ST.MARY'S UNIVERSITY SCHOOL OF GRADUATE STUDIES

DETERMINANTS OF COMMERCIAL BANKS DEPOSIT: IN THE CASE OF PRIVATE COMMERCIAL BANKS IN ETHIOPIA.

BY:

FEKADU ASGELE

SGS/0038/2008B

JANUARY, 2018

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APPROVED BY BOARD OF EXAMINERS

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Dean, Graduate Studies   Signature

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Advisor   Signature

_____   _____

External   Examiner   Signature

_____   _____

Internal Examiner   Signature

DECLARATION

I, Fekadu Asgele, hereby declare that the thesis work entitled "Determinants of Commercial Bank Deposits: In the case of Private Commercial Banks of Ethiopia " submitted by me for the award of the degree of Masters of General Business Administration St Mary's University, is my original work and it has never been presented in any university. All sources and materials used for this thesis have been duly acknowledged.

Name Fekadu Asgele

Signature: _____

ENDORSEMENT

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

_____   _____

Advisor   Signature

St Mary's University, Addis Ababa   January 2018

Abstract

The survival of every commercial bank highly depends on bank deposit because deposit mobilization is a major activity of all commercial banks. As the result, the issue of banks deposit and its determinants is crucial to the financial sector of developing country like Ethiopia. Therefore, this study aimed to identify and evaluate those factors that determine deposit in general by taking Private Commercial Bank of Ethiopia as evidence. Accordingly, the researcher adopts Quantitative research approach and Explanatory research design. Regarding to the secondary data; time series data covering 2007- 2016 was analyzed. First, the time series data were assessed using descriptive statistics for the variables as well as the test for errors equal zero mean test, heteroskedasticity, autocorrelation, multicollinearity and normality testing to know if the assumptions of CLRM violated or not. Second, estimated model was a single regression equation with deposit as the dependent variable and explanatory variables as deposit interest rate, overall inflation rate, number of branch , gross domestic product,. Estimation was done using Ordinary Least Squares technique by E-view8 statistical package. The results from economic analysis showed that three of the Independent variables were positively correlated with the explained variable. Among these variables, Deposit Interest Rate is an important strategy for deposit mobilization, it is highly significant than others. Gross domestic product is also next to DepositInterest rate significantly affects Private Commercial Banks deposit. The others factor Inflation Rate is affects negatively and insignificantly deposit. And finally, the study had recommended what should be done to encouraging deposits by Private Commercial bank of Ethiopia for the benefit of the domestic deposit mobilization.

Key Words: *Determinants of Commercial Banks deposit, Regression Analysis, Private commercial Banks.*

Acknowledgments

APPENDICES

Appendix 1:-Descriptive Analysis

	TD	INR	IR	NB	GDP
Mean	9.694828	0.172900	0.045000	1.816671	0.062051
Median	9.771981	0.094500	0.050000	1.778151	0.066000
Maximum	10.35854	0.552000	0.050000	2.389166	0.096900
Minimum	8.255244	0.027000	0.030000	1.204120	0.012410
Std. Dev.	0.413979	0.159564	0.006751	0.277722	0.023966
Skewness	-1.057379	1.414299	-0.993808	0.069881	-0.644825
Kurtosis	4.350799	3.688767	2.777778	2.436798	2.657408
Jarque-Bera	20.98952	28.25124	13.33333	1.122434	5.935218
Probability	0.000028	0.000001	0.001273	0.570514	0.051426
Sum	775.5863	13.83200	3.600000	145.3337	4.964080
Sum Sq. Dev.	13.53890	2.011399	0.003600	6.093222	0.045374
					80
Observations	80	80	80	80	

Appendix 2:-Hausman Test

Correlated Random Effects - Hausman Test
Equation: EQ01
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.000000	4	1.0000

* Cross-section test variance is invalid. Hausman statistic set to zero.

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
INR	-0.360678	-0.267080	0.000230	0.0000
IR	28.907408	24.868465	0.427730	0.0000
NB	0.273126	0.508737	0.001456	0.0000
GDP	-1.006867	0.153217	0.035287	0.0000

Cross-section random effects test equation:
Dependent Variable: TD
Method: Panel Least Squares
Date: 12/24/17   Time: 19:32
Sample: 2007 2016
Periods included: 10
Cross-sections included: 8
Total panel (balanced) observations: 80

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.022654	0.231958	34.58662	0.0000
INR	-0.360678	0.120376	-2.996269	0.0038
IR	28.90741	3.487803	8.288142	0.0000
NB	0.273126	0.122011	2.238533	0.0285
GDP	-1.006867	1.012511	-0.994426	0.3235

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.886906	Mean dependent var	9.694828
Adjusted R-squared	0.868611	S.D. dependent var	0.413979
S.E. of regression	0.150057	Akaike info criterion	-0.818119
Sum squared resid	1.531168	Schwarz criterion	-0.460815
Log likelihood	44.72475	Hannan-Quinn criter.	-0.674865
F-statistic	48.47907	Durbin-Watson stat	1.570821
Prob(F-statistic)	0.000000		

Appendix 3:-Test of Heteroskedasticity

Heteroskedasticity Test: ARCH

F-statistic	0.068651	Prob. F(1,76)	0.7940
Obs*R-squared	0.070394	Prob. Chi-Square(1)	0.7908

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 12/24/17   Time: 19:38
Sample (adjusted): 3 80
Included observations: 78 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.037246	0.022164	1.680475	0.0970
RESID^2(-1)	0.030036	0.114636	0.262014	0.7940

R-squared	0.000902	Mean dependent var	0.038393
Adjusted R-squared	-0.012244	S.D. dependent var	0.190726
S.E. of regression	0.191890	Akaike info criterion	-0.438479
Sum squared resid	2.798465	Schwarz criterion	-0.378050
Log likelihood	19.10067	Hannan-Quinn criter.	-0.414288
F-statistic	0.068651	Durbin-Watson stat	2.001026
Prob(F-statistic)	0.794020		

Appendix 4: - Test of autocorrelation

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.368859	Prob. F(2,70)	0.6929
Obs*R-squared	0.823885	Prob. Chi-Square(2)	0.6624

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 12/24/17   Time: 19:39
Sample: 2 80
Included observations: 79
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.479403	1.034222	0.463540	0.6444
GDP	-0.344583	1.421119	-0.242473	0.8091
INR	0.005402	0.162218	0.033302	0.9735
IR	-1.533622	6.086025	-0.251991	0.8018
NB	0.041273	0.194873	0.211793	0.8329
DUM71	0.006898	0.242556	0.028438	0.9774
TD(-1)	-0.047871	0.107824	-0.443974	0.6584
RESID(-1)	0.056451	0.164931	0.342269	0.7332
RESID(-2)	0.121304	0.141352	0.858168	0.3937

R-squared	0.010429	Mean dependent var	9.54E-16
Adjusted R-squared	-0.102665	S.D. dependent var	0.195950
S.E. of regression	0.205763	Akaike info criterion	-0.217285
Sum squared resid	2.963698	Schwarz criterion	0.052652
Log likelihood	17.58275	Hannan-Quinn criter.	-0.109140
F-statistic	0.092215	Durbin-Watson stat	1.982078
Prob(F-statistic)	0.999342		

Appendix 5:- Model Specification test

Ramsey RESET Test
Equation: EQ01
Specification: TD C GDP INR IR NB
Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	1.204693	74	0.2322
F-statistic	1.451285	(1, 74)	0.2322
Likelihood ratio	1.553770	1	0.2126

F-test summary:

	Sum of Sq.	df	Mean Squares
Test SSR	0.084177	1	0.084177
Restricted SSR	4.376307	75	0.058351

Unrestricted SSR	4.292130	74	0.058002
Unrestricted SSR	4.292130	74	0.058002

LR test summary:

	Value	df
Restricted LogL	2.717777	75
Unrestricted LogL	3.494663	74

Unrestricted Test Equation:
Dependent Variable: TD
Method: Least Squares
Date: 12/24/17   Time: 19:46
Sample: 1 80
Included observations: 80

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	17.94740	9.238374	1.942701	0.0559
GDP	23.25417	16.32791	1.424198	0.1586
INR	0.275907	0.268973	1.025779	0.3083
IR	83.59373	58.72678	1.423435	0.1588
NB	7.391844	5.194394	1.423043	0.1589
FITTED^2	-0.284665	0.236297	-1.204693	0.2322

R-squared	0.660450	Mean dependent var	9.717580
Adjusted R-squared	0.637507	S.D. dependent var	0.400010
S.E. of regression	0.240836	Akaike info criterion	0.062633
Sum squared resid	4.292130	Schwarz criterion	0.241285
Log likelihood	3.494663	Hannan-Quinn criter.	0.134260
F-statistic	28.78710	Durbin-Watson stat	1.238043
Prob(F-statistic)	0.000000		

Appendix 6:- Raw Data

Bank	Year	INFR	DIR	GDP	NB	TD
AWASH	2007	0.151	0.03	0.076	1.653213	9.493116
AWASH	2008	0.552	0.04	0.0709	1.724276	9.587655
AWASH	2009	0.027	0.04	0.0611	1.778151	9.695693
AWASH	2010	0.073	0.04	0.0969	1.792392	9.785753
AWASH	2011	0.38	0.05	0.0847	1.845098	9.88896
AWASH	2012	0.208	0.05	0.061	1.934498	9.963994
AWASH	2013	0.074	0.05	0.0763	2.056905	10.09848
AWASH	2014	0.085	0.05	0.047	2.181844	10.17724
AWASH	2015	0.104	0.05	0.01241	2.31597	10.26766
AWASH	2016	0.075	0.05	0.0342	2.389166	10.35854
DASHEN	2007	0.151	0.03	0.076	1.623249	9.686681
DASHEN	2008	0.552	0.04	0.0709	1.681241	9.788981

DASHEN	2009	0.027	0.04	0.0611	1.732394	9.899006
DASHEN	2010	0.073	0.04	0.0969	1.770852	10.00623
DASHEN	2011	0.38	0.05	0.0847	1.812913	10.07343
DASHEN	2012	0.208	0.05	0.061	1.875061	10.14816
DASHEN	2013	0.074	0.05	0.0763	2.049218	10.2
DASHEN	2014	0.085	0.05	0.047	2.152288	10.24632
DASHEN	2015	0.104	0.05	0.01241	2.214844	10.29641
DASHEN	2016	0.075	0.05	0.0342	2.365488	10.35714
BOA	2007	0.151	0.03	0.076	1.447158	9.43473
BOA	2008	0.552	0.04	0.0709	1.623249	9.541267
BOA	2009	0.027	0.04	0.0611	1.672098	9.652651
BOA	2010	0.073	0.04	0.0969	1.672098	9.710866
BOA	2011	0.38	0.05	0.0847	1.755875	9.783565
BOA	2012	0.208	0.05	0.061	1.78533	9.830669
BOA	2013	0.074	0.05	0.0763	1.934498	9.929222
BOA	2014	0.085	0.05	0.047	2.037426	9.958873
BOA	2015	0.104	0.05	0.01241	2.161368	10.03664
BOA	2016	0.075	0.05	0.0342	2.290035	10.13466
WEGAGEN	2007	0.151	0.03	0.076	1.591065	9.43863
WEGAGEN	2008	0.552	0.04	0.0709	1.60206	9.467223
WEGAGEN	2009	0.027	0.04	0.0611	1.690196	9.563131
WEGAGEN	2010	0.073	0.04	0.0969	1.69897	9.591472
WEGAGEN	2011	0.38	0.05	0.0847	1.724276	9.759905
WEGAGEN	2012	0.208	0.05	0.061	1.778151	9.760758
WEGAGEN	2013	0.074	0.05	0.0763	1.897627	9.877941
WEGAGEN	2014	0.085	0.05	0.047	2	9.924263
WEGAGEN	2015	0.104	0.05	0.01241	2.075547	10.00961

WEGAGEN	2016	0.075	0.05	0.0342	2.243038	10.07388
UNITED	2007	0.151	0.03	0.076	1.477121	9.22373
UNITED	2008	0.552	0.04	0.0709	1.556303	9.38755
UNITED	2009	0.027	0.04	0.0611	1.612784	9.55626
UNITED	2010	0.073	0.04	0.0969	1.623249	9.67411
UNITED	2011	0.38	0.05	0.0847	1.69897	9.777689
UNITED	2012	0.208	0.05	0.061	1.838849	9.831659
UNITED	2013	0.074	0.05	0.0763	1.875061	9.90445
UNITED	2014	0.085	0.05	0.047	1.995635	9.966711
UNITED	2015	0.104	0.05	0.01241	2.123852	10.07019
UNITED	2016	0.075	0.05	0.0342	2.230449	10.13386
NIB	2007	0.151	0.03	0.076	1.447158	9.273912
NIB	2008	0.552	0.04	0.0709	1.623249	9.39238

NIB	2009	0.027	0.04	0.0611	1.653213	9.517122
NIB	2010	0.073	0.04	0.0969	1.681241	9.615654
NIB	2011	0.38	0.05	0.0847	1.70757	9.712431
NIB	2012	0.208	0.05	0.061	1.763428	9.766274
NIB	2013	0.074	0.05	0.0763	1.857332	9.823162
NIB	2014	0.085	0.05	0.047	1.973128	9.899051
NIB	2015	0.104	0.05	0.01241	2.060698	9.990077
NIB	2016	0.075	0.05	0.0342	2.190332	10.09423
CBO	2007	0.151	0.03	0.076	1.20412	8.942923
CBO	2008	0.552	0.04	0.0709	1.30103	8.690107
CBO	2009	0.027	0.04	0.0611	1.414973	8.896948
CBO	2010	0.073	0.04	0.0969	1.568202	9.137296
CBO	2011	0.38	0.05	0.0847	1.633468	9.296757

