

# An Investigation of Determinants of Deposit Mobilization in Commercial Banks of Ethiopia

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## Abstract

This study is mainly aimed to investigate factor that determine customer deposit mobilization by the commercial bank of Ethiopia by using data for 20 years. Both descriptive and econometric analysis has been applied in order to investigate factors that determine deposit mobilization in the case of commercial bank of Ethiopia. As determinants of customer deposit mobilization in the bank five explanatory variable such as , loan , existence of competitors , interest rate , branch expansion were included .The result of the econometric result indicate that loan provision , branch expansion and number of customers are found to have significant positive impact for the growth of deposit mobilization . However the emergence of new competitors and interest rate is not found to have positive impact to induce deposit mobilization in the bank. The study recommends expansion of banks in different areas as well as enhancing the number of the customers via different incentive provision and coping up with emerging competitors as potential means of promoting deposit mobilization.

## Chapter One

### 1. Introduction

#### 1.1 Background of the Study

Financial Resource mobilization is a critical issue in the economy of the Ethiopia. Commercial Bank of Ethiopia mobilizes resource from customer local deposit, foreign currency and loan collection. Customer local deposit is a major source to resource mobilization of Commercial Bank of Ethiopia. Therefore customer deposits have a dramatic impact in resource mobilization of Commercial Banks. On the basis of resource mobilization purpose Commercial Bank of Ethiopia serve different types of deposit mobilization. These are demand deposit, saving deposit, women deposit, youth deposit and fixed time deposit.

Depending upon the nature of deposit, funds deposited with banks also earn interest. If the rate of interest is higher, the customers are motivated to deposit more resource in the bank. Banks in turn accept money from the customers and lend it to the borrowers. Therefore, deposits are the most important resource of commercial banks. Thus the amount of resource 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. 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. Ethiopian government has collected a total of one billion and 458 million birr (88.2 million US dollars at the exchange rate of the time) in profit tax from both private and government banks operating in the country in 2009/2010 fiscal year. Ethiopia's income in profit tax from the ten private banks in the country, which have begun making profit, has increased by 162 million birr in 2009/2010 fiscal year from the preceding fiscal year it reached 580 million birr (around 35 million US dollar at exchange rate of the time).

The Commercial Bank of Ethiopia (CBE) is the largest commercial bank in Ethiopia as of June 2011; had about 86.5 billion Birr in assets and the 51<sup>th</sup> leading African bank with assets of 242.72 billion Birr as on June 30<sup>th</sup> 2014. It held approximately 63.5% of deposits and about 38% of all bank loans in the country. The CBE's financial position kept strengthening over the years as a result of steady increase in its income. The total income of the Bank for 2012/13 stood at Birr 13.7 billion, registering a growth of 18.6 percent compared with Birr 11.6 billion in the preceding year. This growth in total income is attributable to a 42.3 percent growth in interest income. However, it has grown by a lesser margin than it was in the preceding year.

The Bank's total deposit reached Birr 154.4 billion in 2012/13 fiscal year, registering a growth of 28.7 percent compared with that of the preceding year. This level of deposit was not only the highest in the Bank's history, but it was instrumental in sustaining its lion's market share in the industry. Demand deposit has increased by 30.6 percent compared with the level in the preceding fiscal year. Similarly, savings deposit grew by 26.9 percent to reach Birr 53.4 billion, and fixed time deposit by 18.6 percent to reach Birr 8.8 billion. The ratio of demand deposits to total deposit stood at 60 percent, slightly larger than the level in the preceding year of 58.8 percent. On the other hand, the share of savings and fixed time deposit were 34.6 percent and 5.7 percent, respectively. The bank has around 20,000 employees, who staff its headquarters and it's over 910 branches positioned in the main cities and regional towns and woredas.

