the banks and the monetary authorities should consider these factors when attempting to improve the deposits of banks and this will go a long way in increasing aggregate investment.

2.2.4 Determinants of Kenyan Commercial Banks Deposit growth

Lomuto Joel Katalai (2008) had written a research paper, which empirically examines the determinants of Kenyan Commercial Banks Deposit growth. Its main objective was to analyze the factors that influence Commercial banks deposit growth in Kenya. Time series data covering 1968 - 2006 was analyzed. First the time series characteristics of the data were assessed using unit root tests to examine how stationary of each variable. Secondly, the test for co integration was performed to determine the long run relationship of the non stationary variables. Lastly, estimated model was a single regression equation with deposit as the dependent variable and explanatory variables as deposit rate, nominal exchange rate, investment income ratio, number of cheques cleared (used as proxy for innovations in the financial sector), real GDP, ratio of monetary GDP to total GDP and Structural Adjustment Programs (SAPs). Estimation was done using Ordinary Least Squares (OLS) technique and Econometric Views (E-views) statistical package. Analyzed results showed that lagged Commercial bank deposits and all the other variables including Structural Adjustment Programs (SAPs) significantly affect Commercial bank deposit growth in Kenya. Based on these results, several policy implications were drawn that aim at encouraging deposits growth by Commercial banks for the benefit of the domestic deposit mobilization. First, growth-enhancing policies promote deposits growth. Second, the stability of macroeconomic system should be maintained. Lastly, financial sector innovations encourage deposit growth in Commercial banks in Kenya as people reduce their demand for carrying cash.

2.2.5 Factors Determining Commercial Bank Deposit: An Empirical Study on Commercial Bank of Ethiopia

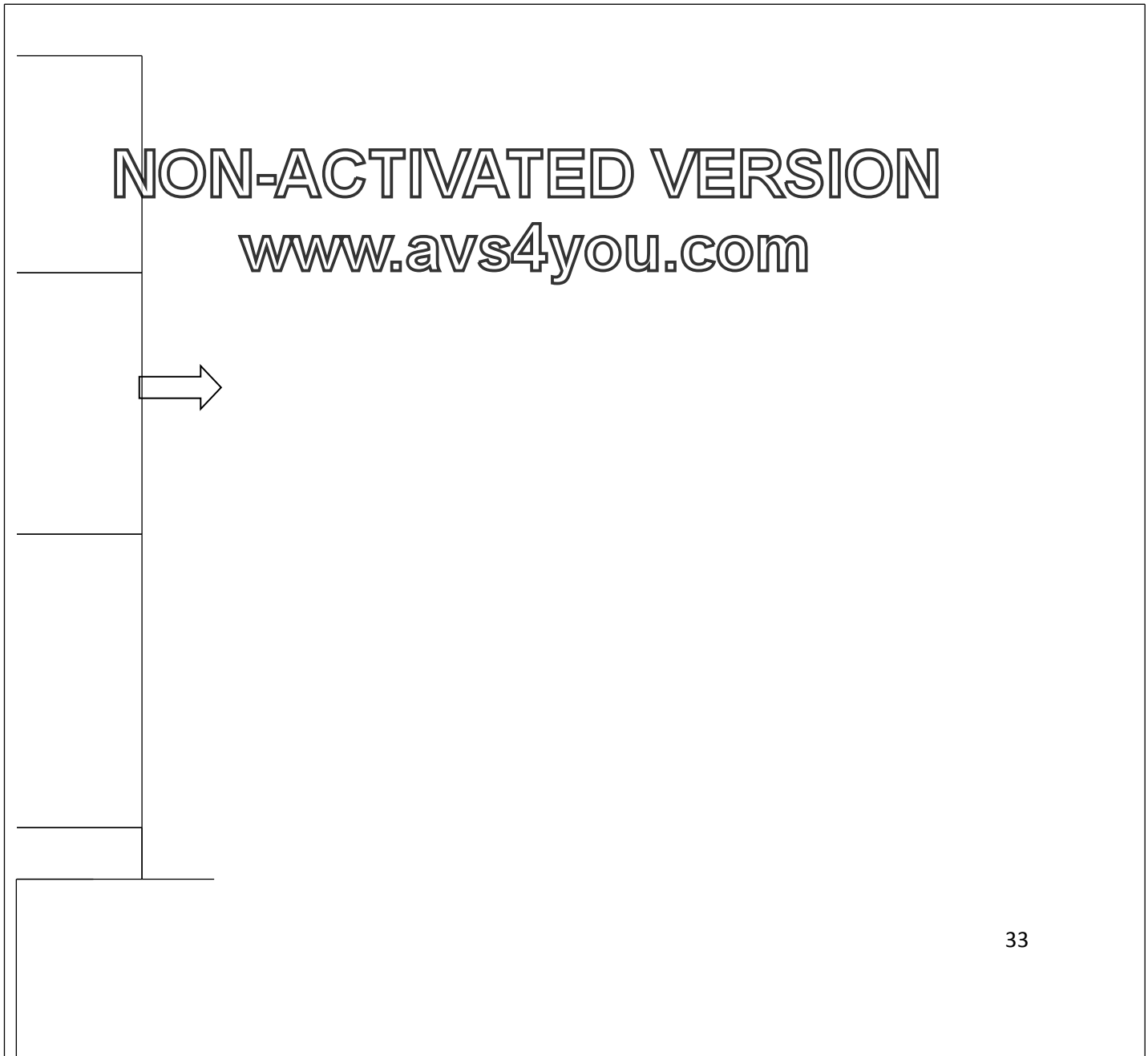
(Wubitu Elias 2012) wrote this article. The main objective of the study was to determine factors that affect commercial bank deposits. The study empirically examine both endogenous and exogenous determinant factors which affect bank deposit in Commercial Bank of Ethiopia using time series data covering the period 2000 to 2011. Accordingly, the researcher concluded that both exogenous and endogenous factors affect the deposit mobilization effort of Commercial Bank of Ethiopia positively. Since the bank is totally owned by government, most of its deposit comes from government budget. In addition to getting access to government budget, the bank also mobilizes funds from its customers and profit from operation. Among the three kinds of deposits, (Demand deposit, fixed time deposit and saving deposit), saving deposit is mainly used by the bank and its customers.

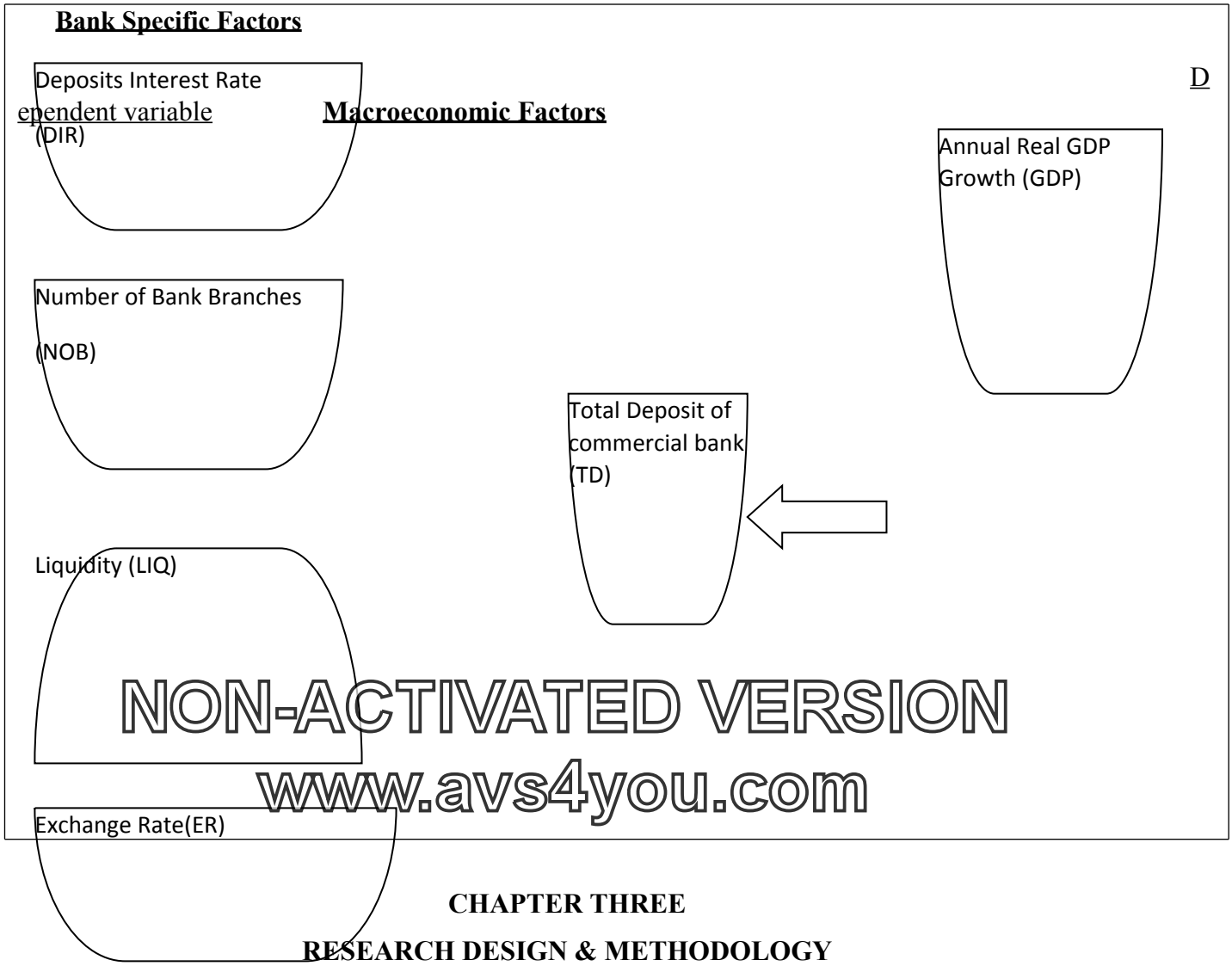
2.2.6 Determinants of Commercial Bank Deposit: a case of Commercial Bank of Ethiopia

Shemsu (2015) focused on Determinants of commercial bank deposits: A case of study of commercial bank of Ethiopia. The study aimed to identify and evaluate those factors affecting bank deposit in general by taking Commercial Bank of Ethiopia as evidence. Accordingly, the researcher adopts mixed research approach. Time series data covering 1998 - 2014 was analyzed and questionnaire is used to gather information from the employees of commercial bank of Ethiopia with deposit as the dependent variable and explanatory variables as deposit interest rate, overall inflation rate, number of branch opening, gross domestic product, individual foreign remittance and dummy variable. Estimation was done using Ordinary Least Squares technique by E-views7 statistical package. The results from economic analysis showed that all the explanatory variables were positively correlated with the explained variable. Among these variables, branch opening is an important strategy for deposit mobilization, it is highly significant than others. An individual remittance from Diasporas is also next to branch opening is significantly affects CBE□s deposit. The other variables affect positively and can increase CBE□s deposit.

2.3 Conceptual frame work

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. However, this too depends on the availability of credit facilities, which in turn depends on the level of bank deposit. It also revealed that banks deposit could be affected by different factors such as bank internal and external factors. While this study focused on some of the bank specific (internal) and bank, external factors affecting bank deposits.





CHAPTER THREE

RESEARCH DESIGN & METHODOLOGY

3. Introduction

This chapter describes the research design, population and sampling techniques. It explains the type of data used for the study and tools employed in identifying the factors that influence the deposit mobilization of Private commercial banks of Ethiopia and describing procedures of data collection and methods of data analysis on the determinants of deposit mobilization.

3.1 Research Design

The most important factor that determines the research design is the nature of the problem at hand, which is done to accomplish the intended objectives (Admas et al., 2007). The raw data interpretation and analysis laid on descriptive and analytical statistical methods.

3.2 Data.

3.2. Research approach

In order to see the determinants of bank deposit in case of private Commercial Bank of Ethiopia, researcher adopts both quantitative and qualitative research approach. The essential goal of this mixed research approach was to tackle a given research question from any relevant angle, making used where appropriate of previous research and/or more than one type of investigative perspective. The rationale of using such a mixed approach in this study was to gather data that could not be obtained by adopting a single method. The qualitative data (NBE rules and regulations, the art of technology, distribution of bank office and employee's knowledge about deposit mobilization), in this study could not be described and manipulated numerically and quantitative (total deposit, exchange rate, deposit interest rate, GDP, liquidity and number of bank branches) are described through model.

3.3. Target Population and Sampling Methods

The population of the study is private commercial banks in Ethiopia. All private commercial banks head quarter are found in the capital city of Ethiopia. Besides to this, 80% of the total 1,927 of its branches are found in Addis Ababa.