CBO	2012	0.208	0.05	0.061	1.70757	9.446776
CBO	2013	0.074	0.05	0.0763	1.869232	9.649341
CBO	2014	0.085	0.05	0.047	2.021189	9.736404
CBO	2015	0.104	0.05	0.01241	2.176091	9.867361
CBO	2016	0.075	0.05	0.0342	2.296665	9.928821
LIB	2007	0.151	0.03	0.076	2.079181	8.255244
LIB	2008	0.552	0.04	0.0709	1.230449	8.557146
LIB	2009	0.027	0.04	0.0611	1.30103	8.825794
LIB	2010	0.073	0.04	0.0969	1.380211	8.997708
LIB	2011	0.38	0.05	0.0847	1.477121	9.8052
LIB	2012	0.208	0.05	0.061	1.556303	9.239167
LIB	2013	0.074	0.05	0.0763	1.653213	9.323425
LIB	2014	0.085	0.05	0.047	1.792392	9.429264
LIB	2015	0.104	0.05	0.01241	1.959041	9.649033
LIB	2016	0.075	0.05	0.0342	2.093422	9.801651

Source: NBE

Appendix 7:-Correlation Matrix

	TD	INR	IR	NB	GDP
TD	1.000000				
INR	-0.264496	1.000000			
IR	0.623142	-0.084142	1.000000		
NB	0.762388	-0.380553	0.623765	1.000000	
GDP	0.428247	0.275956	-0.442196	-0.672126	1.000000

Appendices 8: Test for non-normality test

Series: Standardized Residuals	
Sample 2007 2016	
Observations 80	
Mean	-7.06e-16
Median	0.038635
Maximum	0.365026
Minimum	-0.486366
Std. Dev.	0.177799
Skewness	-0.566305
Kurtosis	3.239357
Jarque-Bera	4.466988
Probability	0.107153

Appendices 9: Test for Multicollinearitytest

	INR	IR	NB	GDP
INR	1.000000			
IR	-0.084142	1.000000		
NB	-0.380553	0.623765	1.000000	
GDP	0.275956	-0.442196	-0.672126	1.000000

Appendices 10: Regression Results

Dependent Variable: TD
Method: Panel EGLS (Cross-section random effects)
Date: 12/24/17   Time: 19:45
Sample: 2007 2016
Periods included: 10
Cross-sections included: 8
Total panel (balanced) observations: 80
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.253744	0.174318	41.61222	0.0000
INR	-0.075538	0.087163	-0.866626	0.3889
IR	8.858655	3.022522	2.930882	0.0045
NB	1.055611	0.106768	9.886960	0.0000
GDP	2.514001	0.761480	3.301469	0.0015
DUM807	-1.455108	0.146579	-9.927141	0.0000

Effects Specification

			S.D.	Rho
Cross-section random			0.095917	0.4555
Idiosyncratic random			0.104867	0.5445

Weighted Statistics

R-squared	0.887022	Mean dependent var	3.167855
Adjusted R-squared	0.879388	S.D. dependent var	0.324625
S.E. of regression	0.112739	Sum squared resid	0.940554
		Durbin-Watson stat	
F-statistic	116.1991	innormality	1.635982
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.815540	Mean dependent var	9.694828
Sum squared resid	2.497386	Durbin-Watson stat	0.603237

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CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

Economic growth is the common goal of all nations Pinchawawee, (2011). Everybody lives with more comfortable, better andstandard of living than before and holding a better welfare because of the surge in economic growth. Government in each country aims to reduce poverty and increase the level of national income. Therefore, to achieve the main target of economic growth, governments may implementvarious kinds of policies such as encouraging saving, stimulating investment and production in their countries. Mobilizing domestic resources are vital activity to achieve self- sufficiency. Hence, the financial sector is one major sector of the country's economy that needs to be revitalized constantly in mobilizing domestic deposits to increase investment Pinchawawee, (2011).

The financial system in every economy is composed of the bank-based system where provision and monitoring of investment funds are made through the banks on one hand and the capital market where investors enter directly through ownership of securities Shemsu, (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 resources 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. Thereby the bank is expected to manage its deposit. Managing deposits is not possible without knowing and managing or controlling the factors affecting deposit. In literature there are several factors that are claimed to be determinants of deposits Wubitu, (2012).

According to literatures factors affecting commercial bank deposits are divided into two, namely exogenous and endogenous factors. Exogenous factors are external factors that are not controlled by bank where as endogenous factors are internal factors that are controlled by the bank. Country specific factors includes saving interest rate, inflation, real interest rate, population growth of the country, per capita income of the society, economic growth (as measured by real GDP), consumer price index and shocks. Bank specific factors include liquidity of the bank, profitability of the bank, security of the bank, number of bank's branches, bank size, reserves and transaction cost. The endogenous factors include awareness of the society, convenience of bank's office and services in the bank. These are the

variables that are claimed in the literature to affect the volume of total deposit of commercial banks. In this study these variables are studied theoretically and empirically and the relationship between these variables and total deposit of commercial banks will be identified.

One of financial institutions in the world that give financing services is commercial banks. Commercial banks are profitable financial sector that give financial service to the body in need of the service. They collect money from the depositors and lend it to the borrowers. Thus for commercial bank to lend there have to be deposit in their treasury. Managing deposits is not possible without knowing and controlling the factors affecting it

1.2. Statement of the Problem

Government, businesses, Households and many other different organizations areborrowingmoney from commercial banks. The commercial banks are lending the money from their deposit and deposit iscollected from the depositors who are saving their money in commercial banks. So as to undertake this process the deposit should be available in commercial banks. As we know deposit is the most liquid money that is found in the treasury of the banks. A deposit of the bank may beaffected by different factors. Since deposit is the most useful asset of any bankand it isrelevant to find out the factors affecting it and determining the relationship between them.Determinant variables commonly explained as factor affecting deposit are inflation rate, interest rate, Economic growth (GDP) and number of banks branch (branch expansion). According to Wubitu, (2012) and Bahredin, (2016) found that branch expansion has positive significant effect on deposit whereas interest rate(deposit rate)and inflation rate has insignificant.Oppose to this finding Tizita (2014)found that number of banks branches has negative effect on deposit. In addition to this she conclude that inflation rate influence deposit negatively and significant. In addition to Tizita, Andinet, (2016) conclude that deposit interest rate has positive and significant impact or effect on deposit. So these contradictory findings revealed that there is inconsistency among researchers on determinants of deposit and the relationship between the determinants of deposit. This research design to understand which factors really determine deposit at macro level by using validate these contradict findings and fill the research gap ondeterminants of commercial banks deposit. As the report of National Bank of Ethiopia report the deposit mobilization of Ethiopian not developed. Therefore they should be identifying the most determinants of depositmobilization and create awareness of the important of deposit to the society rather than waiting depositors.

A research under this title is rarely available. The managers of commercialbankmay face a problem of identifying and managing the factors that determine commercial banks deposit and their effect on it. Accordingly they face a problem oflack of deposit because of their limitation of effort to mobilize it. Commercial banks are not more successful in controlling and managing deposit because they did not know about thosefactors that can determine deposit as well.

The researcheris motivated to undertake a research in this particular area to fill those gaps.

1.3. Research questions

This researchwas conducted on the title of Determining Commercial Banks deposits: in the case of private commercial banks of Ethiopia and address the following questions:-

❖ What are the factors that can determinecommercial bank'sdeposit?

❖ How will relate, inflation rate, interest rate(deposit rate), Economic growth (GDP) and number of banks branches related todeposit?

1.4. Objectives of the study

1.4.1. General Objective

The general objective of this research isto identify factors thatdetermine commercial banks deposit.

1.4.2. Specific objectives

The research has the following specific objectives:-

❖ To identify factors that are determine commercial banksdeposit.

❖ Todetermine the relationship between the commercial bank'sdeposit with deposit rate, inflation rate, Economic growth (GDP)and number of banksbranches.

1.5. Research Hypothesis

Hypothesis of the research stand on theories and empirical findings related to banks deposit that has been developed over the years by banking area scholars. The primary function of the commercial banks is deposit mobilization Nathanael, (2014). Therefore, this research will test the following hypotheses:

H1: Inflation rate has no significant impact on commercial banksdeposit.

H2: Deposit interest rate has no significant impact on commercial banks deposit

H3: Economic growth(GDP) has no significant impact on commercial banksdeposit.

H4: Number of bank branches has no significant impact on commercial banks deposit.

1.6. Significance of the study

The study was conducted on the title of Determining Commercial Banks Deposit and it wouldbe expect to be used and/or applied by both the academicians, bank managements and other stockholders. Thereby the following are the significances of the study:-

This research will help commercial banks to manage their deposit by letting them know what affects it and which variable is the most important so that more emphasis has to be given. In addition to this it will be update or value adds on the field of finance as well as deposit mobilization. Studies Conducted on determinant of commercial banks deposit are rare, therefore this study will be serving as an additional reference material on the field of finance and reference to those of who doing their research on this topic.

1.7. Limitation and Delimitation of the study

1.7.1. Limitation of the Study

The research was conduct usingonly one dependent variable, deposit of Private Commercial Banks, and four independent variables; deposit interest rate, inflation rate, Economic growth (GDP)and number of banks branch. The other limitation of this study is that uses only quantitative approach and secondary data.

1.7.2. Delimitation of the Study

There are many subjects that are thought in finance. This study focused only on one ofthe area of finance, i.e. the determining commercial banks deposit. It has determined the effect of these variables on private Commercial bank's deposit using multiple regression technique. There are around 17 commercial banks in Ethiopia however this study conducted using Only Private Commercial Banks.

1.8. Organization of the study

The paperstudy organized into five chapters including the introduction part of the study. The first chapter deals with the background of the study, statementof the problem, research questions, the general and specific objectives of the study, hypothesis of the study, the significance of the study andlimitation and delimitation ofthe study. The second chapter, literature review, deals with the

theoretical andempirical literature review on determining commercial banks deposit. The firstpart is theoretical review that explains what the literature says about the relationshipbetween the deposit of private commercial banks and the factors affecting it. Moreover, the theoretical part deals with the difference between saving and spending, the role ofbanks in the economy, the importance of deposit. And the second part is about empirical review. Thethird chapterdeals with the research design, population size and sampling technique, data collection instrument, data analysis, method model specification test, multiple regression model and justification of variablesare mentioned on this chapter. The fourth chapter focused on the results and discussion in which the findings results that are interpreted. Finally, Chapter five brought to an end the research with summary, conclusion and possible recommendation.

CHAPTER TWO
LITERATURE REVIEW

Literature review is prepared in two parts, i.e. the theoretical review and the empiricalreview 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.

2.1. Theoretical Review

Depositors keep their money in banks for a motive to undertake some activities in thefuture. According to V. V. Batt(1970), there are motives to save money, the followings are the example of some motives:-

_ To own house

_ To provide for children's education and marriage

_ To provide for old age

_ To bequeath property to children

_ To provide for emergency expenditure

2.1.1. The Significance of Banks in Financial Systems

Financial sector plays a vital role in the overall economic system of every nation. The two components of a financial sector are the financial market and financial institutions. The former is defined as a market in which financial assets (securities) such as stocks and bonds can be purchased or sold. Financial markets, thus, facilitate the flow of funds and thereby allow financing and investing by households, firms and government agencies Madura, (2011). Examples include commodity markets, money markets and capital markets.

Financial institutions (such as banks, insurance, microfinance etc.) are institutions that provide financial services for their customers. In the context of African continent, financial institutions in general and banking industry in particular carry the greater share of the financial system Sheku,(2005). Most of the businesses rely on banking sector as a source of financing Medhat, (2004). It is no exception to Ethiopia where the others like insurance companies and microfinance institutions (MFI) are by far

lesser than banks in terms of capital size, total assets, employment capacity and profits (NBE annual report, 2011/12).

Banks have historically been viewed as playing role in financial markets for two reasons. The first 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 the other one is by developing expertise as well as diversifying across many borrowers, banks reduce the cost of supplying credit Katherine, (2004). Thus in their role as lenders, banks are often not merely buying someones debt, rather they are providing significant financial services associated with extending credit to their customers directly. The main providers of additional financing are domestic commercial banks Herald et al, (2009),Mckinnon, (1991) 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. According to Stieglitz, (1996), the financial sector is the ''brain'' of the economy since it harnesses savings and reallocates resources to „entrepreneurs''.

Banks perform various roles in the economy Franklin and Elena, (2008):

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

They perform an important role in corporate governance. The relative importance of the different roles of bank varies substantially across countries and times but bank are always critical to the financial system.

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, this is supported by Russell and Bamindsle, (2009). Mahendra, (2005) also states banks as the backbones of the trade and commerce playing the intermediary role of capital

formation and supply. Even if other financial institutions are available, banks play a major role in facilitating the way the financial sector operates. Therefore banks are important of all other financial institutions. Banks influence macroeconomic environment. As to Adam, (2005), bank failure involves significant macroeconomic costs. Adam, (2005) has developed evidence that bank failures have significant and apparently permanent effects on real economic activity. Stieglitz, (1996) noted that the financial sector plays an important role in a country's economic growth and development process and in order to ensure macroeconomic stability, the sector ought to be strong. He analyzed that growth in countries affected by crisis in the banking sector. Therefore, banks are also important influencers in macroeconomic environment.

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

Moreover commercial banks will affect the overall economy of a nation both in a good way or bad way. Commercial banks represent a vital link in the transmission of government economic policies (particularly monetary policy) to the rest of the economy. For example, when bank credit is scarce and expensive, spending in the economy tends to slow and unemployment usually increases as Kelvin (2001) explains. So the event in the commercial banks will affect the country's economy in general. 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. According to Hyuya, (1991), financial intermediaries play key role in Least Developed Countries (LDCs) by encouraging development through the saving-investment process. He emphasized the fact that the banks have specialization of labor as a core competence and must be encouraged to assist in the efficient allocation of resources by pooling funds together into

reservoirs from which investment flows. He wrapped up that financial institutions are essential for economic development.

So far we have seen how the commercial banks are affecting the economy. In the contrary, the economy also affects the functions of commercial banks. Bank loan portfolio including volume, tenor and structure may be generally influenced by their expectations of the performance of economy both in terms of stability and level of performance. As cited by Talavera et al, (2006), Russel et al, (2009) banks make out more loans during period of boom and reduced level of macroeconomic uncertainty and curtail lending when the economy is in recession.

