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FACTORS AFFECTING PROFITABILITY: AN EMPIRICAL STUDY ON ETHIOPIAN BANKING INDUSTRY

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Abstract

The main purpose of this study was to examine factors affecting profitabilityEthiopian banking industry. The study adopted quantitative research approach and the statistical tool was used to estimate the profitability, which was measured by returnon asset as a function of balance sheet, industry specific and macroeconomic explanatoryvariables. The finding of the study showed that loan and advance, current deposit, otherliabilities and gross domestic product have statistically significant and positiverelationship with banks' profitability. On the other hand, variables like fixed deposit, market concentration have a negative and statistically significant relationship withbanks' profitability. However, the relationship of deposit with other banks, sum ofinvestment, saving deposit and inflation is found to be statistically insignificant. As aresult, the study recommended that Ethiopian Banking Industry must focus on increasingpublic awareness to mobilize more savings this will enhance their performance inprovision of loans and advance to customers. Finally, Ethiopian Banking Industryshouldnot only be concerned about internal structures and policies, but they must consider boththe internal environment and the macroeconomic environment together in fashioning out strategies to improve their profitability.

Keywords: *Return on asset, profitability, banking industry*

1. Introduction

Financial sector robustness and vigor is very important for sustainable economicgrowthof an economy (Anuar, Choo, Khan, &Khan, 2011; Shah, 2016). In services sectorbanking industry is essential for the speedy disposal of economic and financial transactions. The financial system of the South Eastern European (SEE) countries is characterized by the dominant role of the banking sector, with the capital market segment for long-term finance being illiquid and, in some cases, underdeveloped, while non-bank financial intermediaries, such as life insurance companies and private pension funds, are still at an embryonic stage of development (Athanasoglouet al., 2010).

The banking sector is essential for the Ethiopian economy and plays an important financial intermediary role; therefore, its health is very critical to the health of the general economy at large. In the last twenty years there has been a rapid increase in the activity of private banks in Ethiopia, and this has fostered rapid competitiveness among banks in Ethiopia. In increasing world of business and finance, the task of each bank operating to make more profit is becoming a challenge with each passing day.

There are many aspects of the performance of banks that can be analyzed. This study focuses on the profitability performance of private commercial banks in Ethiopia using statistical cost accounting model. As noted in Flamini et al. (2013) bank profits provide an important source of equity especially if re-invested into the business. This should lead to safe banks, and as such high profits could promote financial stability. However, too high profitability is not necessarily good. Garcia-Herrero et al. (2013) observed that too high profitability could be indicative of market power, especially by large banks. This may hamper financial intermediation because banks exercising strong market power may offer lower returns on deposit but charge high interest rates on loans. Too low profitability, in turn, might discourage private agents (depositors and shareholders) from conducting banking activities thus resulting in

banks failing to attract enough capital to operate. Furthermore, this could imply that only poorly capitalized banks intermediate savings with the corresponding costs for sustainable economic growth.
The banking environment in Ethiopia has, for the past decades, undergone many regulatory and financial reforms like other African countries and the rest of developing world. These reforms have brought about many structural changes in the banking sector of the have also encouraged private banks to enter and expand their operations in the industry (Lelissa 2007). Despite these changes, currently, the banking industry in Ethiopia is characterized by operational inefficiency, little and insufficient competition and perhaps can be distinguished by its market concentration towards the big government owned commercial bank and having undiversified ownership structure (Lelisa 2007). The existence of less efficiency and little & insufficient competition in the country's banking industry is a clear indicator of relatively poor performance of the sector compared to the developed world financial institutions. Thus, it is important to know the determinants of banks profitability for an efficient management of banking operations aimed at ensuring growth in profits and efficiency.
The banking system of Ethiopia demonstrates a vital role in contributing to national economy by intermediating between the savers and productive investors. The financial performance of banks affects the interests of depositors, shareholders, regulators, potential investors and corporate owners. As banks dominate the financial sector in Ethiopia, ensuring the financial health of these institutions is likely going to ensure the health of the performance of the financial system of the country (Abebaw and Kapur, 2011).The scope of the study is restricted to the assessment of the internal and external factors affecting bank profitability of all commercial banks registered by the NBE and that have at least eleven years data i.e., 2010-2017As a result, it include the largest governments owned commercial bank/ CBE/. The scope of the study also includes the six leading private commercial banks in the country in terms of both branch network and market share especially in our area namely, AIB, DB, CBO, WB, UB and NIB.