As noted by (Kothari 2004) good sample design must be viable in the context of time and funds available for the research study. Accordingly, this study employed purposive sampling technique to select the required sample of banks from the above listed banks since it is viable in line with time and funds available for this study. This sampling method is a form of non-probability sampling in which decision concerning the individual source of data to be included in the sample is taken by the researcher, based upon a variety of criteria. The major limitation of purposive sampling is making description rather than generalization (Dawson 2002). The researcher considers that the sample size is sufficient to make sound conclusion about the population as far as it covers around 61% of the total population. Moreover, the big portion of total deposit of private commercial banks is found in the banks selected as sample i.e. banks established before 2006 G.C

The selection criteria set by the researcher was first, the required banks are only private commercial banks in Ethiopia. Second, those commercial banks should operate after 2006 and before 2016 having financial statements for consecutive eleven years. Third, the researcher chose this sample because they play a major deposit share in the entire research period. With regard to deposit shares, there was also concentration in favor of CBE, though with a declining trend.

Whilst CBE took 66.2% share in 2016, among the private banks, the highest share went to Dashen Bank (5.2%), and Awash International Bank (5.2%) and Bank of Abyssinia (3.1%) as of June 30, 2016 and united bank (3.1%), Nib International bank (2.9%), Wogagen Bank (2.7%)/NBE annual report 2016/. Based on such criteria, seven private commercial banks out of sixteen private commercial banks operating since 2005 G.C are selected. These banks included Awash International Bank S.C, Dashen Bank S.C, Bank of Abyssinia S.C, Wegagen Bank S.C, United Bank S.C and NIB International Bank S.C and Cooperative bank of Oromia s.co, Banks are listed in sequential order of rank in accordance with the date of establishment.

3.3.1 Sampling Technique

In order to obtain representative data, non probability-sampling technique with Convenience sampling tools was employed in this study. Because the type of research in which useful for samples, which is very little variation in population.

3.3.3 Sampling Procedure

The sampling procedure employed was that from the target population of branches, divisions, departments, directorate offices and the executive offices of these private banks, one director, four branch managers, one deposit mobilization committee employee of each selected banks. Those banks which have not deposit mobilization committee was fulfilled by any of the branch employee .Who are believed to have a better exposure and experience to deposit mobilization activities were selected as a sample for the study. The branches were selected based on convenient sampling methods based on proximity and personal convenience to the researcher.

3.4. Sources of Data

The study used both primary and secondary data. The data was relevant for the study would collect from private commercial banks of Ethiopia (PCBE), National bank of Ethiopia (NBE) and Central Statistics Authority (CSA). Seven private banks operating in Ethiopia during the period under the study were included in the time series data set.

Accordingly, the researcher used secondary sources of data that is time series in nature. The researcher preferred a secondary source of data since it is less expensive in terms of time and money while collecting. In addition, it affords an opportunity to collect high quality data (Saunders et al., 2007) cited in (Gadise, 2014). The readymade data of total deposit of each selected private commercial bank of Ethiopia, Bank branches, inflation rate, saving interest rate (deposit rate); Exchange rate, GDP and Liquidity of the banks was collected from these

institutions all from fiscal year 2006GC up to2016GC.

The primary data was collected from private commercial banks of Ethiopia employees only not include customers of private commercial banks because, of time and the problem is better to understand by the banks employee rather than the client of those banks. The questionnaire was included Department directors, deposit mobilization team leaders, senior customer service officers and the branch managers of the selected banks through questionnaire. This would have focused on awareness of the society, use of technology, convenience of bank's Office, management efficiency, and Government policy. The number of questionnaires that would be distributed to the employee of private commercial banks was seventy.

3.5. Determinants of deposit mobilization and operational definitions

Dependent Variable

Total deposit of each private commercial bank is the dependent variable in this study. Since the study concludes by taking private commercial bank of Ethiopia (PCBE) as evidence, total deposit of each bank is analyzed.

Independent Variables

Most of the studies on bank deposits have categorized the determinants of Deposits into internal and external factors (Racial, 2010b; Nicer & Moran, 2011; and Shrewish, 2011). Furthermore, Sastrossuwito and Suzuki (2012) refer to the internal factors as the bank-specific determinants of deposits, while the external factors refer to the macroeconomic determinants of deposits.

Bank-internal (Bank specific factor) Determinants

This paper uses the major dimensions of a bank's operations: liquidity, branch expansion exchange rate and deposit rate as banks specific factors.

Liquidity of banks

Liquidity indicates the ability of the bank to meet its financial obligations in a timely and effective manner. There are variations among scholars with regard to the measurement ratios. The most common financial ratios that reflect the liquidity position of a bank according to Samad (2004) are customer deposit to total asset and total loan to customer deposits. Other scholars use different financial ratio to measure liquidity. For instance, Ilhomovich (2009) used cash to deposit ratio to measure the liquidity level of banks in Malaysia. In the Ethiopian context, there seems clear measure of the liquidity: the liquid asset to deposit ratio, which the National

Bank of Ethiopia, has set the minimum liquid asset of the Bank not to be less that 15% of the Bank's net current liability. Out of this, the directive-obliged banks to hold 5% of them in primary reserve assets (see directive no SBB 55/2013).

H0: There is a negative relationship between liquidity of the bank and bank deposit

Branch expansion

The number of outlets a firm holds in different geographical areas to maintain the market share of the banking industry (Wubitu, 2012). As revealed in past studies banks should expand their number of branches in order to compete moderately with all their capability they have from year to year which is the core factor to mobilize sufficient deposit to the company.

H0: There is no relationship between branch expansion and commercial bank deposit

Exchange rate

For the major net importing country like Ethiopia, variability of the exchange rate of the local Ethiopia money (Birr) to foreign currency values is enormous. As the exchange rate of Birr to USD ratio grows, local deposits will deplete in the process of importing goods and services. This means as the country does by far more imports than exports and the exchange rate of Birr to USD grows, then local deposits in banks will reduce showing that there is inverse relationship. There are also cases where it shows the opposite trend by increasing the foreign direct inflows. However, the study by Ngula(2012) on the 'Determinants of deposit mobilization and its role in economic growth in Ghana has demonstrated that a deterioration in the Ghanaian currency with respect to the US currency resulting in a higher deposit mobilization.

H0:There is negative relationship between exchange rate and commercial bank deposit

Deposit Rate

The increase in deposit rate on deposits is expected to improve the deposit volume in commercial banks as people are better attracted to get the advantage of higher interest payments on the deposits they held in banks. Herald and Heiko(2009) stated interest rate as one of the 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. Wubitu (2012) stated that there is a positive insignificant relationship between the two taking Commercial Bank of Ethiopia's deposit trend on her study. Hence, the deposit rate and deposit volume at banks have a positive relationship.

H0: There is a positive relationship between interest rate and commercial bank deposit

Bank external factor /Macroeconomic determinants

Macroeconomic determinants are inflation and real GDP

Inflation

Inflation may influence saving through several reasons. Theory postulates that greater uncertainty should rise saving since risk-averse consumers set resources aside as a precaution against possible adverse changes in income and other factor. Hence, when inflation raises uncertainty regarding future income growth, risk-adverse consumers may increase their precautionary saving (Sandmo, 1970). Secondly, savings may rise in inflationary environment if consumers mistake an increase in the general price level for an increase in some relative prices and refrain from buying (Deaton, 1991). Inflation could also influence saving through its impact on real wealth. If consumers attempt to maintain target level of wealth or liquid assets relative to income, saving will rise with inflation. During inflation, central banks employ monetary policy that would increase the cost of debt and decrease the availability of funds in banks. When the cost of borrowing increases and borrowing slows, the banks' demand for fund decreases obviously the deposits will decrease. Hence, the direction of the relation between inflation and deposit volume is situational. Different studies show varying results regarding the directional relationship between inflation and deposit volumes. For instance, inflation is found to have negative relation with deposit in a study made in India by Sudin (2006) whereas another case study in the same country by Athukorala (2003) has shown the reverse direction.

H0: There is positive relationship between inflation and commercial bank deposit

Gross Domestic Product (GDP)

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

H0: There is no relationship between real GDP and commercial bank deposit

Qualitative factors such as NBE rules and regulations, the art of technology, distribution of bank

office and employee's knowledge about deposit mobilization and the like are investigated h throug questionnaire.

Table: 3.5.1. Description of the variables and their expected relationship

Variables	Symbol	Operational Definition	Source	Expected sign
Dependent Variable				
Private commercial banks Tot al Deposit	PCBTD	**Selected banks total de posit as at June 30 of e ach year**	**Annual report**	**NA**
Independent Variables				
Deposit interest rate	DIR	Interest paid to saving a ccount	NBE annual rep ort	+
Exchange Rate	ER	Dollar to birr amount as of June 30	NBE annual rep ort	+
Logarithm of number of bank branches	LNOB	The total branches of ea ch selected banks	Annual report	+
Gross domestic product	GDP	Annual real Growth rate of gross domestic produ ct	NBE Publicatio n	-
Inflation	INF	Annual general consume r price index	CSA reports	+
Liquidity of the bank	LIQ	The ratio of loan to d eposit (short term f inancing	Annual report	NA

3.6 Model Specification

The theoretical literature discussed above suggests that bank deposit, inflation, Branch expansion, deposit interest rate, Profitability of the bank, Liquidity of the banks and Per capital income of the society are related. McKinnon (1973) for example, argues that investment in a typical developing country is lumpy and self-financed and hence cannot be materialized unless adequate savings are accumulated in the form of bank deposits. Following these theoretical views and based on Ang and McKibbin (2005), the study estimated the linear regression equation by calculating the values of the variables in the following equation:

$$TD=\beta 0 + \beta 1 ER+\beta 2 DR + \beta 3 IR+\beta 4 LOGBR+ \beta 5 LB+\beta 6 RGDP+ \varepsilon i$$

Where,

TD is total deposit of banks which is the dependent variables of the under listed

independent variables.

ER is exchange rate of Birr to USD for the period t,

IR is the rate of general inflation for period *t*,

LOGBR is the logarithm of Branch expansion for period *t-1*

DR is deposit interest rate for period *t*

LB is the liquidity of banks for time *t.*

RGDP is the real Gross domestic products for time t

β is the slope of the linear equation

ε is the stochastic error term of the linear regression model.

It also represents all the relevant variables, which were omitted from the model as well as the random errors from the estimation process. This may include variables like investment income, age dependency ratio, central bank rules and regulations that is likely to influence the study. This is because some of these error variables can be influential as well as correlated to the variables under study.

3.7. Estimation Procedure

This study was used deductive approach as we try to find the relationship that exist between deposit with inflation, branch expansion, deposit rate, liquidity of the banks, exchange rate and Gross Domestic product of the country. The multiple regression models are applying to establish statistically the model for the study by expressing, testing operationally fit and examining the outcomes. Under the ordinary least squares estimation (OLS) of regression models, the assumptions of no serial correlation of the error terms as well as a constant variance of the error terms are held. The Breusch-Godfrey test for serial correlation and the Breusch-Pagan / Cook-Weisberg would used to test for heteroskedasticity. If both tests fail, a robust estimator of the covariance was applied to correct for the presence of serial correlation and heteroskedasticity. The values of the time series data is taking before Ordinary Least Square (OLS) techniques are used for estimating a model for bank deposits. An econometric analysis of the determinants of financial savings (deposits) in banks is carrying out with data covering 2006 to 2016.

3.8 Analytical Tools and Techniques

The data collected from the various secondary sources would present in tables, charts, and graphs. The analytical techniques would use regression and correlation analysis. Dickey and Fuller (1981) establishes that correlation and regression techniques are employed to address

measurement problems often associated with estimation using time series data.

3.9. Data Analysis Methods

Multiple regression analysis was conducted using e-view and SPSS data analysis software to determine the exact nature of the relationship that exist between deposit with exchange rate, Gross Domestic product of the country, inflation, branch expansion, deposit rate, Liquidity of the banks over the period under study. Prior to the estimation of the regression line, descriptive analysis is used to describe the behavior of the individual variables over the period under review. Regarding the qualitative data analysis, the researcher would analyze the information from the secondary data sources by using descriptive analysis techniques to describe the result. So as to show the trend of total deposit of private commercial bank of Ethiopia and the value of each deposit determinants, the researcher also has analyzed the data using Microsoft excel E-view and SPSS as a result the graph of total deposits and its determinants would display and interpret. The analysis of the data emanates from the financial reports would graphically present with the help of excel and explanatory notes to determine trends of the various components listed under sample structure and size.