2.1.2. 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 bankliabilities). Due to the fact that commercial banks are using this liability to lend it andgain return on it their deposits are using them do their business. Therefore, banks willbe better if they are mobilizing more deposits. The cost of intermediation formobilizing deposits is also very important part of overall intermediation cost of thebanking system as E. A. Shaw (1995) indicates. In spite of the difficulties, deposits play an important role not only to the banking sector but also the overall economy. Mahendra, (2005) had also mentioned deposits as a foundations up on which banksthrive and grow and unique items on a bank's balance sheet that distinguish them fromother type of business organizations.

Commercial banks mainly depend on the funds deposited with them by the public to lend it out to others in order to earn interest incomeDavinaga, (2010), Hamid, (2011) said that if banks lose their deposit base they rely on non-deposit based funding whichis 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. Commercialbanks compete for deposits in order to become profitable and thus to be able to supplymore funds to the public. However such financial growth is profitable only if thecommercial bank does not incur additional expenses to obtain and retaincashDavinaga, (2010).

Moreover, according toRichard 1971) capital structure in commercial banks is made up ofshareholders' funds, borrowing and deposits. Therefore, deposits are one of thesources of capital for commercial banks.

2.1.3. 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. Thisdeposit is mainly provided by people as Mohammad and Mahdi, (2010). Howeverdeposits can also be provided by business organizations, NGOs, government and so on.

Therefore, whether deposits are from individuals, businesses and government they areimportant financial source of banks.

2. Attracting deposit is cheaper than raising equity

Banks like any other business organizations funds from debt and/or equity. In the bankscontext raising equity is more expensive or costly than attracting deposits. Lorenzo etal (2010) states that, if the lending channel plays a role, the deposit growth should leadto an increase in the supply of loans due to the additional source of financing forbanks. As demand for loan increases because of the development work done byindividuals, businesses and government, banks should extend their deposit base. Whena commercial bank creates a deposit by lending to a business man; it is a function for which it is entitled to a return in the form of interestpayments.

3. Banks make profit using their deposits

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

Maria and Sergio, (2001), found that depositors discipline banks by withdrawingdeposits and by requiring higher interest rates. For depository corporations mainlydeposit money banks, their principal objectives is undertaking financial intermediationto make profit and increase their shareholders valueSheku, (2005). They achieve theirobjectives mainly by attracting deposits and investing the money on profitableinvestment portfolio.

4. **Fund investment and/or development projects**

Debt is largely held by domestic commercial banks which are funded mainly fromdeposits, the government demand for bank assets enabled banks to continue to expandtheir deposit base rapidly and profitablyHerald and Heiko, (2009). Individual investorsand government are mainly depending on the deposits of banks to fund their investmentsand/or development projects.

The ability of a bank's management and staff to attract checking and savings accountsfrom business and individuals is an important measure of the bank's acceptance by thePublicMahendra, (2005). Banks' management major concern is the variability ofdeposits for several reasons.

2.1.4. The Factors Affecting Commercial Banks Deposits

An important indicator of the success and efficiency of any credit agency, which isalso a banking institution is, the extent to which it is able to mobilize the savings ofthe community in the form of deposit. But deposit mobilization is very difficult task. Itdepends up on various factors exogenous as well as endogenous, to the banking system N. Desinga, (1975). Exogenous factors are the general economic environmentof the region, the volume of business transaction of the region, the confidence of thepeople on the banking system, the banking habit of the people and the saving potentialof the region. Even when exogenous factors are more conducive for depositmobilization, banks may fail because of unfavorable endogenous factors such also cation, type of building and windowdressing(furniture, cheque books, vouchers, payslips etc), which assure the customers about the physical fitness of a bank N. Desinga, (1975).

As N, Desinga, (1975) did the researcher classifies the variables which are claimed tohave effect on the commercial banks deposits into two, namely exogenous andendogenous factors. Exogenous has further divided into country specific factors andbank specific factors for clarification purpose. Endogenous factors can be controlled by the banking system; however the exogenous factors cannot be controlled by thebanking system. The bank specific factors are factors that are specific to the bankingsystem and the country specific factors are factors that are beyond the banking system.

2.1.4.1. Exogenous Factors

These are factors that are from country and banks that can affect the growth ofcommercial banks deposits. There are discussed as follows:-

2.1.4.1.1. Country Specific Factors

The country's economic, social and political factors can affect the commercial banks.

According toHerald and Heiko, (2009), country specific risks such as political, economic and financial risks may affect the propensity for depositors to place funds inthe banking system. Any single bank operates under the rule and regulation of thecountry where it belongs, also different problems and shocks that has happened in thecountry has its own concern in the banks operation. Generally, bank success in theiroperation is mainly depends on the environment where the business is undertaken.

The researcher has identified ten country specific factors that have effect on thecommercial banks deposits from the literature. They are saving interest rate or depositrate, 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 shocks.

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

One of the most effective factors for deciding to deposit in banking system is the interest rateMohammad and Mahdi, (2010). Moreover, this article shows the impactof interest rate on the performance of the banking system to achieve the goals that areexpected from the banking system. Herald and Heiko, 2009), also mentioned interestas one of the determining factor for commercial banks deposits. Philip, (1968), alsostates that the offering of attractive interest rate on bank deposits may be considered tohave had a beneficial effect. Moreover, Mustafa and Sayera, (2009) said that low deposit rates are discouraging saving mobilization. Interest rate in the banking system is held as investment cost from the investor's pointof view and opportunity cost from the depositor's point of view Mohammad andMahdi, (2010). Thus, capital market forces balance interest rates. In other words, thejust and correct interest rate should be determined through market mechanism, that isinterest rate is balanced in supply and demand conditions in proportion with the inflation rateEustacius and David, (1995) states that deposits are more interest ratesensitive and banks may choose to increase investments in interest rate sensitive assetsand to decrease investments in loans. That is commercial bank deposits

are interestrate sensitive, therefore as the interest rate changes the deposit of the commercialbanks will change.

It is known that depositors bring money to the bank which the banks in turn lend it toborrowers. The gross earnings of the bank are determined by the volume andcomposition of loan able funds and the rates at which they are loaned. After losses andexpenses of operation are deducted, the net earnings provide a margin out of whichinterest on deposits can be paid. Because of the competition for these funds amongbankers who desire to loan them at a profit, a bank must pay interest or lose depositsto a competitor. The payment of interest on deposits is explained in this wise, like anyother interest rate.

As toErna and Ekki, (2004), Economists, mainly conventional ones,believe that depositors are attracted to deposit their money in banks because of theopportunity cost of holding cash in hand is high when the interest rate is also highRomer, (2001)Athukorala and Sen, (2004). This can easily be explainedby the utility maximization (cost minimization) premise, as a depositor will choose anaction that will maximize their welfare or satisfaction. As to Richard,(1971), regulationof the commercial banking industry affects the returns which commercial banksrealize on their deposits and capital. That is although deposits are the source for profitof banks it is influenced by regulation of the country. Accordingly, the higher profitrate on demand deposits is to a large extent the result of the prohibition against thepayment of interest on these deposits. Therefore, depositors are motivated by returns.

Using an Adaptive Expectation Model (AEM), it is founded that depositors are indeedmotivated by returns in MalaysiaErna and Ekki, (2004). On the other hand, Erna andEkki, (2004) state that Ghafur's, (2003) shows that the rate of interest does not haveinfluence on the volume of the deposits. However, Rose, (2001) said that banksincrease their deposits by offering higher deposit rate. These are the articles thatcontradict to each other in identifying the relationship between the commercial banksdeposits and saving interest rates or deposit rate.

2. Inflation

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

The classical belief is that, because bank assets and liabilities are expressed inmonetary terms and because these assets will normallygrow in line with growth inmoney supply, banks are relatively immune from the effects of inflationDevinaga, (2010). In brief, monetary policy works by controlling the cost and availability ofcredit. During inflation, the Central bank can raise the cost of borrowing and

reducethe credit creating capacity of commercial banks. According to Devinaga, (2010), thiswill make borrowing more costly than before and thereby the demand for funds willbe reduced. Similarly with a reduction in their credit creating capacity, the banks willbe more cautious in their lending policies. Since the banks demand for fund decreasesobviously the deposits will decrease. Banking system was affected by inflationin terms of deposit absorption and facilities grantMohammad and Mahdi, (2010). As to (Mohammad and Mahdi, (2010), in developed countries negative correlation betweeninflation and absorbed deposits and granted facilities has been documented. However in developing countries the opposite is true.

Inflation is seen as an economic problem in developed countries in the second half of20th century. Inflation with effect in economic growth, employment, incomedistribution and wealth as well as social and political conditions of a country can influence its entire dignity Mohammad and Mahdi, (2010).Moreover Mohammad andMahdi, (2010) Banking system as an important effective factor in economicperformance has also been under the influence of inflation. As to Mohammad and Mahdi (2010), as far as the effect of inflation on financial sector conceived theliterature demonstrates that inflation affects the capacity of financial sector for optimalallocating of resources. That is as inflation rate increases, true yield rate of money andassets decreases; therefore deposits are no longer attractive. Also the increase ofinflation rate has a negative effect on the performance of financial sector through themarket credits and in turn, on the performances of banks and capital markets andfinally on the long term economic growthMohammad and Mahdi, (2010).

With respect to the effect of inflation on savings, it can be mentioned that in general all individuals who save a part of their incomes in banks are directly damaged by theinflation and their assets decrease in proportion with money valuedecreaseMohammad and Mahdi, (2010). In that case as (Mohammad and Mahdi,2010)describes people try to change their cashes and savings to more reliable and stableforms such as land, jewelry, antiques, art collections, foreign currencies that causes todefinite decrease in commercial bank's total deposit. High inflation rates reduce thereal 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 ofdeposits.

3. Real Interest Rate

Real interest rate is nominal interest rate minus inflation rate. Mohammad andMahdi(2010) said that in negative real interest rate condition, people withdraw theirresources from banking system. According to Mohammad and Mahdi, (2010), someresearch supposed that decrease in real interest rate could decrease true demands formoney(in its extensive definition including savings and time deposits). Therefore itstates that the interest rate and deposit of the banks have positive relationship.

According to Voon-Choong et al (2010), while interest rates risk is a major concern forbanks due to the nominal nature of their assets and the asset-liability maturitymismatch Hasan and Sarkar, (2002), some researchers emphasized that higher interestrates had positive impact on banks HanweckRyu, (2004) and Hyde, (2007).

4. Population growth of the country

The twin objectives of commercial banks, i.e. acquiring deposits and advancing creditcannot be attained without good banking habits of the peopleMahendra, (2005).

MoreoverMahendra, (2005) states that, the number of deposit accounts is moreimportant because it ensures that the probability of account is more important becauseit ensures that the probability of account holders withdrawing cash at a time decreasesas the number of deposit account increase, thereby creating advantage for banksin terms of increasing the size of the loadable fund. So the higher number of depositaccounts the greater is the advantage to banks. The number of deposit accountsdepends 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 acountry or region. Changes in real GDP per capita over time are often interpreted as ameasure of changes in the average standard of living of a country. If households'andfirms desire to hold more money, deposits will increaseEvan, (2006). So therelationship between income and deposits is positive that is as the income of thesociety increases the same happens for the commercial bank 'deposits. Income is expected to have a positive effect on depositsM. A. Baqui et al, 1987). Therefore as society's per capita income increases the same will happen for commercial banksdeposits. Mahendra, (2005) also indicates that income of the society matters for banks deposit growth.

6. Economic growth

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

According to Herald and Heiko(2009), growth is one of the determining factorsforcommercial banks deposits. GDP is calculated by adding up the value-added at eachstage of production (deducting the cost of produced inputs and materials purchasedfrom an industry's suppliers) Jim, (2008). Erna and Ekki, (2004) find four variables,

GDP, number of Islamic bank's branch offices, profit sharing rate, and interest ratethat are thought to have influence on the volume of deposits. So, GDP can influencethe growth of commercial banks deposits.

7. Consumer price index

According to Herald and Heiko, (2009), price can also determine commercial bankdeposit and it can be indicated by consumer price index. In literature there is anevidence for the influence of consumer price index on commercial banks deposit, however this area was rarely studied.

8. Shocks

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

2.1.4.1.2. Bank Specific Factors

1. Liquidity of the banks

The concept of liquidity in finance principally lies in two areasIsmal, Rifkl, (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, smoothtransactions and no barriers. As Ismal, Rifkl, (2010), the latter discusses theobligation of banks to make payments to third parties Fiedler, (2000).Someexamples of this includes: setting up liquidity management policies,

reserve liquidity, balancing assets and liabilities and preparing liquid financial instrumentsIsmal, Rifkl,(2010).

An important measure of liquidity is loan to deposit ratio. The loans to deposit ratio isinversely related to liquidity and consequently the higher the loans to deposit ratio thelower the liquidity and vice versaDevinga, (2010).

Key liquidity indicators such as central bank credit to financial institutions, deposits asa share of monetary aggregates, loans to deposits ratios, are important for open marketoperations and liquidity managementSheku, (2005). According to Voon-Choongetal,(2010), the basic need for liquidity, asset, liability, capital adequacy, credit andinterest rates risks management are now more challenging than before Mishkin,(2007).The banks' liquidity management involves acquiring sufficient liquid asset tomeet the bank's obligation to depositorsVoon-Choong et al, (2010). According to thefindings of Dorothee and Andrea, (2009) it is more profitable for savings banks to holdliquid assets than to invest in illiquid assets, such as medium-term interbank lending toother credit institutions.

According to the theories of financial intermediation, the two most crucial reasons forthe existence of financial institutions, especially banks, are their provision of liquidity and financial services Ismal, Rifkl, (2010). According to Ismal, Rifkl, (2010),Regarding the provision of liquidity, banks accept funds from depositors and extendsuch funds to the real sector while providing liquidity for any withdrawal of deposits,however the banks' role in transforming short term deposits into long term loansmakes them inherently vulnerable to liquidity risk(Bank for InternationalSettlements(BIS), 2008). Individual, business and government will be willing todeposits their money in banks if they are certain that they are save to withdraw themoney whenever they want, this is the question of liquidity of banks. The more liquidbanks can attract the deposits.