#### 1.3 Statement of the Problem

The study tried to assess Factor determining Customer Deposit Mobilization of Commercial Bank of Ethiopia

Branches under Wolaita Sodo and Hossana Towns under various competitive conditions. Households, businesses, government and many other different institutions mobilize resource through customer deposit. The commercial bank is lending the money from its deposits. Deposits come from the customers who are investing their money in Commercial Bank of Ethiopia. So as to undertake this process the deposit should be available first. A resource mobilization through customer deposit of the Commercial Bank of Ethiopia may be affected by different factors. Since a deposit is most useful resource of the bank it is relevant to find out the factors affecting it and determining the relationship among them. This study filled this gap by identifying the factors that can affect the resource mobilization through customer deposit of the commercial bank of Ethiopia and determined the extent they are affecting it. Stastical Evidence from National bank of Ethiopia indicates that from deposits that should be mobilized by banks only 7% is mobilized. That indicates that from the money that should be deposited in the bank 93% of it did not mobilized. From the countries tradition money may be kept in traditional way. This shows that the deposit mobilization practice among banks in the country is not developed and there should be mechanisms to mobilize such deposit rather than sitting and waiting for depositors to come and deposit their money. The need for studying such mechanisms forces this study to be undertaken. A research under this article is rarely available.

The banks are not successful in controlling and managing deposit because they did not know about those factors that can affect the deposit. As the research conducted in this particular area is rarely available academicians lacks the reference material of this area. The researcher was motivated to undertake a research in this particular area to fill these gaps. Identifying those factors and appreciation will be significant for the successful operation of the organization because those factor will be a means for measuring the weakness and strength to realize the changing business environment.

#### **1.4 Research question**

The study is aimed to answer the following research question:

- What are the factors that determine deposit mobilization in commercial bank of Ethiopia wolaita sodo and hosanna branch?
- What is the impact of each determinants of deposit mobilization in the commercial bank of Ethiopia deposit mobilization endeavor?
- What are the strategies to be followed to enhance resource mobilization effort?

#### **1.5 Objective of the Study**

##### **1.5.1 General objective**

The main objective of the study was to investigate Factor Determining customer deposit Mobilization in Commercial Bank of Ethiopia in Wolaita Sodo and Hossana Towns.

##### **1.5.2 Specific Objectives**

The specific objectives of the study is

- To identify factors that determines resource mobilization.
- To evaluate the impact of identified factors on bank profitability.
- To recommend strategy towards resource enhancement through deposit.

#### **1.6 Significance of the Study**

This study is helpful in Suggesting and proposing solution for the identified problem based on the gathered information.

It has also potential role in Creating awareness for Management of Commercial Bank of Ethiopia about the changing business environment.

Moreover it provide relevant ground for Taking the necessary measure for the identified problem.

## **Chapter Two**

### **2. Literature review**

Financial resource attraction is extremely important in the activities of a bank because success in this area can be a factor for success in other areas. According to Habibipour (2008), "Factors affecting Banking Resource Mobilization" pointed out those internal factors are more influential than average bank in mobilizing resources. He carried a study to identify factors impact banking resource mobilization.

Detailed customer information is basic in business dealings. A customer can be current and saving account holder, borrowers, guarantors and etc. mobilization of resource from customer is vital to the development of organization and there are also different factors affecting mobilization resource from customer's deposit. According to Khezra (2006), "Factors affecting mobilization of financial resources" stated that information technology and communications skills of the staff working in banks and diversification of bank service quality, customer satisfaction, acceptance of indoor environment and locations of branches in modern banking are

important tools which are used efficiently to absorb funds.

Commercial Bank deposits are major liabilities for commercial banks. According Kelvin (2001) 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. Commercial banks are accepts deposit from the customer and provide loan to customer, through in this way Commercials banks mobilize the resource. Therefore, banks will be better if they are mobilizing more customer deposits in different deposit type.

Customer income in the bank should be attractive enough for the banks so as to mobilize resources. So the savers would be inclined to keep a part of their saving in the form of deposits (V. V. Bhatt, 1970). 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. And this can be done only by making a bank deposit more attractive. 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 customer. This Study is suggestive for conduct resource mobilization through customer deposit in wide scope of banking industry.