3.10. Validity and Reliability of Data

The methodology used for the study was selected because of its suitability in its dependence on certified information from recognized institutions other than subjective opinions, which would have been associated with primary sources. The F test and the coefficient of determination were used to test the validity and reliability of the relationship established by the regression analysis.

Chapter Four

4.1. Result and Discussion

This chapter examines the research findings, analysis and discussion with the view to understand the character of respondents, determinants of deposit mobilization and the effects of those factors on deposit mobilization in private commercial banks. The information presented in this chapter relied on questionnaire and various documents.

4.1.1. Analysis of the questionnaires

The study had used the frequency distribution output from SPSS software to analyze questionnaires. There are 50 questionnaires analyzed through SPSS software. The remaining 20

questionnaires were not returned from the respondents.

Accordingly, the result of the frequency distribution as displayed by the software is mentioned and interpreted as follows.

Table 3: The frequency distribution of Gender of the respondents

	Frequency	Percent	Cumulative Percent
Female	20	40.0	40.0
Male	30	60.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

From the total number of the respondents 40 %(20) of the respondents are female respondents and the other 60 %(30) are male respondents.

Table 4: The frequency distribution for age group of the Respondent's

	Frequency	Percent	Cumulative Percent
BELOW 25 YEARS	13	26.0	26.0
26-35 YEARS	30	60.0	86.0
36-45 YEAR	7	14.0	100.0
Total	50	100.00	

Source: SPSS output of frequency distribution of the respondents

26 %(13) of the respondents are below 25 years old, 60 %(30) of them are 26-35years old, and14 %(7) of them are 36-45 years.

Table 5:The frequency distribution of Education level of th e Respondents

	Frequency	Percent	Cumulative Percent
Diploma	5	10.0	10.0
Bachelor Degree	39	78.0	88.0
Master Degree	6	12.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

From the total respondents, there are 5 (10 percent) of the respondents with diploma level of education, 39 (78 percent) of the respondents with degree and higher education and finally 6(12 percent) of the respondents with master's degree.

Table 6: The frequency distribution of working experience of the respondent in private bank

	Frequency	Percent	Cumulative Percent
Below 5 years	29	58.0	58.0
6-15 years	17	34.0	92.0
16-25 years	8.0	8.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

58%(29) of the respondents have below 5 years work experience on private commercial bank of Ethiopia, 34%(17) of them have 6-15 years' work experience, 8%(8) of them have 16-25 years' work experience in the bank.

Table 7: The frequency distribution of the respondent Job **title**

	Frequency	Percent	Cumulative Percent
Director	2.0	4.0	4.0
Branch manager	9.0	18.0	22.0
Customer service Manager	3.0	6.0	28.0
Deposit Mobilization team leader	8.0	16.0	44.0
Senior Customer Service Officer	11.0	22.0	66.0

Customer relation officer	6.0	12.0	78.0
other	11.0	22.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

4%(2) of the respondents are on the position of Director or department manager in the bank, 18%(9) is Branch manager, 6%(3) of them are Customer Service Manager, 16%(8) of them is Deposit mobilization team leader, 22%(11) are Senior customer service Officer, 12%(6) are Customer relation officer and 22%(11) of them are others.

Table 8: Motivate deposit mobilization efforts of the branch

Factor that motivate deposit	Frequency	Percent	Cumulative Percent
Allocate loan to the branch customer	18	36.0	36.0
Allocate foreign currency to the branch custom er	12	24.0	60.0
Provide recognition certificate to the employee	3	6	66.0
Increase or Decrease the branch's Grade	7	14	80.0
Other	7	14	94.0
All	3	6	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

From the respondent employee of the bank , 36 % (18) answered the request motivate the deposit mobilization efforts of the branch by allocating loan to the branch customer, 24 % (12) respondent said that by allocating foreign currency can increase the deposit mobilization efforts

of the branch,6% (3) said by providing recognition letter or certificate to the branch employee can motivate the deposit mobilization efforts of the branch, 14% (7) of the respondents said that increase or decrease the branches level of grade can motivate the deposit mobilization efforts of the branch, 14% (7) said there are other factors that motivate deposit mobilization such as improve the job title of employee and incentives to the employee ,6% (3) respondents said that all the above are factors that motivate deposit mobilization efforts of the branch.

Table 9: Understanding or commitment of employee on deposit mobilization

	Frequency	percent	Cumulative Percent
Very Good	20	40.0	40.0
Good	17	34.0	74.0
Poor	13	26.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

40 % (20) of the respondents understanding or commitment of employee on deposit mobilization are very good, 34 %(17) of the respondents understanding on the issue are good and 26 %(13) of them are poor understanding on deposit mobilization.

Table 10: Effects of new product developed by the bank on deposit mobilization

	Frequency	Percent	Cumulative Percent
Very Good	17	34.0	34.0
Good	2	42.0	76.0
Satisfactory	1	14.0	90.0
Poor	7	10.0	100.0
	5		
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

From the respondent employee of the bank, 34 %(17) answered very good, in connection with the new product developed by the bank on the effects of deposit mobilization, 42% (21) of the

respondents said good in connection with, the new product developed by the bank can affect deposit mobilization, 14% (7) of the respondents said satisfactory in connection with, the new product developed by the bank can affect deposit mobilization, and 10%(5) of them are not affect deposit by developed a new product by the bank.

Table 11: Methods that use the bank to aware the society about the service

	Frequency	Percent	Cumulative Percent
Use local mass media	2	46.0	46.0
Banks are Participate in social activities	3	14.0	60.0
Different market or sales agent	7	28.0	84.0
Other	14	12.0	100.0
	6		
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

46 %(23) of the respondents said that by using local mass media banks aware the societies about their product, 14%(7) of the respondents said that by participating in different social activities banks aware the societies about their product, 28%(14) of the respondent said that by using different market or sales agent the bank can aware their product and 12%(6) of them said that other reason such as cross-sailing to aware the society and the like are some of the reason that private commercial banks sold their product.

Table 12: Special service to major customers

	Frequency	Percent	Cumulative Percent
Availability of Special bank branch	12	24.0	24.0
Availability of separate office in all bank branches	7	14.0	38.0
Provide the service at the customer own office	8	16.0	54.0
Provide special benefit to corporate customers	18	36.0	90.0
Other	5	10.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

24%(12) of the respondent said that the availability of special bank branches to corporate customers can increase deposit, 14%(7) of the respondent said that the availability of separate office in all bank branch to this corporate customers can increase deposit, 16%(8) of the respondent said provide the banking service at the corporate customers own office can increase deposit, 36%918) of the respondent said that provide special benefit to corporate customers can increase deposit mobilization of the bank and the remaining 10% (5) of them state other reason .

Table 13: Volume of Deposit growth is affected by special service provide to corporate customers

	Frequency	Percent	Cumulative Percent
Yes	41	82.0	82.0
No	9	18.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

82 %(41) of the respondent said that by providing special service to corporate customers increase the volume of deposit but 18 %(9) of the respondents are not increase the volume of deposit by providing special service to corporate customers.

Table 14: Customer satisfaction related on deposit mobilization

		Frequency	Percent	Cumulative Percent
Valid	Very Good	8	16.0	16.0
	Good	25	50.0	66.0
	Satisfactory	14	28.0	94.0
	Poor	3	6.0	100.0
	Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

The respondents respond only those customers came to the bank and take the service rather than using Automated teller machine (ATM) point of sale (POS) services. This response is based on the standard time set by each bank for the service that would take place.50 %(25) of the respondents related to customer satisfaction related on deposit mobilization is good whereas, six %(3) of the respondents said that purr customer satisfaction on deposit mobilizations services.

Table 15: Tools or techniques to gather customer satisfaction about the deposit mobilization service

	Frequency	Percent	Cumulative Percent
Availability of suggestion box	31	62.0	62.0
Availability of logging book	15	30.0	92.0
Availability of Customer fill questionnaire	3	6.0	98.0
Other	1	2.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

62 %(31) of the respondents said that tools or techniques to gather customer satisfaction or dissatisfaction on deposit mobilization service are availability of suggestion box whereas 30 %(15) of them said that availability of suggestion book.6 %(3) of the respondent said that availability of questionnaire related to the service. The other reason is the availability of Video camera.

Table 16: Results of banks current deposit mobilization practice

	Frequency	Percent	Cumulative Percent
Provide better service to the society	18	36.0	36.0
Banks are reach the un banked society	10	20.0	56.0
Increase the cost of deposit	1	2.0	58.0
All are correct	20	40.0	98.0
Other	1	2.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondent

36%(18) of the respondent said that, the current deposit mobilization practice of private banks results provides better service to the society, 20%910) of the respondent said that banks reach the un banked society 2%(1) respondent said that increase the cost of deposit and 40%(20) of the respondent said that all are results of current deposit mobilization practice of private banks.

Table 17: Major cause of variation volume of deposit between private banks

	Frequency	Percent	Cumulative Percent
Convenience of branch location	22	44.0	44.0
Availability of Parking area	2	4.0	48.0
Effort of the branch staff	14	28.0	76.0
Branches are or are not identified Target customers	9	18.0	94.0
Other	3	6.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

44%(22) of the respondents agree that the convenience of branch location can be the main reason for deposit volume variation among private commercial banks, 4%(2) of them claims transportation for deposit volume variation among the commercial banks,28%(14) of them says

that hard work of the employees as a reason for deposit volume variation, 18%(9) of the respondents says that Branches are or are not identified Target customers can be a reason and the other6%(3) of the respondents says that there may be other reason for deposit variation

Table 18: How much time allotted to new customer for opening account?

	Frequency	Percent	Cumulative Percent
Less than 10 minutes	32	64.0	64.0
10-30 Minutes	18	36.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

Table 19: How much time allotted to withdraw from deposit account?

	Frequency	Percent	Cumulative Percent
Less than 10 minutes	43	86.0	86.0
10-30 MINUTES	7	14.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondent

The respondents answered this request, only to those customers who came to the bank and take service rather than using Automated teller machine (ATM), point of sale (POS) services, mobile and internet banking.

Table 20: Total deposit of each private commercial banks show incremental for the last 5 years

	Frequenc	Percent	Cumulative Percent

	y		
Society's preference to deposit savings Other than investment	3	6.0	6.0
Awareness of society on private Commercial banks	25	50.0	56.0
Good service provides than public banks	12	24.0	80.0
Good will of the bank	8	16.0	96.0
Other	2	4.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

6% (3) of the respondents claim that society's preference for saving deposit than other investment opportunity is the reason why the deposit of PCBE is growing, 50%(25) of them says that growth of deposit is because of awareness of society on private Commercial banks and the other 24 %(12) says that Good service provides than public banks.

Table 21: Major depositor of your bank

	Frequency	Percent	Cumulative Percent
Individual	36	72.0	72.0
Business organization	14	28.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

72 %(36) of the respondents respond that private commercial bank of Ethiopia collects its deposit from individual customers, 28 %(14) of them says it is mobilizing its deposit from business organizations,

Table 22: Competition between private banks

	Frequency	Percent	Cumulative Percent

Weak	8	16.0	16.0
Moderate	26	52.0	68.0
Stiff	16	32.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

Bank employee respondents are answered on the Likert of five scales namely strongly disagree, disagree, agree, strongly agree and indifferent on responding to the propositions regarding influence of bank branch on deposits mobilization and growth. Table 22 summarizes the results.

Table 23: Number of bank branch affects deposit mobilization

	Frequency	Percent	Cumulative Percent
Strongly disagree	4	8.0	8.0
Disagree	1	2.0	10.0
Undecided	4	8.0	18.0
Agree	15	30.0	48.0
Strongly Agree	26	52.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

Bank employee respondents are answered on the Likert of five scales namely strongly disagree, disagree, agree, strongly agree and indifferent on responding to the propositions regarding influence of bank branch on deposits mobilization and growth. From the table above most respondents strongly agree on the number of bank branches affect deposit mobilization of private commercial banks. This implies that by increasing the number of branches throughout the country could answer the request of credit qustomer.

Table 24: Bank extent based on their capital affects deposit mobilization

	Frequency	Percen	Cumulative Percent

		t	
Strongly disagree	3	26.0	2.0
Disagree	5	10.0	8.0
Undecided	7	14.0	18.0
Agree	21	42.0	32.0
Strongly agree	13	26.0	74.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

Bank employee respondents are answered on the Likert of five scales namely strongly disagree, disagree, agree, strongly agree and indifferent on responding to the propositions regarding Bank extent based on their capital affects deposit mobilization. Table 24 summarizes the results.