The issue of the factors affecting the profitability of commercial banks in Ethiopia, using the statistical cost accounting model to the knowledge of the researcher, has not been studied until now. Therefore, this study intended to complete this gap and to provide suggestions for improving profitability of private commercial banks' in Ethiopia.
Although, numbers of earlier studies have made to add their own contribution to the theory of profitability and stated their own policy implication, they were inclined towards to the developed economy, and less developed countries including Ethiopia received little attention in various literatures on this issue. Consequently, the conclusion and finding of the study in one country may not serve to another. Therefore, in this study the researcher wasexamining the variables that factor affecting the profitability of Ethiopian commercial banks. In Ethiopia there is relatively few studies have been conducted on the factor affecting of profitability in Ethiopian commercial banks. However, the studies failed to take in to account some important profit factor affecting factors in their studies. For instance, Belayenahe (2011) and Habetamu (2012) examined the factor affecting profitability of commercial banks in Ethiopia by employing variables like capital adequacy, bank size, loan production, income diversification, asset quality and administration cost .However these researches do not include variables like deposit fund, number of branch, bank liquidity and managerial efficiency which are the most important factors to factor affecting the profitability of commercial banks. As a result, it is concluded that the previous researches are not well studied and covered all the determinant factors.Hence, this study seeks to fill the gap by including variables that are not included in the previous studies. Therefore, this research examined factor affecting of profitability of Ethiopian banking industry.

2. Theoretical Framework and Hypotheses

Studies on the performance of banks started in the late 1970s/early 1980s with the application of two industrial organizations models: the Market Power and Efficiency Structure theories(Athanasoglou et al. 2010). The balanced portfolio theory has also added greater insight into the study of bank profitability (Atemnkeng and Joshph 2010).Determinants of bank profitability have been thoroughly examined for banks operating in the developed and emerging economies. However, such studies are extremely rare for banks operating in Ethiopia. Thus, in this section, studies on determinants of bank profitability carried out elsewhere are briefly accounted for. The study on the determinants of bank profitability began as early as examined the relationship between profit rate and the bank concentration. However, many empirical literatures conducted on banks profit determinants belong to developed countries economies. Mainly focused on the U.S. banking system (e.g Berger, 2009;; Stiroh and Rumble, 2010 etc.)

and the banking systems in the western developed countries for instance, European countries (Ommeren, 2011; etc.), south-east Europ (Athanasoglou et al., 2008), Korea (Sufian (2015)) and Greek (kasmidou et al., 2011; Athanasoglou et al., 2008; Kasmidou and Zopounidis, 2008 etc.). By contrast few studies have looked bank performance in developing economies (e.gMthuva, 2009 in Kenya; Flamini et al., (2013) in SSA countries, Belayneh, 2011 in Ethiopia etc.).

Thus, the following section reviews the empirical evidence on factors affecting bank profitability with a particular focus on those that have been conducted more recently, as far as they are the best indicators of the current situation. Guru et al. (2009) investigated the determinants of bank profitability in Malaysia, using a sample of 17 commercial banks during the 1998 to 2006 period. The profitability determinants were namely the internal determinants liquidity, capital adequacy, and expenses management. Their finding revealed that efficient expenses management was one of the most significant factors explaining high bank profitability. Flamini et al. (2009) took a sample of 389 banks in 41 SSA countries to examine the determinants of bank profitability and explore the relationship between profits and equity in the region. To do that they considered a number of bank specific variables including credit risk, activity mix, capital, bank size, market power as factors to influence bank profitability in the region.