## **2.1 Factors Affecting Deposits mobilization of Commercial Banks**

An important indicator of the success and efficiency of any resource mobilization agency, which is also a banking institution is, the extent to which it is able to mobilize the resource of the community in the form of customer deposit. But resource mobilization is very difficult task in this competent world. The following factors affect resource mobilization through customer deposit in commercial banks.

### **1. Number of Customer**

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

### **2. 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. 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. Interest rate in the banking system is held as investment cost from the investor's point of view and opportunity cost from the depositor's point of view (Mohammad and Mahdi, 2010). Thus, capital market forces balance interest rates. In other words, the just and correct interest rate should be determined through market mechanism, that is, interest rate is balanced in supply and demand conditions in proportion with the inflation rate. Eustacius and David (1995) states that deposits are more interest rate sensitive and banks may choose to increase investments in interest rate sensitive assets and to decrease investments in loans. That is commercial bank deposits are interest rate sensitive, therefore as the interest rate changes the deposit of the commercial banks will change.

It is known that depositors bring money to the bank which the bank in turn lends it to borrowers. The gross earnings of the bank are determined by the volume and composition of loan able funds and the rates at which they are loaned. After losses and expenses of operation are deducted, the net earnings provide a margin out of which interest on deposits can be paid. Because of the competition for these funds among bankers who desire to loan them at a profit, a bank must pay interest or lose deposits to a competitor.

The payment of interest on deposits is explained in this wise, like any other interest rate. As to Erna and Ekki(2004), Economists, mainly conventional ones, believe that depositors are attracted to deposit their money in banks because of the opportunity cost of holding cash in hand is high when the interest rate is also high (Romer, 2001, p. 346; Athukorala and Sen., 2004, p. 498). This can easily be explained by the utility maximization (cost minimization) premise, as a depositor will choose an action that will maximize their welfare or satisfaction. As to Richard (1971), regulation of the commercial banking industry affects the returns which commercial banks realize on their deposits and capital. That is although deposits are the source for profit of banks it is influenced by regulation of the country. Accordingly, the higher profit rate on demand deposits is to a

large extent the result of the prohibition against the payment of interest on these deposits. Therefore, depositors are motivated by returns. Using an Adaptive Expectation Model (AEM), it is founded that depositors are indeed motivated by returns in Malaysia (Erna and Ekki, 2004). On the other hand, Erna and Ekki (2004), states that Ghafur's (2003) shows that the rate of interest does not have influence on the volume of the deposits. However, Rose (2001), said that banks increase their deposits by offering higher deposit rate. These are the articles that contradict to each other in identifying the relationship between the commercial banks deposits and saving interest rates or deposit rate.

### **3. Number of Bank Branches**

Heaster and Zoellner (1966), as quoted by Devinaga Rasiah (2010), considered number of branches as one of the explanatory variables in their resource mobilization through customer deposit study. They found that the number of branches had a significant effect on Commercial Bank of Ethiopia deposit and also it can be captured by other variables such as the amount of deposit received or the amount of loan provided. Emery (1971), again as quoted by Devinaga Rasiah (2010), studied the relationship between the status of the branch categories namely unit branch, limited branch and state –wide branch. Using analysis of variance, Emery (1971) found that there was a significant difference in terms of returns among these three categories of branches. There is a relationship between Commercial Bank Ethiopia deposits and Commercial Bank Ethiopia branch expansion. Not only are deposits influenced by bank branches, but the expansion of bank branches is also influenced by the level of deposits in any area (M. A. Baqui et al, 1987). It is expected that banks make decisions on expanding their facilities by considering factors such as level of competition, deposit potential, regional income and existence of road and vehicles. As deposit potential is one thing that banks consider in expanding its branches, the deposit can also be a reason for branch expansion strategy that the banking sector uses. According to Erna and Ekki (2004), there is a long run relationship between commercial bank branch and commercial banks deposits.

### **4. Loans and Advances (LOAN)**

This is total loans divided by total asset, provides a measure of income source. Loans are the largest segment of interest bearing assets. Other things being constant, the more the deposits that are transformed into loans, the higher the level of profit will be, therefore, it is expected to have a positive relationship with bank resource mobilization performance. Loan is the major resource of Commercial Bank of Ethiopia from which they generate income. The quality of loan portfolio determines the resource mobilization of the bank. The loan portfolio quality has a direct bearing on bank deposit. Commercial Bank of Ethiopia provides loan customer means those provided loan are rotated on CBE customer account which is increase customer deposit.