Table 25: Liquidity of the bank affects deposit mobilization

	Frequency	Percent	Cumulative Percent
Valid	1	2.0	2.0
Strongly disagree	4	8.0	10.0
Disagree	4	8.0	18.0
Undecided	15	30.0	48.0
Agree	22	44.0	92.0
Strongly agree	4	8.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

Bank employee respondents are answered on the Likert of five scales namely strongly disagree, disagree, agree, strongly agree and indifferent on responding to the propositions regarding influence of bank branch on deposits mobilization and growth. Table 25 summarizes the results.

Table 26: National banks rules and regulations such as bill purchase, condominium house savings

	Frequency	Percent	Cumulative Percent

Valid	1	2.0	2.0
Strongly disagree	6	12.0	14.0
Disagree	4	8.0	22.0
Undecided	9	18.0	40.0
Agree	6	12.0	52.0
Strongly agree	24	48.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

Bank employee respondents are answered on the Likert of five scales namely strongly disagree, disagree, agree, strongly agree and indifferent on responding to the propositions regarding National banks rules and regulations such as bill purchase, condominium house savings. Table 26 summarizes the results.

Table 27: Level of GDP per income growth of the society affects deposit mobilization

	Frequency	Percent	Cumulative Percent
Strongly disagree	1	2.0	2
Disagree	3	6.0	8
Undecided	15	30.0	38
Agree	17	34.0	72
Strongly agree	14	28.0	100
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

Bank employee respondents are answered on the Likert of five scales namely strongly disagree,

disagree, agree, strongly agree and indifferent on responding to the propositions regarding Level of GDP per income growth of the society affects deposit mobilization. Table 27 summarizes the results.

Table 28: Use of advanced technology affects deposit mobilization

	Frequency	Percent	Cumulative Percent
Strongly disagree	1	2.0	4.0
Disagree	5	10.0	14.0
Undecided	5	10.0	24.0
Agree	18	36.0	60.0
Strongly agree	20	40.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

Table 28 shows that 20 (40 percent) of the respondents employed in this category indicated that, they are strongly agree on the use of advanced technology to increase deposit mobilization of the bank.18 (36 percent) of the respondents in this category indicated agree on the use of advanced technology to increase deposit mobilization of the bank and 5 (10 percent) of the respondents in this category are not decided and disagree on this issue.

Most of the time private commercial banks develop new product to the customers which are concentrated on the capital city but the majority of the population is found in the country side rather than in the country major and small city. In addition to this, the infrastructure of technology is also limited to the country side to expand such product to the majority of the population in the country.

Table 29: Human Capital affects deposit mobilization

	Frequency	Percent	Cumulative Percent

Strongly disagree	4	8.0	8.0
Disagree	3	6.0	14.0
Undecided	9	18.0	32.0
Agree	22	44.0	76.0
Strongly agree	12	24.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

Bank employee respondents are answered on the Likert of five scales namely strongly disagree, disagree, agree, strongly agree and indifferent on responding to the propositions regarding Human Capital affects deposit mobilization. Table 29 summarizes the results.

Table 30: Saving Habits of society affect deposit mobilization

	Frequency	Percent	Cumulative Percent
Strongly disagree	1	2.0	2.0
Disagree	2	4.0	6.0
Undecided	8	16.0	22.0
Agree	21	42.0	64.0
Strongly agree	18	36.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

Bank employee respondents are answered on the Likert of five scales namely strongly disagree, disagree, agree, strongly agree and indifferent on responding to the propositions regarding Saving Habits of society affect deposit mobilization. Table 30 summarizes the results.

Table 31: Inflation rate affect deposit mobilization

	Frequency	Percent	Cumulative Percent

Valid	1	2.0	2.0
Strongly disagree	3	6.0	8.0
Disagree	4	8.0	16.0
Undecided	10	20.0	36.0
Agree	23	46. 0	82.0
Strongly agree	9	18.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

Bank employee respondents are answered on the Likert of five scales namely strongly disagree, disagree, agree, strongly agree and indifferent on responding to the propositions regarding Inflation rate affect deposit mobilization. Table 31 summarizes the results.

Table 32: Exchange rate affects deposit mobilization

	Frequency	Percent	Cumulative Percent
Valid	1	2.0	2.0
Strongly disagree	4	8.0	10.0
Disagree	4	8.0	18.0
Undecided	8	16.0	34.0
Agree	18	36.0	70.0
Strongly agree	15	30.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

Bank employee respondents are answered on the Likert of five scales namely strongly disagree, disagree, agree, strongly agree and indifferent on responding to the propositions regarding Exchange rate affects deposit mobilization. Table 32 summarizes the results

Table 33: Reserve requirement affect deposit mobilization

	Frequency	Percent	Cumulative Percent

Valid	1	2.0	2.0
strongly disagree	3	6.0	8.0
disagree	4	8.0	16.0
undecided	13	26.0	42.0
agree	23	46.0	88.0
strongly agree	6	12.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

Bank employee respondents are answered on the Likert of five scales namely strongly disagree, disagree, agree, strongly agree and indifferent on responding to the propositions regarding Reserve requirement affect deposit mobilization**.** Table 33 summarizes the results.

Table 34: Managerial Efficiency affects deposit mobilization

	Frequency	Percent	Cumulative Percent
Valid	1	2.0	2.0
strongly disagree	3	6.0	8.0
disagree	2	4.0	12.0
undecided	9	18.0	30.0
agree	14	28.0	58.0
strongly agree	21	42.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

Bank employee respondents are answered on the Likert of five scales namely strongly disagree, disagree, agree, strongly agree and indifferent on responding to the propositions regarding Managerial Efficiency affects deposit mobilization**.** Table 34 summarizes the result

Table 35: Convenience of the bank office affects deposit mobilization

	Frequency	Percent	Cumulative Percent

Valid	1	2.0	2.0
strongly disagree	4	8.0	10.0
disagree	4	8.0	18.0
undecided	6	12.0	30.0
agree	20	40.0	70.0
strongly agree	15	30.0	100.0
Total	50	100.0	

Source: SPSS output of frequency distribution of the respondents

Staff respondents were asked to respond on the Likert of five scales namely strongly disagree, disagree, agree, strongly agree and undecided on responding to the propositions regarding Convenience of the bank office affects deposit mobilization. Table 35 summarizes the results.

4.1.2. Descriptive analysis of the dependent and independent variables

Total deposit of studied private commercial banks of Ethiopia

Total deposit of the studied private commercial banks is the dependent variable in this study. Since the study concludes by taking seven private commercial bank of Ethiopia (PCBE) as evidence, total deposit growth of the bank is analyzed. In econometric analysis total deposit of each selected private commercial banks was regressed with six independent variables namely, deposit rate, liquidity , inflation rate, Exchange rate, GDP and branches of private commercial banks. The data is time series covering 12 years from 2005GC to 2016GC.

As can be seen from the graph, which is displayed by Microsoft excel, the volume of the studied private commercial banks deposit is growing from the year 2005GC to 2016GC. The average increments of deposit for the studied private commercial banks are elaborated here. Awash International bank has increased its' deposit on average by 27%, Dashen bank has increased on average by 22%, Bank of Abyssinia has increased by 22%, Wogagen Bank has increased on average by 25%, United Bank has increased by 29%, Nib international Bank has increased by 31% and Cooperative bank of Oromia has also increased by 55% on average from the period

2005-2016G.C

Chart 1: The trend of total deposit growth of PCBE between 2005 and 2016

Source: Microsoft excel output for time series data of total deposit

Table 2: Descriptive Statistics of the studied private commercial banks total deposit from 2005-2016

Private BANKS	N	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
AIB	**12**	**22.5000**	**1.7000**	**24.2000**	**112.7000**	**9.391667**	**7.3524836**
DB	12	20.0000	2.8000	22.8000	137.7000	11.475000	6.6354592
BOA	12	12.0000	1.6000	13.6000	74.8000	6.233333	3.7371193
WB	12	10.7000	1.2000	11.9000	66.3000	5.525000	3.4515148
UB	12	12.1000	.9000	13.0000	69.2000	5.766667	4.0340220
NIB	12	11.3000	1.1000	12.4000	61.8000	5.150000	3.5318036
OCB	12	8.40	.10	8.50	33.60	2.8000	2.95235
Valid N (list wise),	12						

Source: SPSS output for the time series data of total deposit of private commercial banks

The number of observations or the numbers of non-missing values are 12 for the year 2005GC up to 2016GC. The minimum and maximum values of the dependent variable, i.e. total deposit of each private commercial bank are depicted above in the table. AIB has register from the studied private commercial banks i.e., 24.2 billion birr, DB 22.8 billion birr second and BOA 13.6 billion birr 3rd major depositors. The mean or average of the total deposit of each private commercial bank for this sample year is 11.475, billion birr that was recorded by DB followed by AIB I.e., birr 9.39 billion birr and from the selected private commercial banks AIB was registered 7.35 billion birr deviated from its mean.

Descriptive statistics has conducted for the dependent variable (total deposit of private commercial banks) and independent variables (liquidity of banks, exchange rate, GDP, inflation rate, deposit rate and banks 'branches). It includes mean, median, maximum, minimum, standard deviation and others statistics value. The result of the descriptive statistics and its interpretations are presented as follows.

Table 36: -Summary of descriptive statistics of study variables over the period of 2006-2016

	DIR	ER	GDP	INF	LIQ	NOB	TD

Mean	0.044545	0.152252	0.105909	0.168155	0.013909	153.3636	0.183636
Median	0.050000	0.169081	0.108000	0.123000	0.011000	121.0000	0.180000
Maximum	0.050000	0.218004	0.126000	0.444000	0.031000	363.0000	0.240000
Minimum	0.030000	0.086900	0.086000	0.073700	0.003000	0.000000	0.110000
Std. Dev.	0.008202	0.049161	0.012259	0.120682	0.009170	135.5148	0.043422
Skewness	-0.989676	-0.155140	-0.214098	1.336965	0.630864	0.764133	-0.581880
Kurtosis	2.347334	1.457858	2.251104	3.522705	2.239331	1.945366	2.348221
Jarque-Bera	1.990911	1.134134	0.341091	3.402263	0.994848	1.580263	0.815445
Probability	0.369555	0.567187	0.843205	0.182477	0.608095	0.453785	0.665163
Sum	0.490000	1.674767	1.165000	1.849700	0.153000	1687.000	2.020000
Sum Sq. Dev	0.000673	0.024168	0.001503	0.145642	0.000841	183642.5	0.018855
.							
Observations	11	11	11	11	11	11	11

Source: E-View 8 Output correlation matrix

As shown in the table 36 above, the mean value of bank deposit growth was around 18.4 percent for sampled private commercial banks in Ethiopia. It can be noticed that the bank deposit growth fluctuates between 11 and 24 percent. This means, private commercial banks were achieved 18.4 percent average deposit growth achieved for all sectors for the period of 2006-2016. Theoretically, a growth rate of 32.1% in deposits may be considered sufficient to increase supply of loan able funds (Sylvester, 2011). The standard deviation among banks in terms of bank deposit growth was 4.3 percent; this confirms that there were higher variations of deposit growth among private commercial banks during the study period. Though the performances of deposit among private commercial banks conform to supply the loan able fund, the trend of deposit is increasing year to year at increasing rate. The reason of this increasing deposit growth may attribute to increase the users of banking services and Banks are reaching the un banked society. As shown in the result, there were higher differences among banks regarding branch expansion. The mean value of number of bank branches was 153.36 units; the standard deviation was 135.51, while 363 and nil observed as maximum and minimum values, respectively, exhibits higher dispersion higher than its mean value, this implies that public banks expand branching network aggressively in the study period. The mean value of the bank deposit interest rate over the period under study was 4.45% with the maximum and minimum values of 5.0% and 3.0% respectively. There was little variation of

interest rate towards its mean value over the periods under study with the value of standard deviation 0.8%. This implies that the stability of deposit interest rate for subsequent years under the study periods in a sense there is no competition between commercial banks to mobilize deposit. So, there was no competition between private commercial banks to attract the customers with a motive of return on deposit under the study period. The mean value of liquid asset to deposit ratio was 1.39 percent and there was low dispersion of liquid asset to deposit ratio towards its mean value among banks that is shown by the standard deviation of 0.9%. The maximum value of liquid asset to deposit ratio was 3.1 percent, which is far below the standard i.e., 15% whereas the minimum value was 0.3 percent, which is also far below the standard. This indicates that very small numbers were going to face bank liquidity risk (banks around 0.3%). Therefore, it can be concluded that liquid asset to deposit ratio was higher dispersed among private commercial banks in Ethiopia. Exchange rate of US dollar in to Ethiopian birr was fixed by the market. The average value of this variable was 15.22% during the study period; the minimum and maximum values were 8.69% and 21.8%r respectively with standard deviation of 4.0%. This shows that there was discrepancy between banks in terms of Exchange rate fluctuation meaning that, there were higher differences among banks regarding to one year to the next. The inflation or average price of goods and service because of inflation in the country over the sample period was recorded an average of 16.8 percent. The maximum inflation was recorded in the year 2008 (i.e. 44.4%) and the minimum was in the year 2009 (i.e. 2.8%). The rate of inflation was highly dispersed which exhibits higher dispersion larger than its mean value over the periods under study towards its mean with standard deviation of 12.06%. This clearly shows that there was a bit more variations in terms of cost of living as it measured by inflation consumer price index. The other external factor is economic growth showed the mean GDP in Ethiopia during 2006-2016 of 10.59 percent, with a maximum of 12.60 percent in 2010 and a minimum of 8.6 percent in 2012. The standard deviation for GDP was 1.22 percent; this implies that little variation GDP its mean value during the period of 2006 to 2016.