Thus, each of the aforementioned theories and others related to bank profitability and its determinants are discussed in detail in this particular section as follows.

According to different empirical evidences different factors affecting profitability of banks. Based on different literatures this study expects as following variables will affect profitability of bank. These variables may include size of the bank, capital, loan, deposit, Inflation, liabilityand. The study will be how these variables affect the profitability of banks in case of Ethiopian banking industry.

Table 1: Conceptual Framework

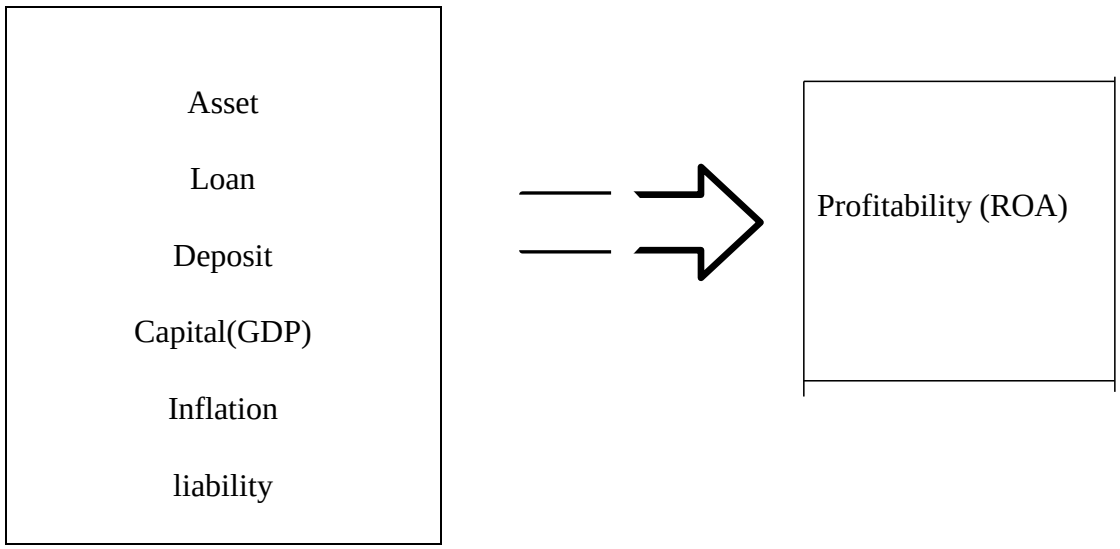

Figure 1: Conceptual Framework

3. Research Design and Approach

Research design is a master plan specifying the methods and procedures for collecting and analysing the required data. The choice of research design depends on predetermined objectives that the researchers want to achieve. According to Kotzar et al., (2005), research design is defined as the plan and structure of investigation and the way in which studies are put together. Cooper et al. (2003) also define research design as the process of focusing on the researcher's perspective for the purpose of a particular study.

The study was design to identify the factors affecting profitability. The researcher was used quantitative data in respect with research variables of profitability. Since it tries to describe the problem and attempts to explain the phenomenon with quantitative research approach.

In conducting this study, the researcher wasused secondary data that covers from the year 2010up to 2017 G.C. For this study it is better was used the viable data to identify the factors affecting on profitability to give recommendation for future profit performance in the existed secondary data.

The researcher was used to select the non- probability sampling technique that is judgmental sampling, because it can provide sufficient and accurate information for the study. Sample design deals with sample frame, sample size and sampling technique. Sampling is a technique of selecting a suitable sample for the purpose determining parameters of the whole population. Population is the list of elements from which the sample was been drawn (John, 2007).

The researcher was used in collecting and organizing the secondary source of data through structured document reviews are mainly from the records held by NBE and the banks themselves.. In addition to this, such data are published as well as done by national bank of Ethiopia authorized auditor; was been used to check the validity and reliability of information gathered from secondary data's. Moreover, Secondary data was obtained from the company'spublished financial statements to find out factors affect the bank profitability.