### **5. Competitive Rivalry**

Now a time Competition in the banking industry operates is fierce; the competitive advantage strategy would be that the bank would be able to compete on deposit mobilization. Differentiation would be viable strategy in this case as there is like hood that the loyal customer would stay with bank. It would also be hard for competitor to cope with the specialist. When bank inaugurated will strive to be the best and to deliver better and quality service through well trained and qualified workforce and win the competition through delivering better and quality service by well trained and qualified workforce and by using differentiation strategy. Banks should win this competition by providing excellent service for its customers to mobilize more resource and use their good will to attract its customers and for those that do not have good will it is recommended that Banks should build good will to be acceptable for the society and should win the public confidence

## **Chapter Three**

### **3. Methodology**

#### **3.1 Conceptual Framework**

Resource mobilization is the primary activity of the bank. The bank is seeking to oversee effective implementation of deposit and foreign currency mobilization strategies. Resource mobilizations through customer deposit have a significant impact in the development of organization and have a dramatic impact in the country economy. Commercial Bank of Ethiopia were mobilizes resource from customer deposit, foreign currency and loan collection. Commercial banks are accepts deposit from the customer and provide loan to customer, through in this way Commercial banks mobilize the resource. The research will be explaining mobilization of resource by using customer deposit.

Customer deposit is the sum of saving deposit, demand deposit, interest free deposit and fixed time deposit. In this study customer deposit was explained variable or dependent variable. Income level of customer, branch expansion, population size, deposit interest rate, emergence of new potential competitors on the Towns and etc. will be an independent or explanatory variable. Therefore customer deposit is a function of explanatory variable. According to Herald and Heiko (2009), mentioned deposit 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.

### 3.2 Econometric framework/model

Customer deposit which is the a function of various independent variables like paid loans, number of branch, number of customer, emergence of new potential competitors in the Towns , deposit interest rate and etc. at a given period of time.

$$Y = f(X_1, X_2, X_3 \dots X_n)$$

#### Multiple regression equation

$$\hat{Y} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \dots + \beta_n X_n + \mu_t$$

$\beta_0, \beta_1, \beta_2 \dots \beta_n$  = Estimated coefficients

Y = Total customer deposit

T = Annual Periods of Observations of the Variables

$\mu_t$  = Error terms at time

### 3.4 Hypothesis to be tested

Paid loans, deposit interest rate, number of customers, branch expansion, emergence of new potential competitors etc. have significant impact on the total customer deposit.

### 3.5 Source of data

In this study secondary data was used as a source of information.

### 3.6 Method of data collection

As the sources are identified secondary sources of data was used to get realistic information from concerned bodies. In order to collect secondary data bank document, management information system department and other published works are utilized.

### 3.7 Research Design

This cross-sectional study was conducted based on causal research design by using multiple linear regression model.

### 3.8 Methods of Data Analysis

Through multiple linear regression technique the dependent variable (explained variable), Total deposit of Commercial Bank of Ethiopia at Wolaita Sodo and Hossana Towns branches, regressed over the independent variables (explanatory variables), branch expansion of Commercial Bank of Ethiopia at the two branches, paid loans of Commercial Bank of Ethiopia at the two branches, population size of Commercial Bank of Ethiopia at the two branches, emergence of new potential competitors of Commercial Bank of Ethiopia at the two branches, deposit interest rate of Commercial Bank of Ethiopia etc. Moreover, the study utilized a time series data of 20 years from the year 1995 GC up to 2014 GC.