Stationary test:

Most of time series data have a mean that changes with time and a non-constant variance; working with such series in their level would result a high likelihood of spurious regression for

which no interpretation and inferences can be done as the statistical standard tests like the F-distribution or t-distribution are invalid. For instance, if two variables have upward trend, a regression of one on another is very likely to find a significant relationship between them, even if the only thing they have in common is the upward trend. Therefore, the conventional econometric regression procedure requires all the series included in a given model need to be stationary so that the disturbance term will have zero mean and constant variance. In this case, the most widely employed technique for unit root test is developed by Dickey and Fuller tests in which the null hypothesis assumes a series non-stationary against the alternative stationary and is rejected only when there is overwhelming evidence against it at the conventional level of significance. Accordingly, the present analysis considers the importance of stationary criteria and attempted to investigate for the existence of stationary behavior in the time series data under study; first at their level and then at their first difference using the Augmented Dickey and Fuller (ADF) unit root test. From the model that is t>0.02, therefore this means that shocks are present in ΔTD. Since the coefficient is, ≠1 therefore shocks are not permanent in this model. If would have been equal to 1, then this means shocks are permanent. Now we could check significance of the whole model with the help of R-Squared or Adjusted R-Squared. If there is only one independent variable in the model R-Squared is used but more than one independent variable, and then we used Adjusted R-Squared. In this case, since we have more than one independent variable, therefore we would consider Adjusted R-Squared.

Null Hypothesis: D(TD,2) has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=1)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-8.796653	0.0003
Test critical values:	1% level	-4.803492	
	5% level	-3.403313	
	10% level	-2.841819	

*MacKinnon (1996) one-sided p-values.

Warning: Probabilities and critical values calculated for 20 tions observa
and may not be accurate for a sample size of 7
Augmented Dickey-Fuller Test Equation
Dependent Variable: D(TD,3)
Method: Least Squares
Date: 07/05/17 Time: 23:25
Sample (adjusted): 2010 2016
Included observations: 7 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(TD(-1),2)	-1.981354	0.225240	-8.796653	0.0009
D(TD(-1),3)	2.152382	0.316010	6.811118	0.0024
C	1620.465	540.6056	2.997500	0.0400

R-squared	0.950904	Mean dependent var	356.1857
Adjusted R-squared	0.926356	S.D. dependent var	1432.321
S.E. of regression	1203.089	Akaike info criterion	17.32070
Sum squared resid	5789694.	Schwarz criterion	17.29752
Log likelihood	-57.62245	Hannan-Quinn criter	17.03418
F-statistic	38.73653	Durbin-Watson stat	2.476070
Prob(F-statistic)	0.002410		

E view result of unit root test

The value of Adjusted R-Squared is equal to 0.926356* 100 = 92.64%. This means that this model is 92.64% healthy. Now, to check whether the above value of Adjusted R-Squared is significant or not, we would consider F-statistic or Prob (F-statistic) value. We would consider that value (F or P) which would be significant. F-statistic or F > 3.84 is significant, and P (F-

statistic) or P < 0.05 is significant .Therefore, in the above table F = 38.74 is significant, whereas P = 0.02 is significant. Hence we can conclude that this model explains 92.64% which was proved by F statistics and p value.

The researcher had used the econometric model of multiple regressions for this study. The model contains one dependent variable and six independent variables, the constant term and the error term. The ordinary least square (OLS) method is used to come up with the econometric results. For the test statistics 5 %(0.05) significant level is used to reject or not to reject the null hypothesis. The first test the researcher tests are diagnostic tests because they are the means to know whether the model is valid or not on the other hand to know if it is OK to continue with the regression. According to Heteroskedasticity activity test, autocorrelation test, non-normality test and multi co linearity test are tested and the results are presented. As these tests prove the validity of the model, the study had continued into regression analysis and hypothesis testing.

Diagnostic Test

Before regression analysis and hypothesis testing heteroskedasticity, autocorrelation and normality testing is tested to know if the assumptions of CLRM violated or not.

Accordingly, the output of the tests, which are employed by E-views software are presented and interpreted.

Heteroskedasticity Test

According to (Gujarati, 2004) this is a situation whereby the error variances are not constant. This is a violation of one important assumption of the classical linear regression assumptions. To detect heteroscedasticity, the research employed the Whites test for heteroscedasticity. The problem of continuing to use data that suffers heteroscedasticity is that whatever conclusion or inferences, they will be misleading.

The researcher uses Breusch Godfrey test (BG test) to test for heteroskedasticity.

Ho: The assumption that there exists homoskedasticity

H1: There is no homoskedasticity (there is heteroskedasticity)

Table 38:- the heteroskedasticity test of the multiple regression models

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	**5.897609**	**Prob. F(6,2)**	**0.1521**
Obs*R-squared	**8.518532**	**Prob. Chi-Square(6)**	**0.2025**
Scaled explained SS	**0.336500**	**Prob. Chi-Square(6)**	**0.9993**

Source: E-Views 8 output

As shown in Table 38 both F-statistic and Obs*R-squared version of test give the same conclusion that there is no evidence for the presence of heteroscedasticity since the p-values in all of the cases were above 0.05. The third version of the test statistics "Scaled explained SS", which is, as the name suggests, based on a normalized version of the explained sum of squares from the auxiliary regression also give the same conclusion.

Generally, in the regression models used in this study it was proved that the test statistics is not significant and the variance of the error term is constant or homoscedastic and we had sufficient evidence to accept the null hypothesis of Homoscedasticity. The linear model is also correctly specified.

Autocorrelation test

The test for autocorrelation was made by using Durbin and Watson. Durbin-Watson (DW) is a test for first order autocorrelation i.e. it tests only for a relationship between an error and its immediately previous value. DW is approximately equals to two when there is no autocorrelation between the error term and its first order lag (Brooks, 2008). For further test of autocorrelation, the researcher uses Breusch-Godfrey test so that the autocorrelation that are not detected by DW test will be found.

Ho: There is no autocorrelation H1: There is autocorrelation

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	11.56618	Prob. F(1,1)	0.1821
Obs*R-squared	8.283792	Prob. Chi-Square(1)	0.0040

Source: E-Views 8 output of test for autocorrelation

DW test from the regression have a value of 2.26 which is related to 2 and that leads us to conclude there is evidence of the presence of autocorrelation. The test of autocorrelation of the residuals and one lagged value of it, Breusch-Godfrey test (BG test), presents with two type of

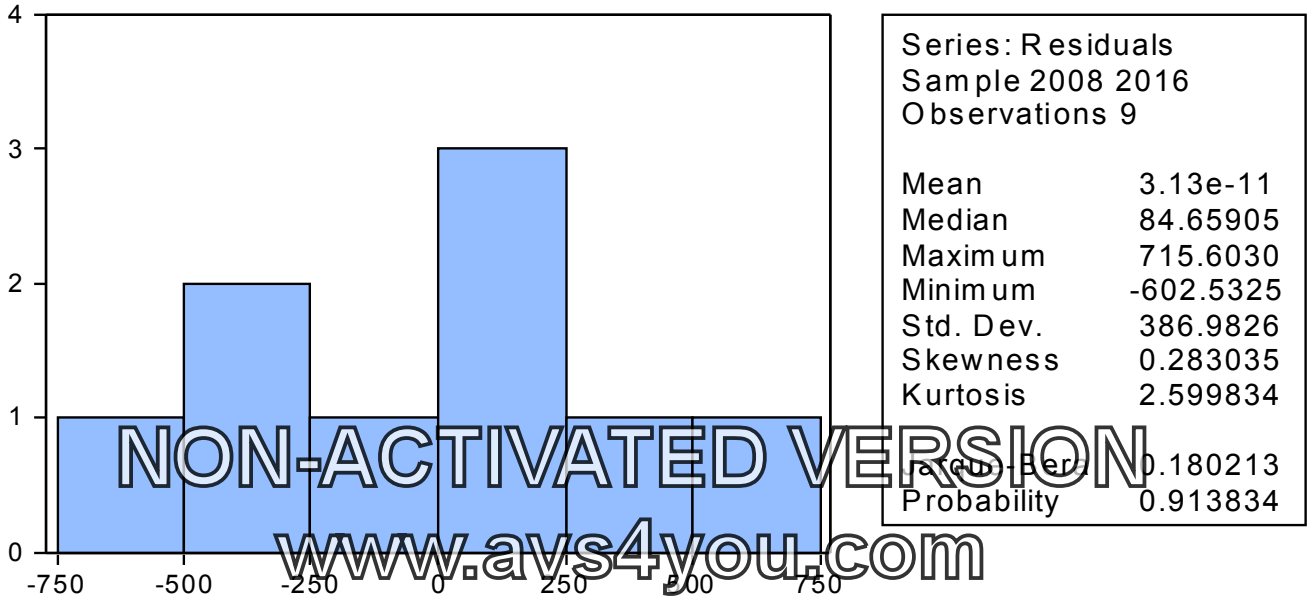
test and both fails to reject the null hypothesis of no autocorrelation. Therefore, given these result it can be concluded that is evidence for the existence of autocorrelation.

Non-normality test

Ho: The residuals are normally distributed

H1: The residuals are not normally distributed

Chart 2: Non-normality test of the multiple regression models



Source: E-Views output for normality test

A Bera-Jarque normality test has been used for normality test. The kurtosis value is around 2.6 which are related to 3. Jarque-Bera's also indicates that the residuals are normally distributed having the value 0.91 which is greater than 0.05. The p-value given at the bottom of the normality test screen should be bigger than 0.05 to fail to reject the null hypothesis at the 5% level (Brooks, 2008). The p-value of non-normality test is 0.9, which is greater than 0.05 had not failed to reject the null hypothesis of normality presence. The residuals are normally distributed.

Results of Regression Analysis and its Interpretation

Operational model: the operational time series regression model is used to find the statistically significant determinants of banks deposit growth in private commercial banks of Ethiopia.

Accordingly, Table 40 below presents the result of regression model that examines the impact of explanatory variables on bank deposit growth. Hence, TD is dependent variable whereas the logarithm of number of bank branches (LNBB), deposit interest rate (DIR), liquid asset to

deposit ratio (LATD), Exchange rate (ER), inflation rate (INF), and economic growth (GDP) explanatory variables.

Table 40: -Regression model

Dependent Variable: TD
Method: Least Squares
Date: 07/05/17 Time: 01:17
Sample (adjusted): 2008 2016
Included observations: 9 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	210149.0	22728.91	9.245890	**0.0115**
DIR	611.1795	2032.805	0.300658	**0.7921**
ER	-1538.072	1044.095	-1.473134	**0.2145**
GDP	2712.887	369.4410	7.343222	**0.0180**
INF	-120.7564	37.84206	-3.190811	**0.0755**
LIQ	-78123.31	7990.559	-9.776952	**0.0103**
LOG2NOB	50.29385	3.386199	14.85260	**0.0045**

R-squared	0.999730	Mean dependent var	47416.99
Adjusted R-squared	0.998919	S.D. dependent var	24051.19
S.E. of regression	790.6555	Akaike info criterion	16.23508
Sum squared resid	1250272.	Schwarz criterion	16.38848
Log likelihood	-66.05786	Hannan-Quinn criter.	15.90405
F-statistic	1233.446	Durbin-Watson stat	2.316826
Prob(F-statistic)	0.000810		

Source: - E view 8 out put

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

Estimation Equation:

==========

TDit = ei+ C (1) + C (2) *DIR + C (3) *ER + C (4) *GDP + C (5) *INF + C (6) *LIQ + C (7) *LOG2NOB

Substituted Coefficients:

==========

TD = 210149.04212 + 611.179511618*DIR - 8588.07233563*ER + 2712.88727497*GDP + 129.756353849*INF - 78123.3075116*LIQ + 50.2938468986*LOG2NOB

Where: - Dependent variable-is bank deposit growth (TD) and independent variables includes-logarithm of number of bank branches (LNOB), deposit interest rate (DIR), liquidity asset to deposit(LATD), Exchange Rate (ER), inflation rate (INF), and Economic growth (GDP).