Dependent variables there are two major alternative measures of profitability, namely ROA andROE. ROA reflects the ability of bank's management to generate profits from the bank'sassets, although it may be biased due to off-balance-sheet activities. ROE shows the returnto the shareholders on their equity. As highlighted by Athanasoglou et al. (2008) and Sufian(2011), many scholars suggest that ROA is the key ratio for the evaluation of bank28profitability given that ROA is not distorted by high equity multipliers, while ROEdisregards the risks associated with high leverage and financial leverage. Therefore, thisstudy attempts to measure profitability by using ROA similar to most of the aforementioned researchers. ROA is measured as net profit before tax divided by average of total assets similar to Olweny&Shipho (2011).

Independent variables are subsection describes the independent variables that are used in the econometric model to estimate the dependent variable. Following prior researches towards the determinants of banks‟ profitability, the independent variables are classified into bank-specific, industrySastrosuwito& Suzuki 2011). The bank-specific variables are internal factors and controllable for banks‟ managers while the industry-specific and macroeconomic variables are uncontrollable and hence external.

A multiple regression equation is set up to investigate the relationships between the dependent variable and the independent variables in this study. The econometric form of the equation is given as:

$$ROAit= \alpha 1/TAbt +\Sigma\alpha 2iAibt/TAbt +\Sigma\alpha 3jLjbt /TAbt+\Sigma\alpha 4HHIt+\Sigma\alpha 5INFt + \Sigma\alpha 6GDPt + ubt$$

4. Data Analysis and Discussion

Tests for the classical linear regression model (CLRM) assumptions

In this study as mentioned in chapter three diagnostic tests were carried out to ensure thatthe data fits the basic assumptions of classical linear regression model. Consequently, theresults for model misspecification tests are presented as follows:

Test for Heteroscedasticity

F-statistic and Chi-Square versions of the teststatistic gave the same conclusion that there is no evidence for the presence ofheteroscedasticity, since the p-values were in excess of 0.05. The third version of the teststatistic, "Scaled explained SS", which as the name suggests is based on a normalizedversion of the explained sum of squares from the auxiliary regression, also gave the sameconclusion that there is no evidence for the presence of heteroscedasticity problem, sincethe p-value was considerably in excess of 0.05.

Table 1 Heteroscedasticity Test: White

F-statistic	29.57141	Prob. F(64,1)	0.1453
Obs*R-squared	65.96515	Prob. Chi-Square(64)	0.4087
Scaled explained SS	49.07627	Prob. Chi-Square(64)	0.9159

Source: Financial statements of banks, MoFED reports and own computation

Test for Autocorrelation

Moreover, there were the regressors and an intercept term in the model. Therefore, therelated critical values for the test are dL= 1.120, dU = 1.802, i.e., for 66 observations and
The regressors and 4 - dU = 4-1.802=2.198; 4 - dL = 4-1.120=2.88. As a result, Durbin-
Watson test 1.231is clearly between the lower limit (dL) which is 1.120 and the upper limitwhich is 1.802 and thus the null hypothesis is neither rejected nor not rejected.

Table 2 Autocorrelation Test: Durbin Watson

Variables	**DW test static result**
All bank-specific, industry-specific & macro-economic	**1.231**

Source: Financial statements of banks, MoFED reports & own computation

Test for normality

The coefficient of kurtosis wasclose to 3, and the Bera-Jarque statistic had a P-value of 0.803 implying that the data wereconsistent with a normal distribution assumption.

Test for Multicollinearity

Theselow correlation coefficients show that, there is no problem of multicollinearity in thisstudy. Moreover, Kennedy (2008) stated that multicollinearity problem exists when thecorrelation coefficient among the variables are greater than 0.70, but in this study there isno correlation coefficient that exceeds 0.70. Accordingly, in this study there is no troubleof multicollinearity which improved the reliability for regression analysis.