The proposed multiple linear regression model:

$$\text{Total deposit (TD)} = \alpha + \beta_1 \text{Comp.} + \beta_2 \text{Intr} + \beta_3 \text{branch} + \beta_4 \text{loan} + \mu.$$

Where Comp.: existence of competitor, Intr.: interest rate Branch: branch expansion

Loan: access ,  $\mu$ : error term

## Chapter Four

### 4. Result and Discussion

#### 4.1 Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Deposit	20	2.83e+08	3.46e+08	5.00e+07	1.23e+09
Loan	20	1.33e+07	1.85e+07	0	6.50e+07
Customers	20	81816.2	73988.94	2520	230000
Branches	20	3.1	2.023546	2	9
Competitors	20	3.2	1.989446	2	9
Interest	20	5.05	2.114486	3	10

#### Source : stata output ,2017

Before going to the advanced modeling tools, looking at the descriptive setup of the data is very important. Accordingly, descriptive statistics has been conducted for the dependent variable (total deposit of commercial banks) and independent variables (loan, number of customers in the branches and number of branches, number of competitors). It was done on the overall summary statistics, namely; mean; standard deviation; minimum and maximum.

The mean of the total deposit was 2.83e+08 with std. dev 3.46e+08. The minimum and maximum values of

the dependent variable were  $5.00e+07$  and  $1.23e+09$  respectively.

The mean of the loan was  $1.33e+07$  with std. dev  $1.85e+07$ . The minimum and maximum values of the loan were 0 and  $6.50e+07$  respectively.

The mean of the number of customers was 81816.2 with std. dev 73988.94. The minimum and maximum values of the number of customers were 2520 and 230000 respectively.

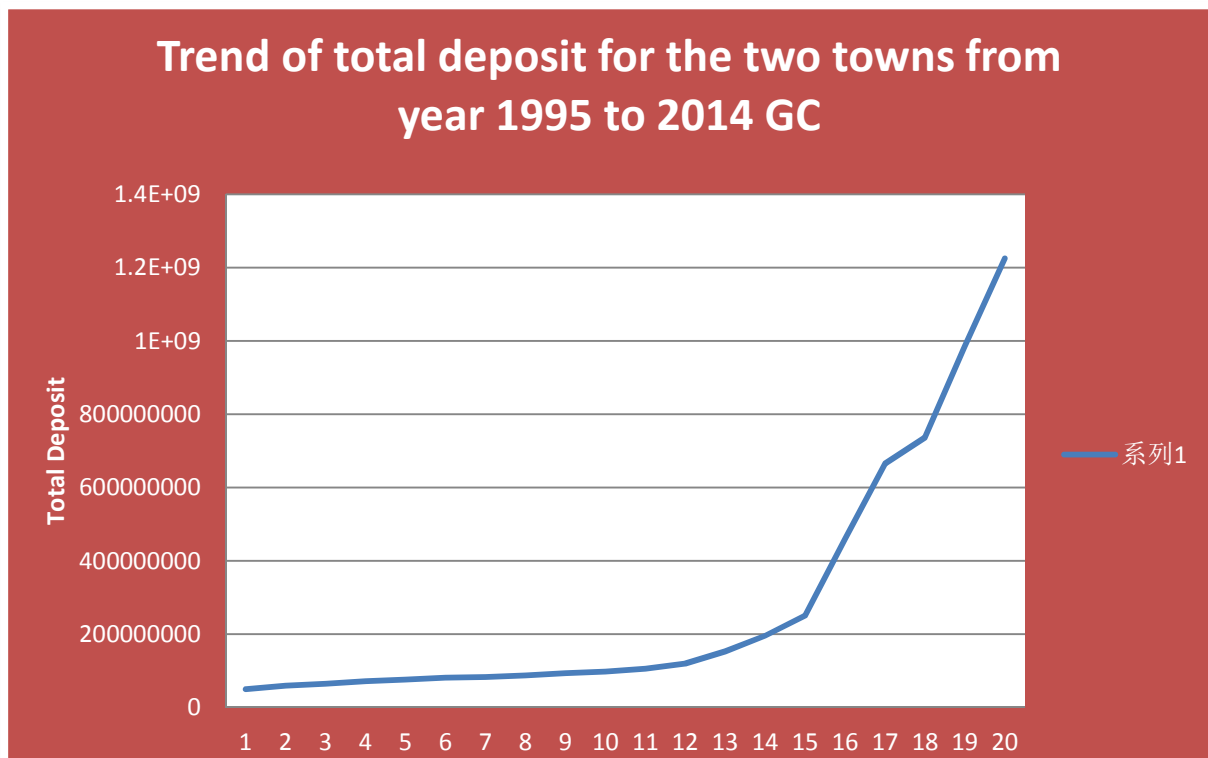
The mean of the number of branches in the two towns was 3.1 with std. dev 2.023546. The minimum and maximum values of the number of branches in the two towns were 2 and 9 respectively.