Liquidity risk occurs in two cases,
  I.   It arises symmetrically to the borrowers in their relationship with the banks, for example when banks decide to terminate the loans but the borrower scans not afford it.
  II. It arises in the context of the banks' relationships with their depositors, forexample, when depositors decide to redeem their depositors but the bankcannot afford it.

Liquidity risk is the possibility that depositors may withdraw some or all their fund and default risk is the possibility that borrowers may not repay all their debts whendueM. Shubikand M. J.Sobel, (1992).

A higher degree of financial intermediation(proxies by the loan-to-assets ratios) maysignal a bank's success in generating income as well as a need for it to attract moredeposits to support its increased lending activitiesHerald and Heiko, (2009). A higher liquiditybuffers (measured by the ratio of liquid assets to deposits) tend factorfavoring deposit demandHerald and Heiko, (2009). Liquid banks as well as banks witha higher loan exposure are associated with higher deposit growth.

Herald andHeiko, (2009), states that the liquidity situation of the bank also plays a significant rolein determining banks deposit growth. According to Nada, (2010), Banks perceived asrisky should have had more difficulty attracting deposits and making loans than banksperceived as safe. When banks fail to pay for its depositors then it faces liquidity riskthat makes other depositors not to deposit in that particular bank.

2. Profitability of the bank

Erna and Ekki, (2004) findthe long run relationship between commercial banksdeposits and the profitability of the banks. Higher bank profits would tend to signalincreased bank soundness, which could make it easier for these banks to attractdepositsHerald and Heiko, (2009). However, the effect of bank profitability and banksize are found to be insignificant once controlling for the other variables. So, the effectof profitability and banks size on commercial bank deposit is lower as compared withother variables.

3. Security of the bank

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

4. Branches

There is a relationship between commercial banks deposits and commercial bank'sbranch expansion. Not only are deposits influenced by bank branches, but theexpansion of bank branches is also

influenced by the level of deposits in any areaM.A. Baqui et al, (1987). It is expected that banks make decisions on expanding theirfacilities by considering factor such as level of competition, deposit potential, regional income and existence of road and vehicles. As deposit potential is one thingthat banks consider in expanding its branches, the deposit can also be a reason forbranch expansion strategy that the banking sector uses. According to Erna and Ekki, (2004), there is a long run relationship between commercial bank branch andcommercial banks deposits.

It is often argued that branching stabilizes banking system by facilitatingdiversification of bank portfoliosMarkCarlson andKrisMitcheer, (2006).Mark and Kris,(2006), found from theoretical literature on banking regulation that branch banking leads tomore stable banking systems by enabling banks to better diversify their assets andwiden their deposit base Gart (1994),Hubbard, (1994). An argument commonlyarticulated in the literature is that branch banking stabilizes banking systems byreducing their vulnerability to local economic shocks; branching enables banks todiversify their loans and deposits over a wider geographical area or customer baseMark and Kris, (2006). Restrictions on branching have been linked to the instability of banking systems Daniel, (2005), suggest that the lack of widespread branching bank networks hinderedthe development of large-scale industrial firms. It is stated that unit banks becomeincreasingly incapable of receiving deposits from a widespread geographic area. Thesingle office bank is also not able to monitor geographically diffuse debtors as easilyas could be done with multiple offices. Moreover, it can be concludes that underbranch banking the mobility of capital is almost perfect.

5. Bank size

Among the factors prominently identified as affecting deposit variability one is banksize. Evidence indicates that the number and diversity of the ownership of individualdeposit accounts as well as the distribution of deposits by type vary with banksizeGeorge, (1972). Herald and Heiko, (2009) found that although insignificant oncecontrolled by other variables bank size have an effect on deposits.
 A smaller bank hasto generate less deposit in absolute terms to achieve the same deposit growth thanlarge banks, thus possibly favoring smaller banks in achieving higher deposit growth.
But a larger bank with economies of scale as well as larger branch network might beable to better attract deposits Herald and Heiko, (2009).

6. Reserves

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

Therefore, reserve requirements limit the total expansion of bank deposits that canoccur on the basis of any primary increase in deposits. Reserve requirements also havethe effect of limiting the reduction in bank credit and deposits that is forced up on thebanking system by a primary decrease in deposits. The commercial banks can obtaincurrency to pay out to customers only by drawing down their reserve deposits at thecentral bank or by using till moneyRichard Goode and Richard S. Thom, (1959). Tillmoney, according to Richard Goode and Richard S. Thom,(1959) is the currency thatbanks keep on hand satisfying day to day needs. They pointed out that bank depositsare a large part of the money supply in virtually all countries.

7. **Transaction cost**

Important indicator of management's effectiveness in any bank are whether or notdeposited funds have been raised at the lowest possible cost and whether enoughdeposits are available to fund those loans the bank wishes to makeMahendra, (2005).

This last point highlights the two key issues that every bank must deal with inmanaging its depositsMahendra, (2005):-

❖ Where can the bank raise funds at the lowest possible cost

❖How can management ensure that every bank always has enough deposits tosupport the volume of loans and other financial services demanded by thepublic?

2.1.4.2. Endogenous Factors

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

1. **Awareness of the society**

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

2. **Convenience of Bank's office**

Road and vehicles directly influence interest bearing deposits because of the reductionin depositors' transaction costs through reduced time spent in travelling to and frombanksM. A. Baqui et al, (1987). Banks can mobilize more deposit when they makethemselves closer to their customers (depositors).

3. **Services in the Bank**

It is known that banks are service giving organizations and the service delivery canaffect their business undertakings. M. A. Baqui et al,(1987) stated that there is someempirical evidence demonstrating the positive influence of services rendered todepositor(egDudzie, Dunson and Akaah). Baqui further suggested two innovations tobe tested to provide incentives to depositors:-

❖ Additional benefit like prize bounds could be given to depositors formaintaining deposits for particular period.

❖ As recommended by Nathan, (1986), one category of deposits might bespecifically tied to future loans. Bank customers might be encouraged toparticipate in a savings program that, for example, provides machinery orhousing after a predetermined amount of savings has been accumulated.

Services in the bank should be attractive enough for the depositors so as to mobilizedeposits. If the banks could offer these services, the savers would be inclined to keepa part of their saving in the form of depositsV. V. Bhatt, (1970).

The followings are services that V. V. Bhatt, (1970) claims to use to mobilize deposits:-

1) Door-to-door collection of small saving in the form of deposits.

2) Offering land revenue or insurance premium: If the banks offer to pay landrevenue or insurance premium out of the interest earned on deposits, somepersons may be inclined to put deposits of

such amounts as would earn enoughinterest to meet their land revenue or insurance premium liability. To attractdeposits these types of services are worth providing.

3) An investment service: Some savers have neither the inclination nor the timeto select an appropriate portfolio of financial investment. Banks can select theportfolio of investments on their behalf, keep the securities in safe custody, collect Interest/dividend income and even fill income-tax forms; with suchservices offered, some savers would be inclined to keep their liquid funds inthe form of deposits.

4) Some persons like farmers get their incomes say once or twice in a year, while their expenditure is spread over the whole year. If banks could collect depositsfrom them at the harvesting season, and assure them regular withdrawalsduring the year, farmers may be inclined to keep deposits with the banks. Thisscheme would ensure safety of their funds, prudence in their management andcertainty of regular monthly means to meet their current liabilities. In additionthey would earn some interest. With a sympathetic and persuasive approach, farmers could be attracted to such a scheme.

5) While giving loans to farmers and small sector, the banks could provide themwith facility of purchases from recognized dealers instead of giving them cash.

In this case, the dealers could send the bills to the banks, which would debitthe accounts of the loan receivers. Some banks have introduced agri-cards withsuch a purpose in mind. If such facilities are provided to others also, thecustomers would use bank money rather than currency for making paymentand once they form this habit, they would be induced to keep their transactionbalances in the form of deposits rather than in the form of currency.

According to V. V. Bhatt, (1970) these are some of the new deposit schemes, which ifintroduced, could raise the rate of saving as well as the rate of growth of bank deposits.

To the extent to which the rate of saving is raised, the growth rate of the economy would be higher. To the extent to which the deposit growth rate is raised, thecommunity would have more effective control over the allocation of financialresources for Plan purposes.

2.2. Conceptual framework of the research

The researcher was reveal that there are independent factors determining deposit mobilization performanceprivate commercial banksi,e dependent variable).Deposit is a deliberate effort by relevant

organ vested that right by central bank. It is normally not brought about by a single variable but rather an interaction of various networks of different variables and factors. Among the factors interest rate , inflation, population growth, per capita income, economic growth ,consumer price index, shocks, liquidity of the bank ,profitability of the bank ,security of the bank, number of branches ,reserves, transaction cost, awareness of the society, convenience of the bank's offices in the bank are claimed to affect the deposit mobilization activity.

The conceptual framework of those variables is a guide to this research shows how they determine deposit performance of private commercial banks and four independent variables are select while assuming other variables are constant during the research.

Figure 2.1.Conceptual framework
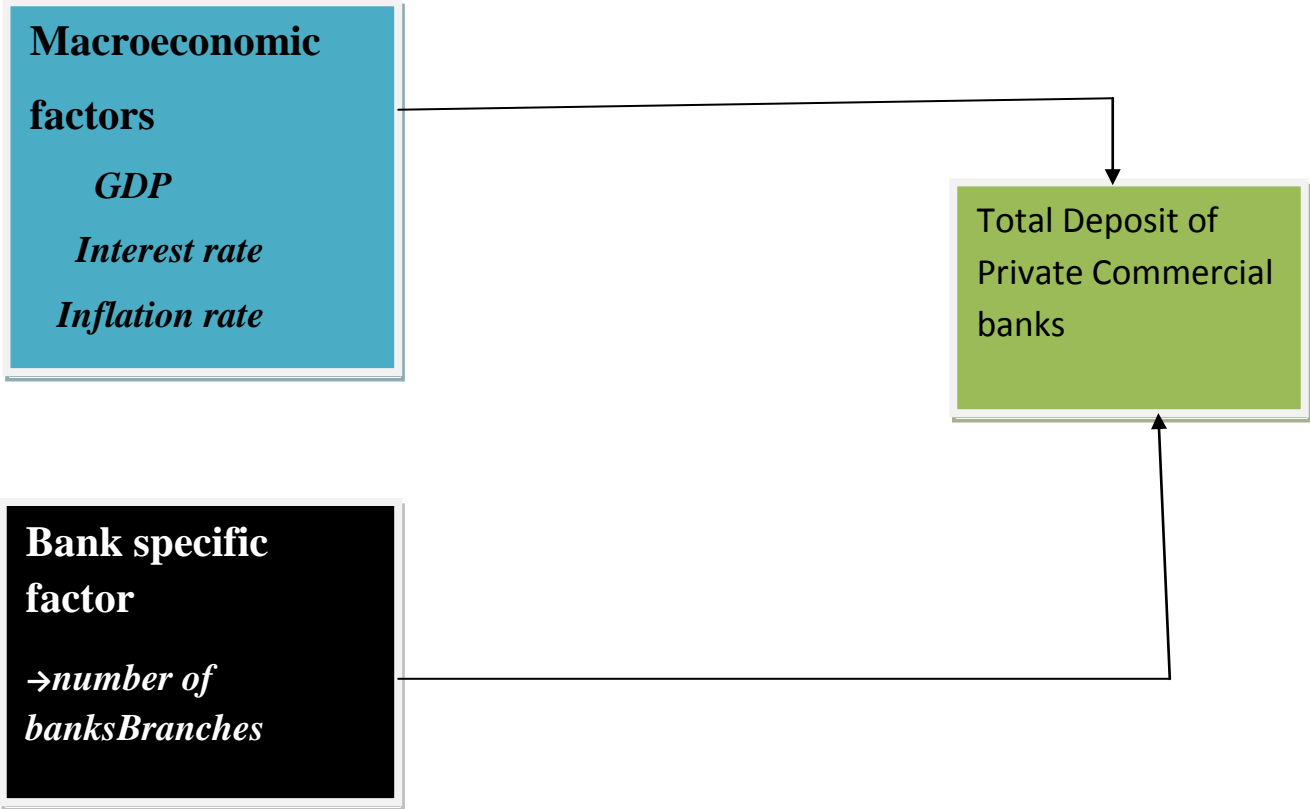
Source: Developed by the researcher

2.3.   Empirical Review

Hereafter, published articles which are written on the area of Factors DeterminingCommercial Bank's Deposits are presented. These will help to see where the literatureon this area is and how this study will add to the existing literature. Accordingly, thearticle will be discussed below one by one.

2.3.1. The key determinants of bank liquidity on commercial banks in Pakistan

An empirical study made by Muhammad & Amir, 2013), on commercial banks in Pakistan with the aim of identifying the key determinants of banking liquidity. The study examines the bank specific and macroeconomic determinants of commercial bank's liquidity in Pakistan. The sample of the study consists of 26 Pakistani commercial banks. The study period consistsof 5 years from 2007 to 2011 which also covers the period of the Asian financial crisis 2008. Bank's liquidity is measured by two ways; one is cash and cash equivalents to total assets (Li) and second is advances net of provisions to total assets (L2). Two models are estimated based on these measures of liquidity. The results of model 1 (Li) indicate that the bank specific fundamentals (NPL and TOA) and monetary policy interest rate positively determine the bank liquidity whereas inflation has a negative impact. Bank liquidity measured by Li is negatively and significantly affected by the financial crisis. The results of model 2 (L2) indicate that the bank size and monetary policy interest rate positively and significantly determine the bank liquidity.

2.3.2. Macroeconomic determinants of bank deposits in Nigeria

This article is 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 take these factors into serious consideration when attempting to improve the deposits of banks and this will go a long way in increasing aggregate investment.

2.3.3. Deposit determinants of commercial banks in Malaysia

The article was written in 2006 by Professor SudinHaron and Wan Nursofiza, which investigate the structural determinants of deposits level of commercial banks in Malaysia, 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 correction framework, which was conducted within the vector auto-regression (VAR) framework. The first step of the analysis was to test for the presence of unit roots of the variables in the system using the Augmented Dickey-Fuller (ADF) test. Once the stationary condition is examined, the next step is to conduct a co-integration test.