Table 3 Correlation matrixes of independent variables

	A1	A2	A3	L1	L2	L3	L4	HHI	INF	GDP
A1	1.000									
A2	0.071	1.000								
A3	0.013	-0.407	1.000							
L1	0.300	-0.297	0.430	1.000						
L2	-0.189	0.288	-0.310	-0.527	1.000					
L3	0.436	0.511	-0.446	-0.452	0.120	1.000				
L4	0.169	0.010	0.209	-0.170	-0.065	0.059	1.000			
HHI	0.536	0.172	0.188	0.122	-0.238	0.237	0.081	1.000		
INF	-0.337	-0.273	-0.268	-0.138	0.198	-0.099	0.024	-0.697	1.000	
GDP	-0.153	-0.119	-0.208	-0.017	0.177	-0.096	-0.220	-0.595	0.368	1.000

Source: Financial statements of banks, MoFED reports and own computation

Descriptive statistics

This was generated to give overall description aboutdata used in the model and served as data screening tool to spot unreasonable figure.

Table 4 Descriptive Statistics

Variables	Observations	Mean	Median	Max	Min	Std. Dev.
ROA	66	0.039	0.044	0.072	0.005	0.014
A1	66	0.628	0.645	1.245	0.069	0.154
A2	66	0.175	0.163	0.365	0.071	0.072
A3	66	0.081	0.063	0.277	0.007	0.066
L1	66	0.526	0.532	0.871	0.062	0.134
L2	66	0.099	0.228	0.451	0.131	0.063
L3	66	0.240	0.082	0.317	0.0008	0.070
L4	66	0.135	0.121	0.427	0.029	0.067
HHI	66	0.493	0.466	0.694	0.357	0.111
INF	66	0.111	0.106	0.364	-0.106	0.122
GDP	66	0.088	0.112	0.126	-0.021	0.045

Source: Financial statements of banks, MoFED reports and own computation

ROA indicates that the Ethiopian banking industry attained, on average, a positive before tax profit over the last eleven years. For thetotal sample, the mean of ROA was 3.9% with a minimum of 0.5% and a maximum of7.2%. That means, the most profitable bank among the sampled banks earned 7.2 cents ofprofit before tax for a single birr invested in the assets of the firm. On the other hand, theleast profitable bank of the sampled banks earned 0.5 cents of profit before tax for each birrinvested in the assets of the firm. The standard deviation statistics for ROA was 0.014which show that the profitability variation between the selected banks was very small.The result implies that these banks need to optimize the use of their assets to increase thereturn on their assets.

Regarding the explanatory variables of the model there are some interesting statistics thathave to be mentioned. The mean value of the loan and advance (A1) is 62.8% with standarddeviation of 15.4%. Deposit with other banks (A2) variable has the mean value of 17.5%with standard deviation of 7.2%. Sum of investments (A3) has a mean of 8.1% withstandard deviation of 6.6 which may portray above half of Ethiopian banking industry assetsare in the form of loans and advances. It has standard deviation of 15.4%; which also showthere was greater variability than all other asset variables used in the study. The firstliability variable, which is the saving deposits (L1), has mean value of 52.6% with standarddeviation of 13.4%. Current deposits variable (L2) has mean value of 9.9% with standarddeviation of 6.3%. Fixed deposit variable (L3) has mean value of 24% with standarddeviation of 7%. And other liability (L4) has a mean value of 13.5% with standarddeviation of 6.7%. The mean value and standard deviation of saving deposit and fixeddeposit variables are high which probably show that, they are the major source of funds forEthiopian banking industry with greater variability than other liabilities. It is because ecommercial banks are financial intermediaries which have a simple logic that acceptdeposits with short and long term maturities from a large number of individuals and grantloans with long term maturities to a small number of borrowers.