Interpretation of R-squared

As shown in Table 40, an R-squared coefficient of 0.999730 obtained from the estimated model; revealing that 99.97 percent of variation in deposit growth (TD) is explained by the selected explanatory variables (logarithm of number of bank branches (LNOB), deposit interest rate (DIR), liquidity asset to deposit (LATD), Exchange Rate(ER), inflation rate (INF), and per capita income growth (GDP).

The R-square result makes sense because there are other factors such as size of the bank, degree of financial intermediation and money supply that were not included in the model but could not help in explaining deposit growth in private commercial banks.

Interpretation of Adjusted R-squared

An adjusted R-squared value, which takes into account the loss of degrees of freedom associated with adding extra variables were inferred to see the explanatory powers of the models. In other words, the adjusted R-squared shows not satisfactory levels, which mean that nearly 99.89 percent of the volatilities in deposit growth, are explained by the volatilities of independent variables included in the equation. Therefore, an adjusted R square having value of 0.998919 shows that 99.89 percent of dependent variable is explained by the independent variables included in the model.

Interpretation Results of the Independent Values

1. Logarithm of Number of Bank Branches (LNOB) on Total Bank Deposit Growth

The result in table 40 shows that, the logarithm of number of bank branches has a statistically significant at 0.0045 and positive impact in bank deposit growth. A one-unit increase in number of bank branch generates a 50.29385over hundred unit increase in bank deposit growth. Positive

and significant coefficient for bank branches validates the argument of Khalily et al (1987); Hibret (2015); Shemsu (2015); Wubetu (2012) and Nathanael (2014). Rana (1984), Srinivasan and Meyer (1986), Vasquez (1986), and Wai (1992) found a positive and significant relationship between demand for deposits and expansion of bank branches. This finding also agrees with the findings of Lewis (1995) but contrasts with findings of Peter and Michaelo (2015). This implies that the importance of branch expansion of private commercial banks over the country that leads to affecting deposit growth meaning that banks with many branches in Ethiopia have high deposit growth. Thus, in general, null hypothesis has been accepting and conclude that bank branches have causality relationship with growth of bank deposit; meaning that it is one of the major factors that banks can use to achieve deposit growth via a proper management of branch expansion. The expansions of the branch network not only reduce transaction costs for depositors but also increase accessibility of banking services and provide other important financial services and increase the awareness of people about banking. Even so, rural branches are still clustered in relatively urban areas so banking services are not evenly distributed, and many potential areas remain unbanked.

2. Deposit Interest Rate (DIR) on Bank Deposit Growth

Deposit interest rate was found to have a positive relationship with bank deposit growth and the relationship is insignificant at p value of 0.7921 according to the model in Table 40 above a one unit increase in deposit interest rate generates 611.1795-unit increase in deposit growth and concludes that deposit interest rate do insignificant contribute to bank deposit growth. This result is supported by the findings of Wubetu (2012); Hibret (2015); Ngula (2012);

Deaton (1992) and Fry (1994) have shown that interest can be either positive or irrelevant in the saving function. Edmister and Merriken (1989) also showed that interest rates could do little in this regard.

One of the most effective factors for deciding to deposit in banking system is the interest rate (Mohammad and Mahdi, 2010). Moreover, this article shows the impact of interest rate on the performance of the banking system to achieve the goals that are expected from the banking system. Herald and Heiko (2009) also mentioned interest as one of the 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. Moreover, Mustafa and Sayera (2009) said that low deposit rates are discouraging saving mobilization. V. V. 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.

This implies that deposit interest rate is a major factor in explaining the private commercial banks deposit in Ethiopia meaning that interest rate more plays an important role in deposit growth.

3**. Liquid Asset to Deposit ratio (LATD) on Bank Deposit Growth**

Bank liquidity is measured in three ratios: liquid asset to deposit, liquid asset to total asset and loan to deposit ratios. The researcher has measured liquidity by loan to deposit ratios, which has significant negative impact on private commercial bank deposits growth. The coefficient of this relationship of -78,123.31 indicates that holding other things constant, a unit increase in total loan to deposit will lead to a -78,123.31-unit decrease and vice versa in bank deposit growth at a significant p value of **0.0103**.

Liquid banks as well as banks with a higher loan exposure are associated with higher deposit growth. Herald and Heiko (2009) states that the liquidity situation of the bank also plays a significant role in determining banks deposit growth. According to Nada (2010), Banks perceived as risky should have had a relatively attracting deposit and making loans than banks perceived as safe. When banks fail to pay for its depositors then it faces liquidity risk that makes other depositors not to deposit in that particular bank.

Generally, the present study is aligning with Devinga, (2010), loans to deposit ratio is inversely related to liquidity and consequently the higher the loans to deposit ratio the lower the liquidity indirectly affect deposit growth and vice versa. According to Vong et al. (2009) study findings exhibits a positive relationship between loan to deposit ratio and deposit. Further Abreu and Mends (2002), found that there is appositive and significant relationship between the ratio of the LDR and bank profits indirectly to bank deposit. Note that the financing position of banks with high loan to deposit ratios can still be more vulnerable overall, as informed creditors are typically the first to run. As there is no national standard for this variable to put implication since there is no base to say so, it is better to let this variable for further research.

4. **Exchange Rate on Bank Deposit Growth**

Private Banks previous year bank deposit was also found to be statistically significant determinant variable of current bank deposit growth of Ethiopian banking sector. Therefore,

holding other things constant a 1-unit increase in exchange rate Dollar with Birr will lead to –8,588.072-unit reduction and vice versa in the bank deposit growth. The results show that the coefficient of exchange rate is negative and statistically significant impact on current bank deposit growth of p value **0.0145**. This could result because the emphasis given by banks mobilizing more deposit in the subsequent period may be lessened. This result is similar to Lommuto (2008).

5**. Inflation Rate (INF) on Bank Deposit Growth**

Inflation is a sustained rise in the general level of prices – the price level. The inflation rate is the rate at which the price level increases. Symmetrically, deflation is a sustained decline in the price level. According to Herald and Heiko (2009), price can also determine commercial bank deposit and it can be indicated by consumer price index.

The result in table 40 shows that inflation rate has insignificant positive impact in bank deposit growth. The coefficient of this relationship of 129.7564 indicates that holding other things constant, a unit increase in inflation rate will lead to a 129.7564 -unit increase in bank deposit growth at an insignificant level of p value of **0.755**. This implies that persistent inflation has a positive insignificant effect on growth of bank deposit. So higher inflation induces savers to save less, perhaps households save to avoid price reduction from deposits. This result is consistent with the precautionary motive, suggesting that increased macroeconomic uncertainty induces people to save a proportion of their incomes. This is particularly true for households in developing countries such as Ethiopia whose income prospects are more uncertain than their counterparts in developed countries are. This finding supports the idea of Schmidt Hebbel, Webb and Corsetti (1992), which found that non-statistically significant relationship between deposit growth and inflation rate.

6. **Economic Growth (GDP) on Bank Deposit Growth**

Theoretical and empirical evidence suggests that, economic growth is the main source of banks deposit growth. If there is a real growth in the economy, deposit will grow as well. The chakravarty committee proved this hypothesis in 1985. The committee reported that the growth of Indian deposit in 1985 at an accelerated pace was attributed to the higher real growth achieved by the economy (chakravarty committee, 1985).

The economic growth of the country proxy by GDP had positive and statistically significant impact on deposit with p value of **0.0180**. One unit increase in GDP result increase deposit by

2712.887 units. In growing economy, both individuals and companies corporate income will increase. This increase leads to increase earnings (per-capita income) which will intern increase saving. The finding of Tizita (2014) and Hadush (2012) supports this argument. The study of the chakravarty committee in 1985 clearly indicated that the existence of real growth in the economy, will definitely results in deposit growth. (chakravarty committee, 1985). Indian experience is the same as Ethiopia's in this regard. According to Herald and Heiko (2009), 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) (Jim, 2008). Erna and 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. Therefore, GDP can influence the growth of commercial banks deposits.

Hypothesis Test

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

Table 41: Wald Test:

Equation: EQ 015052017

Wald Test:
Equation: Untitled

Test Statistic	Value	df	Probability
F-statistic	28.99060	(6, 2)	0.0337
Chi-square	173.9436	6	0.0000

Source: E Views output of the hypothesis test (Wald test)

The null hypothesis says that the coefficient of independent variables on the right hand side is zero that means the independent variables have no effect on the dependent variable, total deposit of private commercial banks. The alternate hypothesis is therefore the coefficients of independent variables are different from zero that is the independent variables have effect on the

dependent variable, total deposit of private commercial banks. Therefore, the rejection of the null hypothesis shows that the coefficients of variables on the right hand side are different from zero, i.e. independent variables have effect on the dependent variable. Deposit rate, inflation rate, liquidity and branch expansion positively affects the total deposit of private commercial banks.

CHAPTER FIVE:

CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

The study is conducted on determinants of deposit mobilization in private commercial banks of Ethiopia. This study was undertaken with overall objective of identifying factors determining deposit mobilization of private commercial banks. In meeting this objective, the study used both primary and secondary data sources. Accordingly, the summary of the findings were listed as follows:

- Private Commercial banks in Ethiopia mobilize its funds mainly from the individuals from profit of its operation and deposit of the customers.
- All private commercial banks claim service Excellence, good will of the bank, branch expansion, promotional effort, awareness creation and using modern technology and provide new product as the opportunities and efforts the bank employee is using to attract depositors. Beyond these, the bank did not use other mechanism, such as coupon prize awarded to depositor.
- Government policy, managerial efficiency, exchange rate, inflation, Convenience of bank's office, transportation, hard work of employees, awareness of the society and other reasons are claimed to be the cause for deposit volume variation among private commercial banks. However, NBE rules and regulation such as bill purchase, condominium house saving, export item to China is channeled through government bank and foreign investors came to the country and invite them to send their investment money through government bank and the like founded to be the reason for variation.
- The logarithm of Number of branches available has positive and significant effect on total deposit of on private commercial banks.
- Inflation rate has positive insignificant effect on total deposit in private commercial banks of Ethiopia (PCBE).
- Deposit interest rate has positive insignificant effect on total deposit in private

commercial banks of Ethiopia (PCBE).

- Liquidity of the bank has negative significant effect on total deposit of Private commercial banks of Ethiopia (PCBE).

- GDP has positive significant effect on total deposit in private commercial banks of Ethiopia (PCBE).

- Exchange rate has negative significant effect on total deposit in private commercial banks of Ethiopia (CBE).

- The hypothesis test result not rejects the null hypothesis at 5% significant level, that shows all the independent variables (exchange rate, GDP, Liquidity, deposit rate, inflation rate and number of branches) has an effect on total deposit in private commercial banks.
- The results obtained from the regression analysis indicated that the logarithm of branch expansion, liquidity, exchange rate and GDP are significant in affecting deposit mobilization with (P=0.01, 0.01, 0.04 and 0.02 respectively) at 5% confidence level respectively while deposit interest rate and inflation rate were insignificant and affects the deposit positively with (P=0.725 and P=0.075) respectively.

- From the feedback of the respondents bank branches, managerial efficiency, convenience of bank office, government policy, technology, saving habit of society, and human capital affects deposit mobilization of private commercial banks significantly.

- The respondents perception reflected that liquidity, capital adequacy, inflation rate, profitability, exchange rate and reserve requirement were affecting deposit of the banks insignificantly.

- The current condominium house construction program partial saving by society that allowed to be deposited in CBE only affects deposit amounts of the private commercial banks negatively.

- The policy issued by NBE on private commercial banks in investing 27% of their deposit against bond purchase reduced credit amount availed to their customers directly while it

discourages deposit mobilization of these banks indirectly.

5.2. Recommendations

Based on the research findings and conclusions the followings were recommended for the improvement of deposit mobilization of private commercial banks in Ethiopia.

- Since deposit is the main source of funds for private commercial banks, therefore due emphasis be given by all the concerned bodies of the private commercial banks employee to enhance its deposit mobilization level.

- Private commercial banks provide excellent service for its customers to mobilize more deposits through giving various incentives such as coupon prizes for the potential customers.

- Private commercial banks adopt flexible, transparent and have strong relationship to handle the existing customers in sustainable way and to encourage others.

- Private Commercial banks arrange enough and secured parking areas for their customers to maintain the potential depositors.