And finally they concluded that in most cases, the behavioral patterns of Malaysian depositors are in conformity with the existing saving theories. However, there are also deviations from these theories. For example, both inflation and returns on deposit are supposed to have a positive relationship but the study found otherwise. Similarly, instead of an inverse relationship, both composite index and money supply have positive sign with savings account. For each of the deviation found, an explanation has been put forward. And also the study does not differentiate the behavioral pattern of different classes of depositors. It is interesting to examine whether different types of depositors have the same long-run influencing factors. In view of this, they proposed that future research agenda on this matter.

2.3.4. Determinants of Commercial Bank Deposit a case of Commercial Bank of Ethiopia

Ethiopian studies on determinants of commercial banks deposit include studies of Wubitu (2012), who was investigated the factors determining commercial bank deposit; The study looked at the potential of the country regarding deposit mobilization by taking CBE as an evidence. The study was used both primary and secondary data which found variables that can affect the total deposit of commercial banks. Three variables are regressed with the dependent variable, i.e. total deposit, these variables include deposit rate, inflation rate and bank branches. The data for these variables was collected from commercial bank of Ethiopia, national bank of Ethiopia and central statisticsauthority of the sample year from 2000GC up to 2011GC. The multiple regression models are constructed for the dependent variable and the three independent variables. Different diagnostic tests are 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 software. As a result of the hypothesis testing it was found that all the three variables can affect total deposit. Branch expansion had positive and significant effect on total deposit whereas deposit rate and inflation rate had positive and insignificant effect on total deposit.

Andinet(2016) focus on factor determining deposit mobilization performance in the case of private commercial banks in Ethiopia. The study aim to identify and evaluate those factors affecting bank deposit by taking private commercial banks of Ethiopia as base.
Accordingly, the researcher adopts quantitative research approach and explanatory research design. Time series data covering 2005 - 2015 was analyzedwith deposit as the dependent variable and explanatory variables as deposit interest rate, overall inflation rate, number of branch opening, Economic (GDP),liquid asset to deposit ratio, lagged value of bank deposit and Net Interest Margin individual foreign remittance and dummy variable. Estimation was done using Ordinary Least Squares technique by E-views8 statistical package. The results from economic analysis showed that among the explanatory variables number of bank branches has negatively and significant correlated with the explained variable whereas deposit interest rate, liquid asset to deposit ratio, lagged value of bank deposit and Net Interest Margin has negative and insignificant correlation with deposit interest rate, GDP and inflation has positive and insignificant correlation with deposit.

Tizita (2014) investigated the determinants of private saving in Ethiopia using time series annual data from 2005-2014 Using mixed research approach and explanatory research design. And use deposit as dependent and five variables as explanatory variables Number of bank branches, Inflation rate,

Deposit interest rate, Liquid asset to deposit ratio and GDP independent variables. The estimation was done using ordinary least Square technique by E-view7 statistical package. The result from econometric result analysis shows that:among the explanatory variables number of bank branches has negative effect on deposit and inflation rate have negative and significant effect on deposit. GDP, Liquid asset to deposit ratio have positive and insignificant on deposit. Whereas deposit interest rate have significant positiveeffect on deposit.

Bahredin (2016) he focused on determinants of commercial banks deposit growth (evidence from Ethiopia).the researcher adopts quantitative research approach and explanatory research design. The time series data covers from 2000-2014 was analyzed and evaluate deposit growth with the selected independent variables (number of branches, inflation rate, deposit interest rate, loan to deposit ratio and lagged bank deposit. The Estimation was doneusing Ordinary Least Squares technique by E-views8 statistical package. From the econometric result the researcher concludes that: Number of bank branch has positive and significant effect on deposit growth, inflation rate and deposit interest rate has positive and insignificant effect on deposit growth, whereas loan to deposit ratio and lagged bank deposit has negative and significant effect on deposit growth.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter describes the sources of data, the research design, the characteristics of the study population, sample and sampling techniques, data collection, and statistical tools used in the study. It explains the type of data used for the study and the techniques employed in identifying the factors that determine private commercial bank total deposit.

3.2. Research Design

The choice of research design depends on objectives that the researcher wants to achieve Admas et al., (2007). Since this study was designed to examine the relationships between deposit and its determinants, a logical reasoning either deductive or inductive is required. Induction is the process of reasoning to reach general principles by looking at a set of facts. Whereas deduction is the process of carefully thinking about known facts to reach an answer or decision about a particular question. Besides deductive reasoning is applicable for quantitative research whereas inductive reasoning is for qualitative research Admas et al., (2007). Thus, due to quantitative nature of data, the researcher used deductive reasoning to examine the cause and effect relationships between bank deposit and its determinants in this study.

As noted by Kothari, (2004) explanatory research design examines the cause and effect relationships between dependent and independent variables. Therefore, since this study examined the cause and effect relationships between deposit and its determinant, it is an explanatory research. The objective to be achieved in the study is a base for determining the research approach for the study. In case, if the problem identified is factors affecting the outcome having numeric value, it is quantitative approach Creswell, (2009).

Therefore, the researcher employed quantitative research approach and explanatory research design to see the regression result analysis with respective empirical literatures on the determinants of bank deposit.

3.3. Population Size and Sampling Techniques

As of June 2017 there are 17 commercial banks in Ethiopia. These are Commercial Bank of Ethiopia, Awash Bank S.C, Dashen Bank S.C, Bank of Abyssinia S.C, Wegagen Bank S.C, United Bank

S.CNibinternational Bank S.C, Cooperative Bank of OromiaS.C, Lion International Bank S.C, Zemen Bank S.C, Oromia International Bank S.C, Bunna International Bank S.C, Berhan International Bank S.C ,Abay Bank S.C Addis International S.C, Debub Global Bank S.C, andEnat Bank S.C .From the above List banks Commercial Bank of Ethiopia is not private bank. 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 research employed purposive sampling technique to select the require sample of from the above list banks,Since it is viable in line with time and funds available for this research. 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 be taken by the researcher, based up on variety of criteria. The 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 50% of the total population. Moreover the big portion of total deposit of private commercial banksthat found in theselected banks as a sample.

The selection criteria set by the researcher, first the required banks are only private commercial banks in Ethiopia secondly the commercial banks should operate after 2006/2007and before2015/2016 having financialstatement for consecutive ten(10)years, third, the play a major deposit share in the entire research period. According to National Bank of Ethiopia (NBE) report of 2015/2016 the deposit share of the private banks Awash Bank 7.4%, Dashen 6.5%, Bank of Abyssinia, 4.3%, Wegagen Bank 5.6%, United Bank 4.2%, Nib International Bank 5.2%, Cooperative bank of Ethiopia 2.7%, Lion International Bank 2.3% Oromia International Bank 2%, Zemen Bank 1.9%,Bunna Bank 1.8%, Berhan Bank 1.9%,Abay Bank 1.9% Addis International Bank 1.3% Enat Bank 1.4% and Debub Global Bank 0.6%. The other share is share of the government Bank.

Based on such criteria, eight private commercial banks out of sixteen private commercial banks operating since 2007 G.C are selected. These banks included Awash 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. Cooperative bank of Oromia S.C and Lion international S.C.

3.4. Types of Data and Tools/ Instrument of Data Collection
The research was used secondary data set for Ethiopian private commercial banks between 2007 and 2016, for10 years. The researchers prefer a secondary source of data since it is less expensive in terms

of time and money while collecting. And also, it affords an opportunity to collect high quality data Saunders et al (2009).secondary data collected from the audited annual financial statement of the concern private commercial banks in Ethiopia and National Bank of Ethiopia (NBE). The data include both bank specific and macroeconomic factors.

Bank-specific data was collected from annual reports and statement of accounts of the selected banks. However, data on macroeconomic variable (GDP, deposit interest rate (DIR) and inflation rate (INFR) were sourced from annual report bulletins published by the National Bank of Ethiopia (NBE).

3.5. Data Analysis

As noted by Kothari, (2004), data has to be analyzed in line with the purpose of the research plan after data collection. Accordingly, secondary data collected from annual financial statements of the concerned commercial banks in Ethiopia and national bank of Ethiopia (NBE) were analyzed to determine its suitability, reliability, adequacy and accuracy. Thus, this study utilized both descriptive and econometric analysis based on a panel data from 2007-2016 to examine the relationship between the deposit and its determinant factors in private commercial banks found in Ethiopia.

In panel data regression methodology three estimation models were adopted, namely, pooled OLS, fixed-effects and random effects. The selection between fixed effect and random effect panel estimation method was based on compatibility of the model, number of cross-section, number of observations and nature of omitted variables. The panel regression results were presented in a tabular form evaluated using individual statistical significance test (T-test) and overall statistical significance test (F-test). The goodness of fit of the model would be tested using the coefficient of determination (R-squared). In conducting all the data analysis, the study used EViews8 software.

3.6. Justification of Variables
3.6.1. Dependent Variable

In this Research, the researcher used total deposit as dependent variable. The primary function of commercial banks is maximization of deposit. It helps to expand banking operations, by providing subsidy for branch expansion. The successful functioning of commercial banks depends on the extent of funds mobilized. Deposits constitute a vital source of funds required for banking business.

3.6.2. Independent variable

According to the model present, there are four variables that determine commercial bank deposit (TD) those are number of bank branches (NBB), deposit interest rate (DIR), inflation rate (INFR), gross domestic product (GDP). The following section depicts each independent variable.

A. Number of Bank Branches (NB): The availability of banking services in a country can be measured by the total number of bank branches. The good Bank site occupies in the ability of the positive impact in attracting deposits. This is due to the difficulty of movement of people from one place to another and the difficulties they face in traffic, distinct positions available and free for customer service to the line-up by car, where the applicant is interested in the Bank's website and was approaching his location. Unlike the consumer, who is ready to move long distances in order to get the loan Ali,et al(2002,). Conveniently located bank branches can reduce transaction costs significantly and thereby increases the net return earned on deposits.

B. Deposit Interest Rate (DIR): Interest rate determines the price of future consumption relative to current consumption. Economic theory suggests that a rise in interest rate can have either positive or negative effect on saving. If the substitution effect outweighs the income effect, then saving ratio showed a rise with an increase in interest rate. In addition, the most important consideration regarding demand for particular deposit is the return or yield on it, which is price for losing one's liquidity at particular time. This implies that demand for a particular deposit is positively related to yield paid on it. Theoretically, it is argued that for depositors, the expected rate of interest on deposits is more meaningful rather than current interest rate Sandhu&Goswami, (1986). Economic theory suggests that a rise in interest rate can have either positive or negative effect on bank deposit growth. Fry,
(1995), McKinnon (1991) for example suggest a negative relationship between interest rate and saving, while some others (for example, Deaton, (1992), and Fry, (1995) have shown thatinterest can either be positive or irrelevant in the saving function. From the theories of Mckinnon, (1991) and Shaw, (1973), it seems that interest rate is the most vital factor for efficient deposit growth but additional incentives can be provided like prize bond, cash benefit, performance based promotion etc. Moreover, unpredictability regarding income and inflation raise savers desire toward interest bearing deposit. Therefore, policies may affect financial intermediation by altering deposit growth, particularly by altering banks willingness to attract deposit and by stimulating interest of depositors to save.

C.Economic Growth (GDP): this factor captures the market conditions that certainly have an impact on deposit growth. During periods of good economic condition, loan demand tends to be higher, allowing banks to provide more loans, which lead commercial banks to mobile high deposit. Theoretical and empirical evidence suggests that, economic growth is the main source of banks deposit growth. Demirguc-Kunt and Huizinga (1999) show that rapid economic growth increase income of individuals in fact of this deposit will be increase for a large number of countries. One assumption would be that as incomes rise, deposits with banks do so as well. Technically speaking, percapita income captures upswings and downswings manifesting in the business cycles. Consequently, movements in general activity level are expected to generate direct impacts on deposit of banks.

D. Inflation (INFR): the rate of inflation and the inflationary expectations might have some influence on the growth of overall deposits with the banking system. It is generally assumed that the growth of total deposits is to be negatively related with inflationary expectation. As inflation accelerates, deposits become less attractive, depending on the interest rate. In this case, the assumption would be that as deposit interest rates rise, deposits would increase in principle as well. The narrower the spread between deposit rates and inflation, the less attractive it should be to hold deposits above the required level. As the rate of inflation increases, people will be tempted to divert their savings from bank deposits to any other kind of tangible assets because these assets act as hedge against. This is the persistent increase or decrease in the average price of goods and services. BaherdinAwol, (2016).

CHAPTER FOUR

DATA ANALYSIS AND DISCUSSION

4.1. Introduction

This chapter presents results of the determinants of commercial Banks deposits in the case of private commercial Banks. The chapter presents the diagnostics test results of multicollinearity, heteroscedasticity, autocorrelation, and normality. The chapter also presents results of the regression analysis and discusses the study results.

4.2. Descriptive Statistics

This section presents the descriptive statistics of dependent and independent variables used in this study. The dependent variable used in this study was total deposit and the independent variables inflation rate, number of bank branches, gross domestic product, and interest rate on the commercial banks total.

Table 4.1 shows the summary descriptive results for all the variables used in the study such as mean, maximum, minimum, standard deviation, skewness, kurtosis and number of observation.

Table 4.1 Descriptive statistics

	TD	INFR	DIR	NB	GDP
Mean	9.694828	0.172900	0.045000	1.816671	0.062051
Median	9.771981	0.094500	0.050000	1.778151	0.066000
Maximum	10.35854	0.552000	0.050000	2.389166	0.096900
Minimum	8.255244	0.027000	0.030000	1.204120	0.012410
Std. Dev.	0.413979	0.159564	0.006751	0.277722	0.023966
Skewness	-1.057379	1.414299	-0.993808	0.069881	-0.644825
Kurtosis	4.350799	3.688767	2.777778	2.436798	2.657408
Jarque-Bera	20.98952	28.25124	13.33333	1.122434	5.935218
Probability	0.000028	0.000001	0.001273	0.570514	0.051426
Sum	775.5863	13.83200	3.600000	145.3337	4.964080
Sum Sq. Dev.	13.53890	2.011399	0.003600	6.093222	0.045374
Observations	80	80	80	80	80

Source: EView8 Output correlation matrix

As shown in the table 4.1 above the current total deposit of private commercial banks is log number of 9.69 which indicates average deposit amount of private commercial banks for the period of 2007-

2016.And also wecannotice that the banks deposit fluctuates between 10.35 and 8.25 maximum and minimum respectively. The standard deviation among banks in terms of bank total deposit was 0.4139; this confirms that there were variations of deposit among private commercial banks during the study period.