The mean of the number of competitors in the two towns was 3.2 with std. dev 1.989446. The minimum and maximum values of the number of competitors in the two towns were 2 and 9 respectively. The mean of the interest rate was 5.05 with std. dev 2.114486. The minimum and maximum value of the number of interest rate were 3 and 10 respectively.

#### SUMMARY OUTPUT

##### Regression Statistics

<b>R Square</b>	0.9998
<b>Adjusted R Square</b>	<b>0.9998</b>
<b>Root MSE</b>	$5.3e+07$
<b>Observations</b>	20



**Figure 1:** Trend of total deposit for the two towns from year 1995 to 2014 GC

Based on the display of line graph in figure 1 above, we can see in the first 10 years there was very slight increase in total deposit in the two towns of CBE branches and however starting from year 2007 GC there was tremendous increase of the total deposit.

## 4.2 Econometric Model output

### 4.2.1 Model summary

Following the multiple linear regression analysis, the above table 4.2.1 resulted model summary results. Adjusted R-square shows us about 99.98% of the variation in dependent variable which is total deposit is explained by the five explanatory variables. The rest 0.02% is left unexplained and accounted for the stochastic term. Thus, we can say the model is good.

#### 4.2.2 The ANOVA output of the regression model

Source	SS	df	MS	F(4, 15)	Prob> F
<b>Model</b>	9.5792e+20	5	1.9158e+20	68685.62	0.0000
<b>Residual</b>	1.6178e+17	14	2.7893e+15		
<b>Total</b>	9.5808e+20	19			

Based on the ANOVA output of table 4.2.2 above which was about the overall significance of the multiple linear regression model, the fitted multiple linear regression model was found to be significant at  $\alpha = 0.05$ . Hence the overall model is significant.

#### 4.2.3 Final fitted multiple linear regression model

Dependent Variable: Deposit  
 Method: Ordinary Least Squares  
 Sample: 1995 to 2014  
 Included observations: 20

Variables	Coef.	Std. Err.	T	P>t	[95% Conf. Interval]
<i>Loan</i>	10.37082	4262474	24.33	0.000**	9.517588 11.22404
<i>customers</i>	2163.169	231.6779	9.34	0.000**	1699.415 2626.923
<i>branches</i>	1.88e+07	6585805	2.86	0.0060**	5641841 3.20e+07
<i>competitors</i>	-7254556	2484950	-2.92	0.0050**	-1.22e+07 -2280388
<i>Interest</i>	224666.3	4132426	0.05	0.957	-8047283 8496615
<i>Cons</i>	-2572352	3.14e+07	-0.08	0.935	-6.55e+07 6.03e+07

Note: “\*\*” stands for statistical significance at alpha level of 0.05.

In the above fitted multiple linear regression output, the dependent variable was total deposit of commercial banks in the two towns. The sample years were from the 1995 G.C up to 2014 G.C, the data for the dependent and independent variables were extracted within these years which had 20 observations.

Four of the five explanatory variables namely; loan (P-value=0.000), number of customers (P-value=0.000), number of branches (P-value=0.0060), and competitors (P-value=0.0050) are found to be statistically significantly associated with the total deposit at  $\alpha = 0.05$ . Only interest rate is found to be statistically insignificant (P-value=0.957), at  $\alpha = 0.05$  but it is positively related to total deposit and competitors negatively related to total deposit by -2572352.