- Private commercial banks are better to provide technology connected service like ATM, Mobile banking, internet banking, agent Banking…etc to attract new customers and hold the existing one in a sustainable ways to have enough deposits.

- Private commercial banks apply research and development for market assessment to identify the potential resource of the area during their branch expansion.

- The government provides free and fair policies among the state and private owned banks to have liberalized economy to achieve welfare of the societies.

- To improve management capability private commercial banks gives due attention in

providing training packages consistently for their employees to update their knowledge and skills.

- Private commercial banks are better to focus in doing with exporters and foreign banking agents to have enough foreign currencies, which attracts potential depositors.

Finally, this study investigates the determinants of deposit mobilization of private commercial banks in Ethiopia. However, the variables included in the study were not exhaustive. Thus, I recommend that future researchers could include other bank specific and macroeconomic variables in the regression models.

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APPENDICES

Appendix 1:-

St. Mary University

Department of General Masters in Business Administration

(School of Graduate Studies)

Questionnaire on **Determinants of Deposit Mobilization: A case in private Commercial Banks of Ethiopia.**

Dear Respondents,

This study is conducted in partial fulfillment of the requirements for the master's of science in general business administration at St. Mary University College. Its main objective is to identify factors that affect deposit mobilization of private commercial banks in Ethiopia. The research is going to be carried out on your responses and other relevant data that could support it.

The purpose of this questionnaire is to obtain your perceptions and views regarding various aspects of private commercial banking business. It forms a major part of the research and the information you will give enable me to critically identify the determining factors that can affect the deposit mobilization efforts of private commercial banks in Ethiopia. Your cooperation to respond is very important to this study because it represents others who are not included in the sample.

Please answer every question. The questionnaire seeks basic information and you can **tick** the option that you choose or write your answer on the blank space provided. Space is provided at the end of the questionnaire for you to add further comments or explanations.

I would promise that all information you provide would be strictly confidential.

I thank you very much in advance for your cooperation.

Researcher's Name: Debasu Muluken

debasum1979@gmail.com

Telephone: +251 912018694

Questionnaire

1. **Personal Information**

1. Age

^ Below 25 years ^ 26-35 years

^ 36-45 years ^ 46 and above

1. Sex

   ^ Female ^ Male

2. Educational level

   ^ Diploma ^ Bachelor degree

   ^ Master's degree ^ PhD

   ^ Others, please specify_____

3. Your work experience in private commercial bank of Ethiopia?

   ^ Below five years ^ 6-15 years

   ^ 16-25 years ^ 26 and above years

4. What is your current job title in your Bank?

   ^ Director ^ Branch Manager

   ^ Customer Service Manager ^ Deposit mobilization team leader

   ^ Senior Customer service officer ^ Customer relation officer

^ if others, please specify_____

2. Deposit Mobilization Issues

1. What mechanisms does your bank use to encourage/ motivate deposit mobilization efforts made by branches?

^ allocate loan to the branch's customer.

^ allocate foreign currency to branch's customer.

^ provide recognition certificate to the top performer employee of the branch.

^ increase or decrease the branch's grade.

^ If others, please specify_____

2. How do you evaluate the understanding and commitment of staffs for deposit mobilization?

^ Very Good ^ good ^ satisfactory ^ Poor

3. Recently the bank has introduced various new products on deposit accounts (for example Agent banking, Islamic banking, mobile banking and the like/ How do you measure their contribution in the efforts to mobilize deposit?

^ Very Good ^ good ^ satisfactory ^ Poor

4. What has been done in your bank to promote awareness of the Society pertaining to your bank services?

^ take air times from the local mass media and provide information about their product.

^ participate in different social activities.

^ through sales or marketing agent introduce the bank's product.

^ If others, please specify_____

5. What special services do the bank provides for corporate depositors/customers?

^ Availability of special bank branch's to these corporate customers.

^ Availability of separate office in all bank branches to corporate customers.

^ provide the service at the customer's own office.

^ provide special benefit to corporate customers.

^ If others, please specify_____

6. Does the volume of deposits grow because of such special services provided forthe corporate depositors?

^ Yes ^ No

7. How do you rate your customer's satisfaction in related to deposit mobilization service?

^ Very Good ^ good_ ^ Satisfactory _^ Poor

8. What tools or techniques do customers have to express their satisfaction/dissatisfaction?

^ Availability of suggestion boxes in all branches.

^ Availability of suggestion boxes in all branches.

^ Availability of any device which follow-up/record/ the standard service time of the Customer in all branches.

^ Availability of customer satisfaction/dissatisfaction questionnaire in all branches.

^ if others, please specify_____

9. What are the results of the current deposit mobilization efforts/practices of the bank?

^ provide better service to the society ^ Banks are reach/contact/the unbanked area.

^ increase the cost of deposit for example increase deposit interest rate. ^ All

^ if others, please specify_____

10. What is the major cause for the variation in deposit among banks ofprivate commercial banks of Ethiopia?

^ Convenience of branch office/location ^ Availability of parking areas

^ Effort of the branch staffs^ Most of the surrounding societies of the branch *are/are not* identified target Customers of your bank.

^ other reasons (specify) _____

11. How much time does it take for a customer to open a new account in your bank?

^ Less than 10 minutes ^ 10 to 30 minute's ^ More than 30 minutes

12. How much time does it take a customer to withdraw or deposit cash to his account?

^ Less than 10 minute ^ 10 to 30 minute's ^ More than 30 minute's

13. As per the annual reports, total deposit of each commercial bank is continuously growing during the last five years. What is the major reason?

^ Societies' preference to deposit their savings than other investment.

^ Awareness of society on private commercial banks is becoming increasing.

^ the service given by the bank is preferable than public banks.

^ The goodwill of the bank.

^ other reasons (specify) _____

14. Who do you think are major depositors in your bank?

^ Individual customer's ^ Business organizations

^ NGOs ^ Government

15. How do you measure the competition with other private and government owned banks?

^ Weak ^ Moderate ^ Stiff

Part 3: Determinants of Banks deposit Mobilization the major factors that affecting private commercial banks deposit mobilization in Ethiopia are listed below. After you read each of the factors, evaluate the extent of their effect on deposit mobilization in relation to your bank experience and then put a tick mark (√) under the choices below using Likert scale measurements.

5=strongly agree 4=agree 3=undecided 2=disagree 1=strongly disagree

Key Variables	**Agreement Scale**					
	1	**2**	**3**	**4**	**5**	Remarks
Number of Bank branches						
Bank Size based on their capital						
Liquidity of the bank						
Profit after Tax						
Capital Adequacy						
Government policy / example bill purchase, condominium house saving/						
Level of real GDP						
Use of Advanced Technology						
Human Capital						
Saving habit of society						
Inflation rate						
Exchange Rate						
Reserve requirement						
Managerial efficiency						
Convenience of Bank office						

Appendix 2:-Excel raw data sheet of Dependent and Independent Variables from 2006-2016

Year	TD	DIR	ER	GDP	INF	LIQ	NOB
2006	0.20	0.03	0.086900	0.118	0.1290	0.031	0
2007	0.23	0.03	0.090300	0.108	0.1230	0.027	58
2008	0.22	0.04	0.096100	0.115	0.1720	0.020	65
2009	0.21	0.04	0.113900	0.108	0.4440	0.018	45
2010	0.17	0.05	0.135321	0.088	0.0850	0.014	79
2011	0.11	0.05	0.169081	0.126	0.0810	0.011	127
2012	0.11	0.05	0.177305	0.112	0.3320	0.010	121
2013	0.18	0.05	0.186426	0.086	0.2280	0.008	124
2014	0.24	0.05	0.195771	0.105	0.0810	0.007	346
2015	0.18	0.05	0.205659	0.096	0.0737	0.004	359
2016	0.17	0.05	0.218004	0.103	0.1010	0.003	363

Appendix 3:-Summary of descriptive statistics of study variables over the period of 2006-2016

Date:05/11/17
Time: 02:54
Sample: 2006 2016

	DIR	ER	GDP	INF	LIQ	NOB	TD
Mean	0.044545	0.152252	0.105909	0.168155	0.013909	153.3636	0.183636
Median	0.050000	0.169081	0.108000	0.123000	0.011000	121.0000	0.180000
Maximum	0.050000	0.218004	0.126000	0.444000	0.031000	363.0000	0.240000
Minimum	0.030000	0.086900	0.086000	0.073700	0.003000	0.000000	0.110000
Std. Dev.	0.008202	0.049161	0.012259	0.120682	0.009170	135.5148	0.043422
Skewness	-0.989676	-0.155140	-0.214098	1.336965	0.630864	0.764133	-0.581880
Kurtosis	2.347334	1.457858	2.251104	3.522705	2.239331	1.945366	2.348221
Jarque-Bera	1.990911	1.134134	0.341091	3.402263	0.994848	1.580263	0.815445
Probability	0.369555	0.567187	0.843205	0.182477	0.608095	0.453785	0.665163
Sum	0.490000	1.674767	1.165000	1.849700	0.153000	1687.000	2.020000
Sum Sq. Dev.	0.000673	0.024168	0.001503	0.145642	0.000841	183642.5	0.018855
Observations	11	11	11	11	11	11	11

Appendix 4

Estimation Equation:
==========
TD = C (1) + C (2) *DIR + C (3) *ER + C (4) *GDP + C (5) *INF + C (6) *LIQ + C (7) *LOG2NOB

Substituted Coefficients:
==========

TD = 210149.04212 + 611.179511618*DIR - 8588.07233563*ER + 2712.88727497*GDP + 129.756353849*INF - 78123.3075116*LIQ + 50.2938468986*LOG2NOB

Appendix 5

Wald Test:
Equation: Untitled

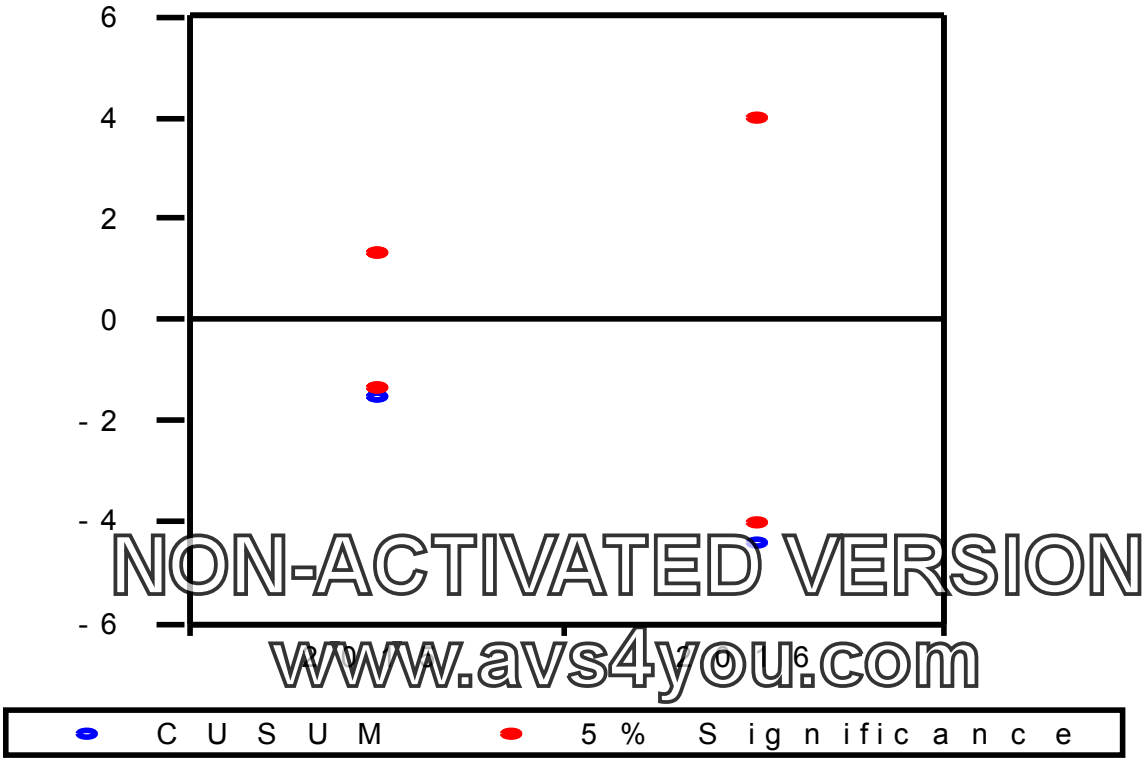
Test Statistic	Value	df	Probability
F-statistic	28.99060	(6, 2)	0.0337
Chi-square	173.9436	6	0.0000