As shown in the above table 4.1currently the totalnumber private commercial bank brancheshave the log number of 1.816 with 2.389, 1.204 maximum and minimum respectively. And standard deviation 0.2777, from this we can see that there isdispersion larger than its log number mean value, this implies that private banks expand branching network aggressively in the study period.

The mean value of banks deposit interest rate over the period under the study was 4.5% with the maximum and minimum values 5% and 3% respectively. There was a little variation of interest rate towards its mean value over the period under the study with the standard deviation 0.67%. This implies that the stability of deposit interest rate for subsequent years under the study period in a sense there is a control of minimum and maximum deposit interest rate by government. Therefore there is no completion among commercial banks to attract customers with a motive of return on deposit.

The inflation or average price of goods and service on the basis of inflation in the country over the sample period was recorded an average of 17.29%. The maximum and minimum inflation was 55.2% in (2008) and 2.7% in (2009) respectively. The rate of inflation was highly dispersed which exhibited higher dispersion larger than its mean value over the periods under the study toward its mean with standard deviation 15.95%. This clearly shows that there was a bit more variation 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 2007-2015 is0.062051 or 6.2%, with a maximum of 9.69% 2010 and a minimum of 1.2% in 2015. The standard deviation for GDP was 2.39%; this implies that variation GDP its mean value during the period of 2007 to 2016.

4.3. Correlation Analysis

Correlation measures the degree of linear association between variables. Values of the correlation coefficient are always ranged between +1 and -1. A correlation coefficient of +1 indicates that the existence of a perfect positive association between the two variables, while a correlation coefficient of -1 indicates perfect negative association. A correlation coefficient of zero, on the other hand, indicates the absence of relationship (association) between two variables Brooks, (2008).The table below shows the correlation matrix among dependent and independent variables.

Table 4.2 Correlation Analysis of Variables

	TD	INFR	DIR	NB	GDP
TD	1.000000				
INFR	-0.264496	1.000000			
DIR	0.623142	-0.084142	1.000000		
NB	0.762388	-0.380553	0.623765	1.000000	
GDP	0.428247	0.275956	-0.442196	-0.672126	1.000000

Source:*EView8 Output correlation matrix*

The correlation results in Table 4.2 above shows inflation rate have negative correlation with total deposit. It refers that when inflation rate increase total deposit will decrease. Whereas GDP, interest rate and number of branches has positive correlation with total deposit which indicates that when GDP, interest rate and number of branches increases, at the same time total deposit will be increase.

The coefficient estimates of correlation in the above table 4.2 shows -0.2645for inflation rate. This implies that inflation rateis highly negatively correlated with total deposit. However, 0.6231 and 0.7624 and 0.4282 for deposit interest rate, number of branches and GDP respectively have highly positive correlation with the total deposit.

4.4. Regression model tests

For valid hypothesis testing and to make data available for reliable results, the test of assumption of regression model is required. Accordingly, the study has gone through the most critical regression diagnostic tests consisting of normality, multicollinearity, heteroskedasticity, autocorrelation and model specification tests accordingly.

4.4.1. Model Selection (Random Effect versus Fixed Effect Models)

As Brooks (2008) referring on his book there are two broadly classes of panel estimator approaches that can be employedin financial research. Fixed effects modeland random effect model. The choice between the approaches is done by running a hausman test. Thus, to determine whether fixed effects model or random effect model is appropriate to this study we have to run hausman specification test as recommended by Brooks (2008) and others. The hypothesis for the model selection test was formulated as follow.

H0: Random effects model is appropriate

H1: fixed effects model is appropriate

$\propto=0.05$

Decision rule:-Reject Ho if p value is less than significant level otherwise accepts Ho.

Table 4.3 Hausman Test

Correlated Random Effects - Hausman Test

Equation: EQ01

Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.000000	4	1.0000

Source: EView8 Output correlation matrix

The Hausman model selection test for this study has a p-value of 1.00 for the regression models. Thus, the null hypothesis which is random effect model appropriate was accepted and the research used the random effect model.

4.4.2 Tests for the Classical Linear Regression Model (CLRM) assumptions

To maintain the data validity and robustness of the regressed result of the research, the basic classical linear regression model (CLRM) assumptions must be tested for identifying any misspecification and correcting them so as to augment the research quality Brooks,(2008). There are different CLRM assumptions that need to be satisfied and that are tested in this study, which are: errors equal zero mean test, heteroscedasticity, autocorrelation, normality, multicollinearity and model specification test.

1. The errors have zero mean $(E(u_t) = 0$

This part shows the test for the assumptions of classical linear regression model (CLRM) namely the error have zero mean, heteroscedasticity, autocorrelation, normality and multicollinearity.

Relay on Brooks (2008), the first assumption required is that the average value of the errors is zero. In fact, if a constant term is included in the regression equation, this assumption will never be violated. Hence, study's regression model has included a constant term, so that this assumption was not violated.

2. Test for heteroskedasticity assumption $(var(u_t) = \sigma^2 < \infty)$

As indicated by Brooks (2008), this assumption requires that the variance of the errors to be constant. If the errors do not have a constant variance, it is said that the assumption of homoscedasticity has been violated. This violation is termed as heteroscedasticity.Ifheteroscedasticity occur, the estimators of the ordinary least square method are inefficient and hypothesis testing is no longer reliable or valid as it will underestimate the variances and standard errors. There are several tests to detect the Heteroscedasticity problem, which are Park Test, Glesjer Test, Breusch-Pagan-Goldfrey Test, White's Test and Autoregressive Conditional Heteroscedasticity (ARCH) test. In this study, ARCH test was employed to test for the presence of heteroscedasticity. The hypothesis for the Heteroscedasticity test was formulated as follow; In this study test was used to test for existence of heteroscedasticity across the range of explanatory variables.

H0: The variance of the error is homoscedasticity

H1: The variance of the error is heteroscedastic

Test for heteroskedasticity assumption

Table 4.4 Heteroskedasticity Test

Heteroskedasticity Test: ARCH

F-statistic	0.068651	Prob. F(1,76)	0.7940
Obs*R-squared	0.070394	Prob. Chi-Square(1)	0.7908

Source: EView8 Output

In this case, both the F- statistic and R-squared versions of the test statistic give the same conclusion that there is no evidence for the presence of heteroscedasticity, since the p-values are considerably in excess of 0.05. Thus, the conclusion of the test has shown that no evidence of heteroscedasticity and the null hypothesis is accepted.

3. **Test for autocorrelation assumption (cov(ui, uj) = 0 for i ≠ j**

This assumption stated that the covariance between the error terms over time (or cross-sectional, for that type of data) is zero. In other words, it is assumed that the errors are uncorrelated with one another. If the errors are not uncorrelated with one another, it would be stated that they are auto correlated or that they are serially correlated Brooks, (2008).

The study used Breusch-Godfrey test for the existence of autocorrelation.

H0: The errors are uncorrelated with one another

H1: The errors are correlated with one another

α = 0.05

Decision Rule: Reject H0 if p-value less than significance level. Otherwise, do not reject H0.

Table 4.5.Breusch-Godfrey Serial Correlation LM Test

Test for autocorrelation assumption

Breusch-Godfrey Serial Correlation LM Test:			
value		df	prob
F-statistic	0.368859	Prob. F(2,70)	0.6929
Obs*R-squared	0.823885	Prob. Chi-Square(2)	0.6624

Source: EView8 Output

Both versions of the test; F- statistic and R-squared version of the test indicate that the null hypothesis of no autocorrelation should not be rejected, since the p-values are considerably in excess of 0.05. The conclusion from both versions of the test described that the null hypothesis of no autocorrelation is not rejected.

4. Test of normality$((u_t \sim N(0, \sigma^2))$

As stated by Brooks (2008), if the residuals are normally distributed, the histogram should be bell-shaped and the Bera-Jarque statistic would be significant. This means that JarqueBera formalizes this by testing the residuals for normality and testing whether the coefficient of skeweness and kurtosis are ≈ 0 and ≈ 3 respectively. Normality assumption of the regression model can be tested with the Jarque-Bera measure. Skewness measures the extent to which a distribution is not symmetric about its mean value and kurtosis measures how it is fat the tails of the distribution. If the JarqueBera value is greater than 0.05, it's an indicator for the presence of normality Brooks, (2008).

In addition, it is quite often the case that one or two very extreme residuals cause a rejection of the normality assumption. Such observations would appear in the tails of the distribution, which enters into the definition of kurtosis, to be very large. Such observations that do not fit in with the pattern of the remainder of the data are known as outliers. If this is the case, one way to improve the chances of error normality is to use dummy variables Brooks, (2008). In line with this, the study included one dummy variable (D807) to adjust the normality distribution. Thus, the figure below shows the result of normality by including one dummy variable.

The hypothesis for the normality test was formulated as follow:

H0: Error term is normally distributed

H1: Error term is not normally distributed

$\alpha = 0.05$

Decision Rule: Reject H0 if p-value of JB tests less than significance level. Otherwise, do not reject H0.

Figure 4.1 Normality Test Result
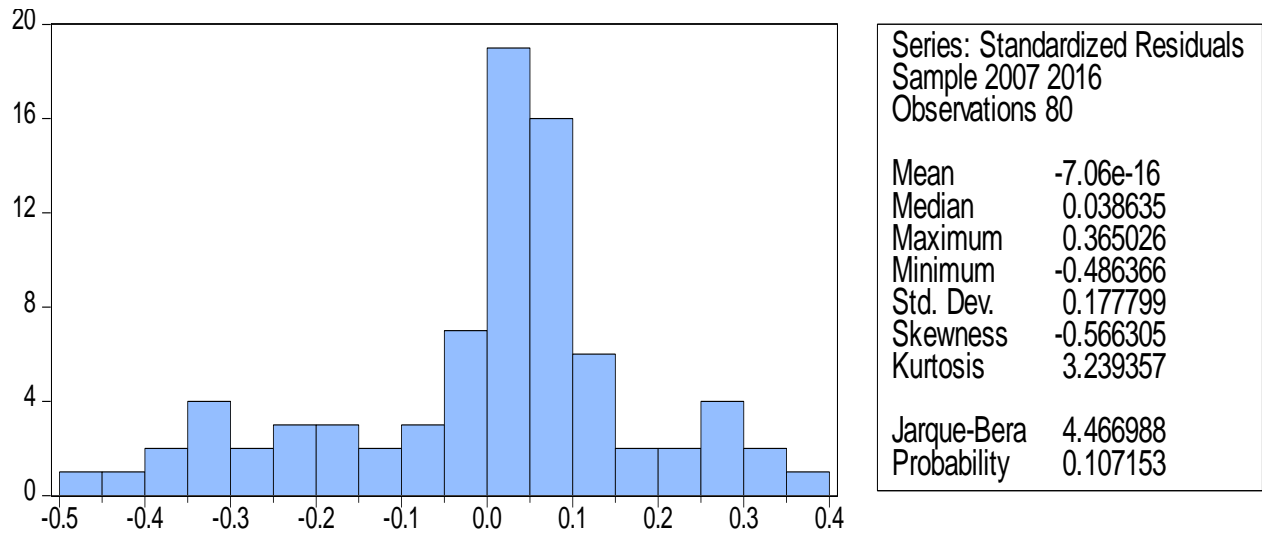
Source: EView8 Output

The above diagram witnesses that normality assumption holds, i.e., the coefficient of kurtosis was close to 3, skewness was zero and the Bera-Jarque statistic has a P-value of 0.107 implying that the data were consistent with a normal distribution assumption. Based on the statistical result, the study failed to reject the null hypothesis of normality at the 5% Brooks (2008) .the p-value 0.107 which is greater than 0.05 had failed to reject the null hypothesis of normality presence.

5. Test for multicollinearity

As referred by Brooks (2008), an implicit assumption that is made when using the OLS estimation method is that the explanatory variables are not correlated with one another. If there is no relationship between the explanatory variables, they would be said to be orthogonal to one another. However, a problem occurs when the explanatory variables are very highly correlated with each other, and this problem is known as multicollinearity.

Malhotra (2007) stated that multicollinearity problems exists when the correlation coefficient among explanatory variables should be greater than 0.75. However, Brooks (2008) mentioned that if the correlation coefficient along with the independent variables is 0.8 and above, multicollinearity problems will be existed.

Table 4. 6.Correlation Matrix between independent variables

	INFR	DIR	NB	GDP
INFR	1.000000			
DIR	-0.084142	1.000000		
NB	-0.380553	0.623765	1.000000	
GDP	0.275956	-0.442196	-0.672126	1.000000

Source: EView8 Output

The method used in this study to test the existence of multicollinearity was by checking the Pearson correlation between the independent variables. The correlations between the independent variables are shown in table 4.6 above. All correlation results are below 0.75, therefore bases on the above assumptions;the result indicates that multicollinearity is not a problem for this study.

6. **Model Specification test**

According to Brooks (2008), further implicit assumption of the classical linear regression model is that the appropriate 'functional form' is linear. This means that the appropriate model is assumed to be linear in the parameters and that in the bivariate case, the relationship between dependent and independent can be represented by a straight line. Model specification error occurs when omitting a relevant independent variable and including unnecessary variable.

Therefore, in order to select a correct estimated model, the researcher had carry out the Ramsey-RESET Test to check on the model specification. The hypothesis for the model specification test was formulated as follow;

H0: the model is correctly specified

H1: the model is not correctly specified

$\alpha = 0.05$

Decision Rule: Reject H0 if p-value is less than significance level. Otherwise, do not reject H0.

Table 4.7. Result of model specification Test: Ramsey-RESET test

Ramsey RESET test

Equation: EQ01

Specification: TD C GDP INR IR NB

Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	1.204693	74	0.2322
F-statistic	1.451285	(1, 74)	0.2322
Likelihood ratio	1.553770	1	0.2126

Source: EView8 Output

From table 4.7, it can be concluded that this research do not reject null hypothesis (H0), since the p-value of f- statistic is 0.23, which is greater than significance level of 0.05. Thus, it can be concluded that the model specification is correct from year 2007 to 2016. Overall reliability and validity of the modelwas enhanced further by the Prob (F-statistic).