Thus, the final fitted model looks like this:

$$\begin{aligned}
 \text{Deposit} = & -2572352 + 10.37082 * \text{loan} + 2163.169 \\
 & * \text{customers} + 1.88e + 07 * \text{branches} \\
 & - 7254556 * \text{competitors} + 224666.3 \\
 & * \text{interest}
 \end{aligned}$$

Making the effect of all independent variables zero, on average, total deposit will decrease

As it can be seen from the regression model, For a unit increase in the amount of loan, the total deposit increases by 10.37082 which is significant and has positive effect.

As it can be seen from the regression model, For a unit increase in the number of customers, the total deposit increases by 2163.169 which is significant and has positive effect.

As it can be seen from the regression model, For a unit increase in the number of branches, the total deposit increases by 1.88e + 07 which is significant and has positive effect.

As it can be seen from the regression model. For a unit increase in the number of competitors, the total deposit declines by 7254556 which was found to be significant and has negative effect.

As it can be seen from the regression model For a unit increase in the interest rate, the total deposit increases by 224666.3 which is insignificant and has positive effect.

#### 4.2.4 Model assumption checks

##### 1. Normality assumption of the data

Hypothesis test of normality

*Ho: The residuals are normally distributed*

*H<sub>1</sub>: The residuals are not normally distributed*

swilk z

Variable	Shapiro-Wilk W test for normal data				Prob>z
	Obs	W	V	z	
z	20	0.96	37.854	9.263	0.023

The Shapiro-wilks test reveals the test of normality in addition to the normality curve. The p-value (0.235) given at the Shapiro-Wilk test for normality is bigger than 0.05. Hence, we fail to reject the null hypothesis of normality and declare that the presence of normality of the data at the 5% level of significance (Brooks, 2008). Thus, the assumption of the residuals are normally distributed is not violated.

##### 2. Homoscedasticity (Constant variance assumption)

The test of heteroskedasticity is a test of the second assumption of OLS estimator that says the variance of errors is constant. The researcher used Breusch-Pagan / Cook-Weisberg test of heteroskedasticity.

*Ho: The assumption that there exists Homoscedasticity*

*H<sub>1</sub>: There is no Homoscedasticity (there is heteroskedasticity)*

Hottest

##### Breusch-Pagan / Cook-Weisberg test for heteroskedasticity

Ho: Constant variance	chi2(1) = 17.48
Variables: fitted values of deposit	Prob>chi2 = 0.058

STATA output displays tests for heteroskedasticity and we don't have enough evidence to reject the null hypothesis of Homoscedasticity presence. Therefore it can be concluded that the variance of error term is constant or the second assumption of classical linear regression model is not violated.

##### 3. Checking for Multicollinearity

Variable	VIF	1/VIF
loan	2.93	0.341835
customers	2.64	0.378122
branches	1.26	0.792374
Competitors	1.10	0.908187
Interest	3.15	0.3108187
<b>Mean VIF</b>	<b>1.98</b>	

Since, none of the variables above show variance inflation factor (VIF) greater than 10, there is no series Multicollinearity problem among the explanatory variables.

The Durbin-Watson test only tests the first order autocorrelation. 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. Moreover, BG test tests the autocorrelation of the residual and several lagged values of it.

*Ho: There is no autocorrelation*

*H<sub>1</sub>: There is autocorrelation*

Correlation matrix of coefficients of regress model

(Var)	loan	customers	branches	competitors	interest	cons
<b>Loan</b>	1.0000					
<b>Customers</b>	-0.2851	1.0000				
<b>Branches</b>	-0.8681	-0.0933	1.0000			
<b>Competitors</b>	0.0461	-0.8779	0.1711	1.0000		
<b>Interest</b>	-0.0137	-0.0572	-0.1327	0.3550	1.0000	
<b>cons</b>	0.5824	0.1860	-0.5566	-0.5397	-0.6871	1.0000

Source: stata output ,2017

#### 4.3 Discussion

Hence, as a result of the multiple linear regression analysis, the following are summary of the findings.

We came up to know that commercial bank of Ethiopia mobilize its funds from the government budget (since the shareholders of the bank is government), from profit of its operation and deposit of the customers.