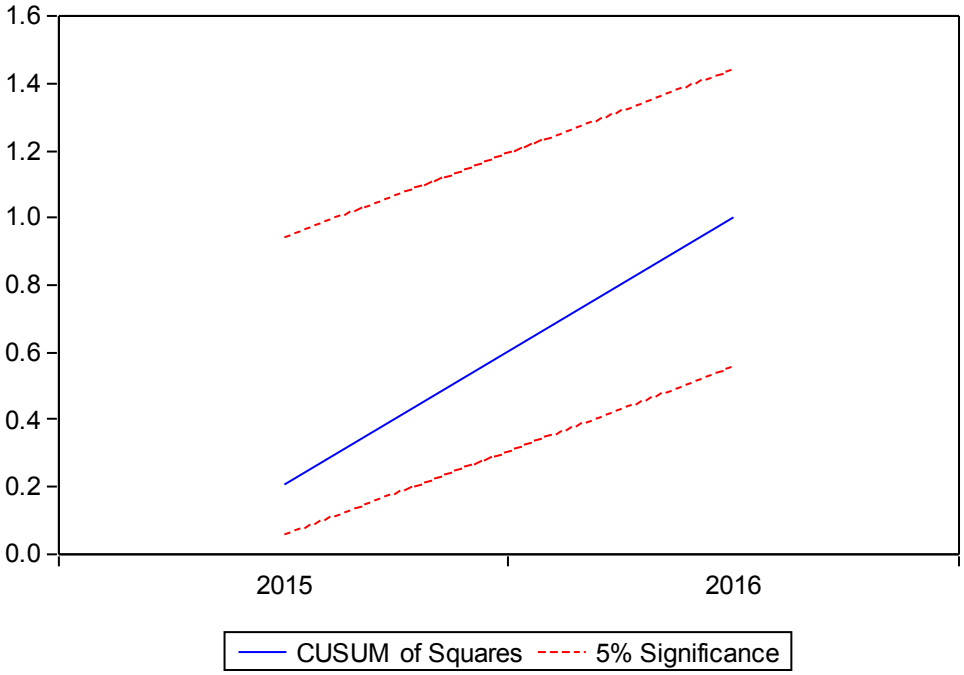
Null Hypothesis: C(1)=0, C(2)=0, C(3)=0, C(4)=0, C(5)=0, C(6)=0, C(7)=0

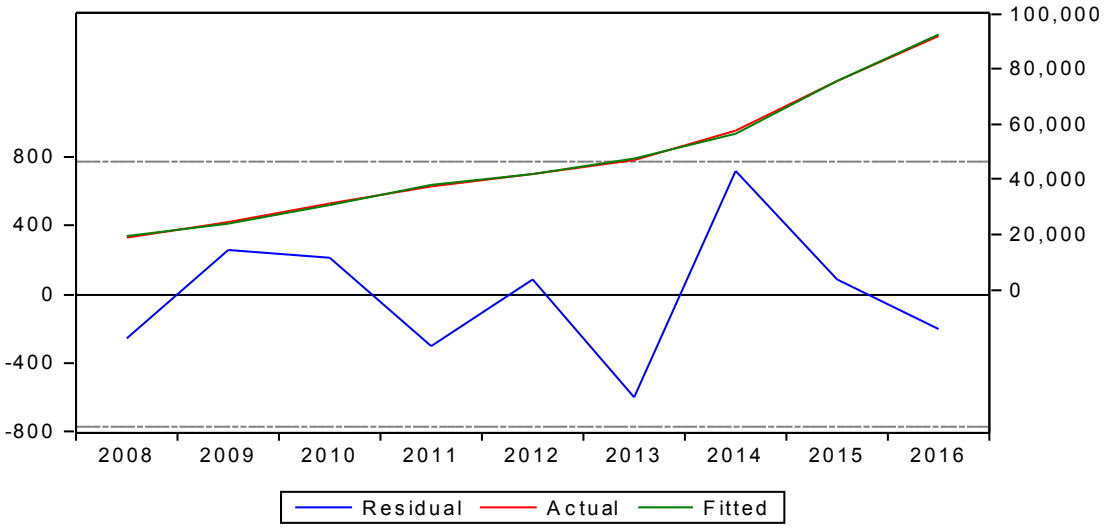
Null Hypothesis Summary:

Normalized Restriction (= 0)	Value	Std. Err.
C(1)	209530.1	22182.05
C(2)	68018.47	199319.2
C(3)	-858109.0	102059.4
C(4)	270559.3	36084.06
C(5)	13049.43	3709.380
C(6)	-7796726.	779988.1

Restrictions are linear in coefficients.







Appendix 6

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	5.897609	Prob. F(6,2)	0.1521
Obs*R-squared	8.518532	Prob. Chi-Square(6)	0.2025
Scaled explained SS	0.336500	Prob. Chi-Square(6)	0.9993

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 07/05/17 Time: 23:15
Sample: 2008 2016
Included observations: 9

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-8048636.	2367647.	-3.399424	0.0767
DIR	-70957536	21274742	-3.335295	0.0793
ER	59698255	10893516	5.480164	0.0317
GDP	-19497249	3851506.	-5.062241	0.0369
INF	-1750978.	395928.2	-4.422465	0.0475
LIQ	3.94E+08	83253617	4.726866	0.0420
LOG2NOB	-294.5679	353.6093	-0.833032	0.4925

R-squared	0.946504	Mean dependent var	133116.0
Adjusted R-squared	0.786014	S.D. dependent var	178584.6
S.E. of regression	82610.75	Akaike info criterion	25.53315
Sum squared resid	1.36E+10	Schwarz criterion	25.68654
Log likelihood	-107.8992	Hannan-Quinn criter.	25.27212
F-statistic	5.897907	Durbin-Watson stat	2.317670
Prob(F-statistic)	0.152057		

Appendix 7

Breusch-Godfrey Serial Correlation LM Test:

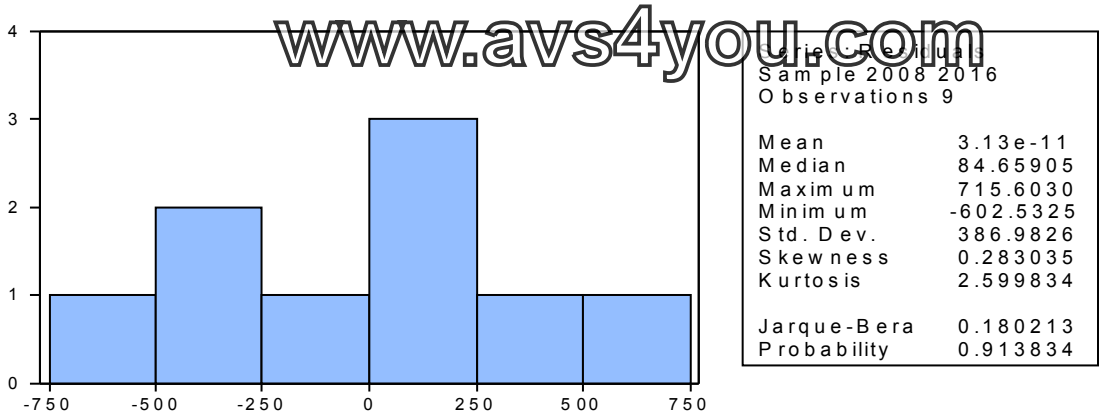
F-statistic	11.56618	Prob. F(1,1)	0.1821
Obs*R-squared	8.283792	Prob. Chi-Square(1)	0.0040

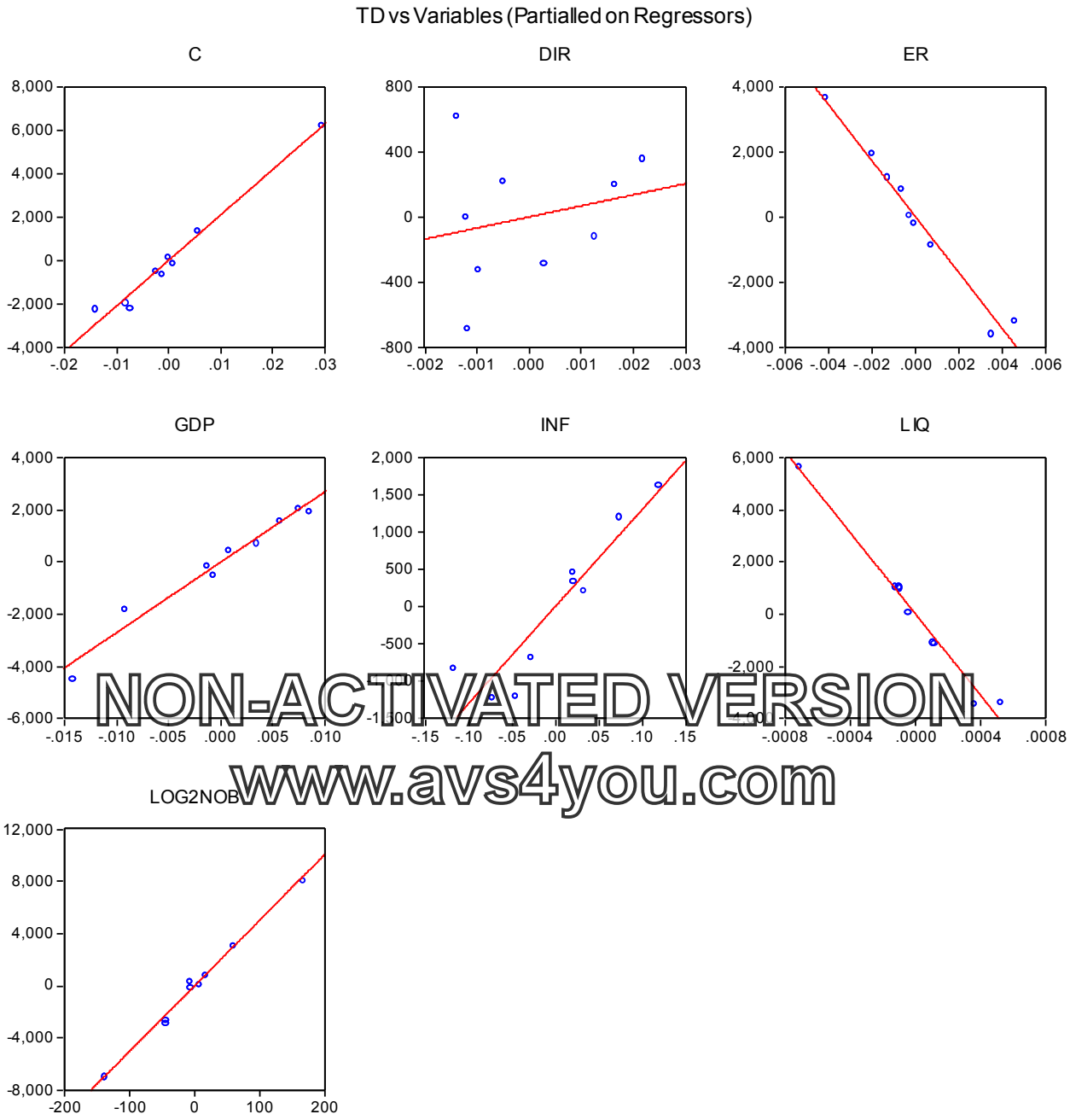
Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 07/05/17 Time: 23:24
Sample: 2008 2016
Included observations: 9
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	45076.16	15936.90	2.828414	0.2163
DIR	31031.18	80039.24	0.387700	0.7645
ER	-191932.3	69590.07	-2.758042	0.2214
GDP	33479.07	17439.60	1.919715	0.3057
INF	1349.831	1532.141	0.881009	0.5402
LIQ	-1565483.	555622.5	-2.817529	0.2171
LOG2NOB	-3.083424	1.602751	-1.923832	0.3052
RESID(-1)	-2.028431	0.596438	-3.400909	0.1821

R-squared	0.920421	Mean dependent var	3.13E-11
Adjusted R-squared	0.363371	S.D. dependent var	386.9826
S.E. of regression	308.7697	Akaike info criterion	13.88362
Sum squared resid	95338.74	Schwarz criterion	14.05893
Log likelihood	-54.47630	Hannan-Quinn criter.	13.50530
F-statistic	1.652312	Durbin-Watson stat	2.256194
Prob(F-statistic)	0.537924		

Chart two Normality test result





Declaration

I the undersigned, declare that this thesis is my original work, which was prepared under the guidance of Simon T. (Ass. Professor). All sources of materials used for the thesis have been duly acknowledged. I further confirm that the thesis has not been submitted either in part or in full to any other higher learning institution for the purpose of earning any degree.

Name Signature Debasu Muluken Azmeraw _____