4.5. Summary of Regression Analysis and Results Interpretations

4.5.1. Results of Regression Analysis

This section presents the regression result of random effect model that examines the determinant of commercial banks total deposit in private commercial banks in Ethiopia.

Operational model: the operational panel regression model used to find the statistically significant determinants of banks deposit in private Ethiopian commercial banks was:

$TD = \alpha + \beta_1 INFR + \beta_2 DIR + \beta_3 GDP + \beta_4 NB + \varepsilon$.

Accordingly, Table 4.8 below presents the result of random effect regression model that examines the impact of explanatory variables on bank deposit. Hence, total deposit(TD) is dependent variable whereas number of bank branches (NB), deposit interest rate (DIR), inflation rate (INFR) and Economic growth (GDP) are explanatory variables.

Table 4.8 Result of Regression Analysis

Regression Analysis Result

Dependent Variable: TD

Method: Panel EGLS (Cross-section random effects)

Date: 12/24/17   Time: 19:45

Sample: 2007 2016

Periods included: 10

Cross-sections included: 8

Total panel (balanced) observations: 80

Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.253744	0.174318	41.61222	0.0000
INFR	-0.075538	0.087163	-0.866626	0.3889
DIR	8.858655	3.022522	2.930882	0.0045
NB	1.055611	0.106768	9.886960	0.0000
GDP	2.514001	0.761480	3.301469	0.0015
DUM807	-1.455108	0.146579	-9.927141	0.0000
	Effects Specification			
			S.D.	Rho
Cross-section random			0.095917	0.4555
Idiosyncratic random			0.104867	0.5445
	Weighted Statistics			
R-squared	0.887022	Mean dependent var		3.167855
Adjusted R-squared	0.879388	S.D. dependent var		0.324625
S.E. of regression	0.112739	Sum squared resid		0.940554
F-statistic	116.1991	Durbin-Watson stat		1.635982
Prob(F-statistic)	0.000000			
	Unweighted Statistics			
R-squared	0.815540	Mean dependent var		9.694828
Sum squared resid	2.497386	Durbin-Watson stat		0.603237

Source: EView8 Output

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

TD=7.253- 0.0755INFR+ 8.858DIR + 2.514GDP+ 1.055NB +ε.

Where, Dependent variable is total deposit of private commercial banks, and the independent variables includes- inflation rate, number of banks branch, deposit interest rate and GDP.

4.5.1.1. Interpretation of R-squared

As shown in Table 4.8R-squared coefficient of 0.887022obtained from the estimated model; revealing that 88.70 percent of the variation in deposits is being explained by the variables in the modeli,e inflation rate(INFR), deposit rate (DIR), (GDP) andnumber of banks branch(NB) and there is a strong relationship between deposits and the independent variables. The R-square result makes sense because there are other factors that were not included in the model but could help in explaining deposit growth in private Ethiopian commercial banks. These and other remaining factors can account for the remaining 11.3 percent.

4.5.1.2. Interpretation of Adjusted R-squared

An adjusted R-squared value, which takes into account the loss of degrees of freedom associated with adding extra variables were inferred to see the explanatory powers of the models. In other words, the adjusted R-squared shows satisfactory levels, which mean that nearly 87.93% of the volatilities in totaldeposit, are explained by the volatilities of independent variables included in the equation. Therefore, an adjusted R-square having value of 0.8793 shows that 87.93% of dependent variable is explained by the independent variables included in the model.

4.5.1.3 Coefficient of determination of the constant term

The coefficient estimate of the constant of the regression is 7.253744shows that the value of dependent variable if all independent variable becomes zero. This indicate that the total deposit of commercial banks will be increased by the unit 7.254given all independent variable zero and this indicate that the dependent variables in the model is depends on the independent variable.

4.5.2. Interpretation Results of the Regressors Values

4.5.2.1. Number of Bank Branches (NB) on Total deposit

The result in above table 4.8shows that branchesexpansion has a significant and positive impact on total deposit. A one-unit increase in number of bank branch generates a 1.056-unit increase in banks total deposit. Positive and significant coefficient for bank branches validates the argument of Khalily et al (1987); Hibret, (2015); Shemsu, (2015); Wubitu, (2012) and Nathanael, (2014)Bahredin, (2016). 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 ofLewis, (1995) but contrasts with findings ofPeterandMichaelo, (2015) and Tizita, (2014). This implies that the importance of branch expansion of commercial banks over the country that leads to affecting total deposit of private commercial banks, meaning that banks with many branches in Ethiopia have high total deposit. Thus, in general, null hypothesis has been rejecting and conclude that bank branches have causality relationship with increasing of total deposit ofprivate commercial banks; meaning that it is one of the major factors that banks can use to achieve increasing oftotal deposit via a proper management of branch expansion in all direction of the country. The expansions of the branch network not only reduces transaction costs for depositors but also increase accessibility of banking services and provides other important financial services and increases the awareness of people about banking. The expansion of banking facilities is the key factor in deposit because easier physical access should reduce transaction costs for depositors. Even so, rural branches are still clustered in relatively more urban areas so banking services are not evenly distributed, and many potential areas remain unbanked. Therefore, based on the result of table 4.8rejectednullhypothesis.

4.5.2.2 Deposit Interest Rate (DIR) on total deposit

Deposit interest rate have a positive relationship with banks total deposit and the relationship is significant according to the model in Table 4.8 above a oneunit increase in deposit interest rate generates 8.8586-unit increase in total deposit of private commercial banks and concludes that deposit interest rate do significantly contribute to bank deposit mobilization. This result is supported by the findings of Hibret, (2015); Andinet (2016); Ngula, (2012); Deaton, (1992) andFry, (1995) have shown that interest can either be 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 bank deposit in Ethiopia meaning that interest rate more plays an important role in deposit. In fact, there is competition between private commercial banks in terms of attraction using deposit interest rate. As a result we should reject null hypothesis.

4.5.2.3. Inflation Rate (INFR) on total deposit
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 4.8 shows that inflation rate has insignificant impact on total deposit. The coefficient of this relationship of 0.0755 indicates that holding other things constant, a unit increase in inflation rate will lead to 0.0755-unit decrease in bank total deposit at an insignificant level. This implies that persistent inflation has a negative insignificant effect on total deposit of private commercial banks deposit. So higher inflation induces savers to save less, perhaps households get stable price prediction from deposit. 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. This finding supports the idea of Schmidt Hebbel, Webb and Corsetti, (1992), which found that non-statistically significant relationship between deposit andinflation rate. But contrasts with findings ofTizita, (2014).

4.5.2.4. Economic Growth (GDP)

Theoretical and empirical evidence suggests that, economic growth is the main source of bank deposit growth. If there is a real growth in the economy deposit will increase as well. This hypothesis was proved by the Chakravarty committee 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 in 1985).

The economic growth of the country proxy by GDP had positive and statistically significant impact on deposit

From table 4.8 above Gross domestic producthad positive and significant impact on total deposit. As we can see from table 4.8 a regression coefficient of 2.514indicate that increase of 1 unit in GDP increased total deposit by 2.214 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 Andinet, (2016) supports this argument. This finding is also supported by Alemayehu's research MudayeNeway, (2015). 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. So, GDP can influence the total deposit of private commercial banks. Therefore we rejected null hypothesis.

CHAPTER FIVE

SUMMARY, CONCLUSSION AND RECOMMENDATIONS

5.1. Introduction

The study established that determinants of commercial banks deposit in private Ethiopian banking sector during the period from 2007-2016. Findings indicated that bank total deposit growth are influenced by number of bank branches (NB), deposit interest rate(DIR), (gross domestic product (GDP) and inflation(INFR). This chapter outlines the summary and conclusions of the study in accordance with the study results. It also gives an insight on the policy recommendations as well as suggestions for future studies.

5.2. Summary of the Study

The thrust of the study was on identifying the determinants of Commercial Banks deposit in private commercial banks operating in Ethiopia. An explanatory research design was adopted to explain the casual relationships between the variables. The study employed quantitative methods on secondary data sourced from financial statements of banks, and NBE publications for macro-economic variables. Results from the regression analysis estimated by random effect regression model showed that number of bank branches has positive and significant impact on total deposit of private commercial banks of Ethiopia, deposit interest rate has positive significant impact on total deposit,Inflation rate has negative insignificant impact on total deposit and GDP rate has positive significant impact on deposit. Generally, three findings out of four were in line with literature which postulates that bank specific variables and macroeconomic variables have a significant impact on bank deposit. Specific conclusion on each factor is depicted in the following section.

5.3. Conclusions

This section presents the conclusion drawn from findings of the study.

The study empirically analyzed determinants of commercial banks deposit in Ethiopia by constructing an econometric model to study the effect of various factors such as, inflation rate, bank branches, interest rate and Economic growth (GDP). Accordingly, factors that determine bank deposit were carefully analyzed using the OLS technique. The regression result showed that:-

❖ The number of Banks branch, the increase in the total deposit of private commercial banksthat operate in Ethiopia is significantly and positively affected by number of branches (expansion of branches). Recently banks have been more aggressive towards the expansion in more geographical areas by opening new branches which has caused an increase in the level of number of branches; resulting increase total deposit of banks.

❖ Concerning to deposit interest rate, it implies that deposit interest rate is a major factor in explaining the private commercial banks deposit in Ethiopian.Private commercial banks meaning that interest rate more plays an important role in creasing deposit mobilization. In fact, of this the competition between private commercial banks in terms of attraction using deposits interest rate. The effect of deposit interest rate on commercial bank deposit is higher as compared with other variables.

❖ The total deposit reacts positively towards increase gross domestic product.

❖ The total deposit reacts negatively towards the increase in inflation.

5.4. RECOMMENDATION

The empirical finding of the research has prompted the research to suggest the following recommendations.

Branch expansion has positive and significant effect on total deposit of commercial banks; commercial banks should also expand their branches in order to increase their deposit. Rural sector has more potential to save but this sector has not thrived much. The concentration regarding the branch expansion should be in rational. For example, when the bank wants to open a new branch in urban area the regulating body should order the bank to open in rural area before providing the authorisation. Improve infrastructure and incentives for banks to open branches in both remote & central area and reach the unbanked society. There should be also an investment in strengthening the operational capacity of the existing branches.

Increasing in deposit interest rate commonly increases deposit mobilization and in Ethiopia private commercial bank the magnitude of increase is higher than all variables aggregate which means that if there is a change in deposit rate in a country the deposit growth of the banks are highly affected. Private commercial banks inEthiopia can add deposit rate for competition purpose, however the minimum

interest rate is fixed by the National bank of Ethiopia. Therefore, banks should develop long-run strategies that will align with the policy shift of the country.

At the regulatory or supervisory level, the result of the study is relevant for policy makers, since it implies that in order to achieve higher deposit growth; public policy shall be oriented towards creating the necessary market conditions for banks to enhance their efficiency. The study suggests the importance of ensuring and promoting favorable economic situations such as lower inflation rate and sustainable economic growth like GDP per capita. Overall, the results provide evidence that bank specific and macroeconomic variables determine the growth of deposit in Ethiopia private commercial banks.

5.5. Suggestions for Further Research

The prime focus of this research was identifying factors that determining commercial Banks deposit in the case of private commercial banks in Ethiopia using selected variables. However, there are other bank specific and macroeconomic specific variables that were not included in this study. Thus, future researchers are recommended to undertake similar study by considering additional bank specific variables and macroeconomic variables.

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DECLARATION

I, Fekadu Asgele, hereby declare that the thesis work entitled "Determinants of Commercial Bank Deposits: In the case of Private Commercial Banks of Ethiopia " submitted by me for the award of the degree of Masters of General Business Administration St Mary's University, is my original work and it has never been presented in any university. All sources and materials used for this thesis have been duly acknowledged.

Name Fekadu Asgele

Signature: _____

ENDORSEMENT

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

_____   _____

Advisor   Signature

St Mary's University, Addis Ababa   January 2018

Abstract

The survival of every commercial bank highly depends on bank deposit because deposit mobilization is a major activity of all commercial banks. As the result, the issue of banks deposit and its determinants is crucial to the financial sector of developing country like Ethiopia. Therefore, this study aimed to identify and evaluate those factors that determine deposit in general by taking Private Commercial Bank of Ethiopia as evidence. Accordingly, the researcher adopts Quantitative research approach and Explanatory research design. Regarding to the secondary data; time series data covering 2007- 2016 was analyzed. First, the time series data were assessed using descriptive statistics for the variables as well as the test for errors equal zero mean test, heteroskedasticity, autocorrelation, multicollinearity and normality testing to know if the assumptions of CLRM violated or not. Second, estimated model was a single regression equation with deposit as the dependent variable and explanatory variables as deposit interest rate, overall inflation rate, number of branch , gross domestic product,. Estimation was done using Ordinary Least Squares technique by E-view8 statistical package. The results from economic analysis showed that three of the Independent variables were positively correlated with the explained variable. Among these variables, Deposit Interest Rate is an important strategy for deposit mobilization, it is highly significant than others. Gross domestic product is also next to DepositInterest rate significantly affects Private Commercial Banks deposit. The others factor Inflation Rate is affects negatively and insignificantly deposit. And finally, the study had recommended what should be done to encouraging deposits by Private Commercial bank of Ethiopia for the benefit of the domestic deposit mobilization.

Key Words: *Determinants of Commercial Banks deposit, Regression Analysis, Private commercial Banks.*

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Finally, my heartfelt thanks go to my family specially my father Asgele Berhe, friends specially Chento.G (my Brother) Hele. Ffor their endless support and invaluable ideas, to all my classmates who earnestly encourage and morally support me to keep up with the task,

I owe all of you my sincere and deepest gratitude - thank you very much indeed!