Among the three kinds of deposits (demand deposits, fixed deposits and saving deposits), saving deposit is a mainly used by the bank and its customers. The minimum interest rate on saving deposit is fixed by National Bank of Ethiopia. Commercial banks of the country can provide interest above the minimum interest fixed by National Bank of Ethiopia as method of competition but cannot provide less than the minimum interest rate.

Commercial banks of Ethiopia can add deposit rate for competition purpose, however the minimum interest rate is fixed by the national bank. Loan, expansion of new branches, number of customers, and interest rate are found to be positive opportunities that the bank obtains from efforts that can be done to mobilize more deposits.

The multiple linear regression output showed us loan, number of customers, expansion of new branches and emergence of new competitors had significant effect on resource mobilization through customer deposit. Though, number of competitors had negative effect.

On the other hand interest rate had positive effect on resource mobilization through customer deposit. Though, it is statistically insignificant.

## Chapter Five

### 5. Conclusion and Recommendation

#### 5.1 Conclusion

Based on the result of the finding this study has drawn the following relevant conclusion.

The main resource for Commercial Bank of Ethiopia is deposit. Although banks can use other source of funds such as shareholders equity, from the profit of its operation or any other business undertakings the most useful resource is deposit.

As indicated table 4.2.1 model summary results, Adjusted R-square shows us about 99.98% of the variation in dependent variable which is total deposit is explained by the five explanatory variables. The rest 0.02% is left unexplained and accounted for the stochastic term. Thus, we can say the model is good.

Loan, expansion of new branches, number of customers, and interest rate are found to be positive opportunities that the bank obtains from efforts that can be done to mobilize more deposits.

Among the kind of deposits saving deposits are mostly used by Commercial Bank of Ethiopia and their customers. That is from the deposit available in the banks the largest proportion is saving deposit which is interest bearing deposit. Commercial Bank of Ethiopia can add deposit rate for competition purpose, however the minimum interest rate is fixed by the national bank.

Deposit mobilization become simpler if Commercial Bank of Ethiopia become preferable than other commercial banks and grow their market share. Branch expansion is an important strategy for resource mobilization through customer deposit, it significantly increases deposit.

The multiple linear regression output showed us loan, number of customers, expansion of new branches and emergence of new competitors had significant effect on resource mobilization through customer deposit. Though, number of competitors had negative effect. On the other hand interest rate had positive effect on resource mobilization through customer deposit. Though, it is statistically insignificant.

#### 5.2 Recommendation

Based on the research findings and conclusions the followings are recommendation for Commercial Bank of Ethiopia as a way to mobilize more deposits than before.

Since the main resource for Commercial Bank of Ethiopia is deposit the bank should give due emphasis to its deposit and strive to increase it.

The Bank should increase number of customer by providing excellent service for its customers to mobilize more deposits. Incentives such as coupon prizes for customers who are sustainable depositor in the bank are also effective for deposit growth.

In addition Commercial Bank of Ethiopia should go through promotional effort and awareness creation campaign to have well informed society who have awareness of the banking system who are interested in keeping their money in bank. Moreover, Commercial Bank of Ethiopia should use their good will to attract depositors and for those that do not have good will it is recommended that banks should build good will to be acceptable for the society.

Since deposit interest rate has positive effect on Commercial Bank of Ethiopia deposit, banks should increase the deposit rate if their plan is to mobilize more deposit than before.

Since branch expansion has positive and significant effect on total deposit of Commercial Bank of Ethiopia, Commercial Bank of Ethiopia should also expand their branches in order to increase their deposit. Since emergence of competitors has negative and statistically significant effect on total Commercial Bank of Ethiopia deposits. Commercial Bank of Ethiopia should win this competition by providing excellent service for its customers to mobilize more resource and use their good will to attract its customers and for those that do not have good will it is recommended that Commercial Bank of Ethiopia should build good will to be acceptable for the society.

Since loan has positive and significant effect on total deposit of Commercial Bank of Ethiopia, Commercial Bank of Ethiopia should also expand their paying loan capacity to customers in order to increase their deposit and as well as profit.

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