APPENDICES

Appendix 1:-Descriptive Analysis

	TD	INR	IR	NB	GDP
Mean	9.694828	0.172900	0.045000	1.816671	0.062051
Median	9.771981	0.094500	0.050000	1.778151	0.066000
Maximum	10.35854	0.552000	0.050000	2.389166	0.096900
Minimum	8.255244	0.027000	0.030000	1.204120	0.012410
Std. Dev.	0.413979	0.159564	0.006751	0.277722	0.023966
Skewness	-1.057379	1.414299	-0.993808	0.069881	-0.644825
Kurtosis	4.350799	3.688767	2.777778	2.436798	2.657408
Jarque-Bera	20.98952	28.25124	13.33333	1.122434	5.935218
Probability	0.000028	0.000001	0.001273	0.570514	0.051426
Sum	775.5863	13.83200	3.600000	145.3337	4.964080
Sum Sq. Dev.	13.53890	2.011399	0.003600	6.093222	0.045374
					80
Observations	80	80	80	80	

Appendix 2:-Hausman Test

Correlated Random Effects - Hausman Test
Equation: EQ01
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.000000	4	1.0000

* Cross-section test variance is invalid. Hausman statistic set to zero.

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
INR	-0.360678	-0.267080	0.000230	0.0000
IR	28.907408	24.868465	0.427730	0.0000
NB	0.273126	0.508737	0.001456	0.0000
GDP	-1.006867	0.153217	0.035287	0.0000

Cross-section random effects test equation:
Dependent Variable: TD
Method: Panel Least Squares
Date: 12/24/17   Time: 19:32
Sample: 2007 2016
Periods included: 10
Cross-sections included: 8
Total panel (balanced) observations: 80

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.022654	0.231958	34.58662	0.0000
INR	-0.360678	0.120376	-2.996269	0.0038
IR	28.90741	3.487803	8.288142	0.0000
NB	0.273126	0.122011	2.238533	0.0285
GDP	-1.006867	1.012511	-0.994426	0.3235

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.886906	Mean dependent var		9.694828
Adjusted R-squared	0.868611	S.D. dependent var		0.413979
S.E. of regression	0.150057	Akaike info criterion		-0.818119
Sum squared resid	1.531168	Schwarz criterion		-0.460815
Log likelihood	44.72475	Hannan-Quinn criter.		-0.674865
F-statistic	48.47907	Durbin-Watson stat		1.570821
Prob(F-statistic)	0.000000			

Appendix 3:-Test of Heteroskedasticity

Heteroskedasticity Test: ARCH

F-statistic	0.068651	Prob. F(1,76)	0.7940
Obs*R-squared	0.070394	Prob. Chi-Square(1)	0.7908

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 12/24/17   Time: 19:38
Sample (adjusted): 3 80
Included observations: 78 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.037246	0.022164	1.680475	0.0970
RESID^2(-1)	0.030036	0.114636	0.262014	0.7940

R-squared	0.000902	Mean dependent var		0.038393
Adjusted R-squared	-0.012244	S.D. dependent var		0.190726
S.E. of regression	0.191890	Akaike info criterion		-0.438479
Sum squared resid	2.798465	Schwarz criterion		-0.378050
Log likelihood	19.10067	Hannan-Quinn criter.		-0.414288
F-statistic	0.068651	Durbin-Watson stat		2.001026
Prob(F-statistic)	0.794020			

Appendix 4: - Test of autocorrelation

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.368859	Prob. F(2,70)	0.6929
Obs*R-squared	0.823885	Prob. Chi-Square(2)	0.6624

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 12/24/17   Time: 19:39
Sample: 2 80
Included observations: 79
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.479403	1.034222	0.463540	0.6444
GDP	-0.344583	1.421119	-0.242473	0.8091
INR	0.005402	0.162218	0.033302	0.9735
IR	-1.533622	6.086025	-0.251991	0.8018
NB	0.041273	0.194873	0.211793	0.8329
DUM71	0.006898	0.242556	0.028438	0.9774
TD(-1)	-0.047871	0.107824	-0.443974	0.6584
RESID(-1)	0.056451	0.164931	0.342269	0.7332
RESID(-2)	0.121304	0.141352	0.858168	0.3937

R-squared	0.010429	Mean dependent var	9.54E-16
Adjusted R-squared	-0.102665	S.D. dependent var	0.195950
S.E. of regression	0.205763	Akaike info criterion	-0.217285
Sum squared resid	2.963698	Schwarz criterion	0.052652
Log likelihood	17.58275	Hannan-Quinn criter.	-0.109140
F-statistic	0.092215	Durbin-Watson stat	1.982078
Prob(F-statistic)	0.999342		

Appendix 5:- Model Specification test

Ramsey RESET Test
Equation: EQ01
Specification: TD C GDP INR IR NB
Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	1.204693	74	0.2322
F-statistic	1.451285	(1, 74)	0.2322
Likelihood ratio	1.553770	1	0.2126

F-test summary:

	Sum of Sq.	df	Mean Squares
Test SSR	0.084177	1	0.084177
Restricted SSR	4.376307	75	0.058351

Unrestricted SSR	4.292130	74	0.058002
Unrestricted SSR	4.292130	74	0.058002

LR test summary:

	Value	df
Restricted LogL	2.717777	75
Unrestricted LogL	3.494663	74

Unrestricted Test Equation:
Dependent Variable: TD
Method: Least Squares
Date: 12/24/17   Time: 19:46
Sample: 1 80
Included observations: 80

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	17.94740	9.238374	1.942701	0.0559
GDP	23.25417	16.32791	1.424198	0.1586
INR	0.275907	0.268973	1.025779	0.3083
IR	83.59373	58.72678	1.423435	0.1588
NB	7.391844	5.194394	1.423043	0.1589
FITTED^2	-0.284665	0.236297	-1.204693	0.2322

R-squared	0.660450	Mean dependent var	9.717580
Adjusted R-squared	0.637507	S.D. dependent var	0.400010
S.E. of regression	0.240836	Akaike info criterion	0.062633
Sum squared resid	4.292130	Schwarz criterion	0.241285
Log likelihood	3.494663	Hannan-Quinn criter.	0.134260
F-statistic	28.78710	Durbin-Watson stat	1.238043
Prob(F-statistic)	0.000000		

Appendix 6:- Raw Data

Bank	Year	INFR	DIR	GDP	NB	TD
AWASH	2007	0.151	0.03	0.076	1.653213	9.493116
AWASH	2008	0.552	0.04	0.0709	1.724276	9.587655
AWASH	2009	0.027	0.04	0.0611	1.778151	9.695693
AWASH	2010	0.073	0.04	0.0969	1.792392	9.785753
AWASH	2011	0.38	0.05	0.0847	1.845098	9.88896
AWASH	2012	0.208	0.05	0.061	1.934498	9.963994
AWASH	2013	0.074	0.05	0.0763	2.056905	10.09848
AWASH	2014	0.085	0.05	0.047	2.181844	10.17724
AWASH	2015	0.104	0.05	0.01241	2.31597	10.26766
AWASH	2016	0.075	0.05	0.0342	2.389166	10.35854
DASHEN	2007	0.151	0.03	0.076	1.623249	9.686681
DASHEN	2008	0.552	0.04	0.0709	1.681241	9.788981

DASHEN	2009	0.027	0.04	0.0611	1.732394	9.899006
DASHEN	2010	0.073	0.04	0.0969	1.770852	10.00623
DASHEN	2011	0.38	0.05	0.0847	1.812913	10.07343
DASHEN	2012	0.208	0.05	0.061	1.875061	10.14816
DASHEN	2013	0.074	0.05	0.0763	2.049218	10.2
DASHEN	2014	0.085	0.05	0.047	2.152288	10.24632
DASHEN	2015	0.104	0.05	0.01241	2.214844	10.29641
DASHEN	2016	0.075	0.05	0.0342	2.365488	10.35714
BOA	2007	0.151	0.03	0.076	1.447158	9.43473
BOA	2008	0.552	0.04	0.0709	1.623249	9.541267
BOA	2009	0.027	0.04	0.0611	1.672098	9.652651
BOA	2010	0.073	0.04	0.0969	1.672098	9.710866
BOA	2011	0.38	0.05	0.0847	1.755875	9.783565
BOA	2012	0.208	0.05	0.061	1.78533	9.830669
BOA	2013	0.074	0.05	0.0763	1.934498	9.929222
BOA	2014	0.085	0.05	0.047	2.037426	9.958873
BOA	2015	0.104	0.05	0.01241	2.161368	10.03664
BOA	2016	0.075	0.05	0.0342	2.290035	10.13466
WEGAGEN	2007	0.151	0.03	0.076	1.591065	9.43863
WEGAGEN	2008	0.552	0.04	0.0709	1.60206	9.467223
WEGAGEN	2009	0.027	0.04	0.0611	1.690196	9.563131
WEGAGEN	2010	0.073	0.04	0.0969	1.69897	9.591472
WEGAGEN	2011	0.38	0.05	0.0847	1.724276	9.759905
WEGAGEN	2012	0.208	0.05	0.061	1.778151	9.760758
WEGAGEN	2013	0.074	0.05	0.0763	1.897627	9.877941
WEGAGEN	2014	0.085	0.05	0.047	2	9.924263
WEGAGEN	2015	0.104	0.05	0.01241	2.075547	10.00961

WEGAGEN	2016	0.075	0.05	0.0342	2.243038	10.07388
UNITED	2007	0.151	0.03	0.076	1.477121	9.22373
UNITED	2008	0.552	0.04	0.0709	1.556303	9.38755
UNITED	2009	0.027	0.04	0.0611	1.612784	9.55626
UNITED	2010	0.073	0.04	0.0969	1.623249	9.67411
UNITED	2011	0.38	0.05	0.0847	1.69897	9.777689
UNITED	2012	0.208	0.05	0.061	1.838849	9.831659
UNITED	2013	0.074	0.05	0.0763	1.875061	9.90445
UNITED	2014	0.085	0.05	0.047	1.995635	9.966711
UNITED	2015	0.104	0.05	0.01241	2.123852	10.07019
UNITED	2016	0.075	0.05	0.0342	2.230449	10.13386
NIB	2007	0.151	0.03	0.076	1.447158	9.273912
NIB	2008	0.552	0.04	0.0709	1.623249	9.39238

NIB	2009	0.027	0.04	0.0611	1.653213	9.517122
NIB	2010	0.073	0.04	0.0969	1.681241	9.615654
NIB	2011	0.38	0.05	0.0847	1.70757	9.712431
NIB	2012	0.208	0.05	0.061	1.763428	9.766274
NIB	2013	0.074	0.05	0.0763	1.857332	9.823162
NIB	2014	0.085	0.05	0.047	1.973128	9.899051
NIB	2015	0.104	0.05	0.01241	2.060698	9.990077
NIB	2016	0.075	0.05	0.0342	2.190332	10.09423
CBO	2007	0.151	0.03	0.076	1.20412	8.942923
CBO	2008	0.552	0.04	0.0709	1.30103	8.690107
CBO	2009	0.027	0.04	0.0611	1.414973	8.896948
CBO	2010	0.073	0.04	0.0969	1.568202	9.137296
CBO	2011	0.38	0.05	0.0847	1.633468	9.296757

CBO	2012	0.208	0.05	0.061	1.70757	9.446776
CBO	2013	0.074	0.05	0.0763	1.869232	9.649341
CBO	2014	0.085	0.05	0.047	2.021189	9.736404
CBO	2015	0.104	0.05	0.01241	2.176091	9.867361
CBO	2016	0.075	0.05	0.0342	2.296665	9.928821
LIB	2007	0.151	0.03	0.076	2.079181	8.255244
LIB	2008	0.552	0.04	0.0709	1.230449	8.557146
LIB	2009	0.027	0.04	0.0611	1.30103	8.825794
LIB	2010	0.073	0.04	0.0969	1.380211	8.997708
LIB	2011	0.38	0.05	0.0847	1.477121	9.8052
LIB	2012	0.208	0.05	0.061	1.556303	9.239167
LIB	2013	0.074	0.05	0.0763	1.653213	9.323425
LIB	2014	0.085	0.05	0.047	1.792392	9.429264
LIB	2015	0.104	0.05	0.01241	1.959041	9.649033
LIB	2016	0.075	0.05	0.0342	2.093422	9.801651

Source: NBE

Appendix 7:-Correlation Matrix

	TD	INR	IR	NB	GDP
TD	1.000000				
INR	-0.264496	1.000000			
IR	0.623142	-0.084142	1.000000		
NB	0.762388	-0.380553	0.623765	1.000000	
GDP	0.428247	0.275956	-0.442196	-0.672126	1.000000

Appendices 8: Test for non-normality test

	Series: Standardized Residuals Sample 2007 2016 Observations 80	
Mean	-7.06e-16
Median	0.038635
Maximum	0.365026
Minimum	-0.486366
Std. Dev.	0.177799
Skewness	-0.566305
Kurtosis	3.239357
Jarque-Bera	4.466988
Probability	0.107153

Appendices 9: Test for Multicollinearitytest

	INR	IR	NB	GDP
INR	1.000000			
IR	-0.084142	1.000000		
NB	-0.380553	0.623765	1.000000	
GDP	0.275956	-0.442196	-0.672126	1.000000

Appendices 10: Regression Results

Dependent Variable: TD
Method: Panel EGLS (Cross-section random effects)
Date: 12/24/17   Time: 19:45
Sample: 2007 2016
Periods included: 10
Cross-sections included: 8
Total panel (balanced) observations: 80
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.253744	0.174318	41.61222	0.0000
INR	-0.075538	0.087163	-0.866626	0.3889
IR	8.858655	3.022522	2.930882	0.0045
NB	1.055611	0.106768	9.886960	0.0000
GDP	2.514001	0.761480	3.301469	0.0015
DUM807	-1.455108	0.146579	-9.927141	0.0000

Effects Specification

			S.D.	Rho
Cross-section random			0.095917	0.4555
Idiosyncratic random			0.104867	0.5445

Weighted Statistics

R-squared	0.887022	Mean dependent var	3.167855
Adjusted R-squared	0.879388	S.D. dependent var	0.324625
S.E. of regression	0.112739	Sum squared resid	0.940554
		Durbin-Watson stat	
F-statistic	116.1991	innormality	1.635982
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.815540	Mean dependent var	9.694828
Sum squared resid	2.497386	Durbin-Watson stat	0.603237