The macroeconomic variables included in this study have the mean value of 8.8% and11.1% with the standard deviation of 4.5% and 12.2% for real growth rate in GDP and thegeneral rate of inflation, respectively. The comparison between minimum and maximumvalues with the mean value of real growth rate in GDP shows there is lower variability inthe variable. Nevertheless, there is greater variability in the general rate of inflation whichhas large standard deviation in relation to real growth rate in GDP variable. It is especiallyimportant to see that the mean of industry concentration was 0.493, meaning that theindustrial concentration level of the banking sector during the analyzed period 2010-2017was very concentrated

Generally, from the liability side variables, the saving deposit and fixed deposit variableshas significant proportion. While from the asset side variables, loans and advances variablehas higher mean value and proportion. This implies that most of the Ethiopian banking industry during the study period is financed through saving and fixed deposits and they haveused the fund for provision of loans and advances. In relation to standard deviations, deposit with other banks, sum of investments and other liabilities have lower variability, while loans and advances and saving deposits have greater variability, from the assets sideand liability side of the balance sheet respectively.

Correlation analysis

This correlation clearly indicates that, as the loan and advances and deposit with other banksincrease, profitability also moves to the same direction. On the other hand, the savingdeposit to average of assets ratio and fixed deposit to

average of assets ratio seems to benegatively associated with the profitability measure, indicate that, when the savingdeposit and fixed deposit increase, profitability moves to the opposite direction.
Surprisingly, the demand deposit to average of assets ratio and others liabilities to averageof assets ratio of banks was positively correlated with ROA, indicated by the correlation of0.343 and 0.193 respectively between demand deposit, other liabilities to average of assetsratio and ROA. In similar to the saving deposit and fixed deposit, amazingly, the otherinvestments and industry concentration was negatively correlated with profitability with acorrelation of -0.189 and -0.378 respectively between other liabilities, industryconcentration and ROA. Continuing to the correlations of both macroeconomic variablesused in this study shows a negative and positive correlation with ROA for inflation andgross domestic product respectively.

Table 5 Correlation matrix of dependent and independent variables

Correlation Probability	ROA	A1	A2	A3	L1	L2	L3	L4	HHI	INF	GDP
ROA	1.000										
A1	0.173	1.000									
	0.164										
A2	0.053	0.071	1.000								
	0.672	0.566									
A3	-0.189	0.013	-0.407	1.000							
	0.127	0.916	0.000								
L1	-0.048	0.300	-0.297	0.430	1.000						
	0.698	0.014	0.015	0.003							
L2	0.343	-0.189	0.288	-0.310	-0.527	1.000					
	0.005	0.127	0.018	0.011	0.000						
L3	-0.044	0.436	0.511	-0.446	-0.452	0.120	1.000				
	0.722	0.000	0.000	0.000	0.001	0.336					
L4	0.193	0.169	0.010	0.209	-0.170	-0.065	0.059	1.000			
	0.119	0.174	0.935	0.091	0.172	0.601	0.634				
HHI	-0.378	0.536	0.172	0.188	0.122	-0.238	0.237	0.081	1.000		
	0.001	0.000	0.166	0.129	0.327	0.054	0.055	0.514			
INF	0.199	-0.337	-0.273	-0.268	-0.138	0.198	-0.099	0.024	-0.697	1.000	
	0.108	0.005	0.026	0.029	0.267	0.110	0.425	0.845	0.000		
GDP	0.554	-0.153	-0.119	-0.208	-0.017	0.177	-0.096	-0.220	-0.595	0.368	1.000
	0.000	0.217	0.340	0.092	0.886	0.154	0.442	0.074	0.000	0.002	

Source: Financial statements of banks, MoFED reports and own computation

Results of regression analysis
Empirical model: As presented in the third chapter the empirical model used in order toidentify factors affecting profitability of Ethiopian banking industry using statistical costaccounting model was provided as follows:
$ROA_{it} = \alpha 1/TA_{bt} + \Sigma\alpha 2 iA_{ibt}/TA_{bt} + \Sigma\alpha 3 jL_{jbt} /TA_{bt} + \Sigma\alpha 4 HHI_t + \Sigma\alpha 5 INF_t + \Sigma\alpha 6 GDP_t + u_{bt}$
The inference result of the operational panel regression model used in this study ispresented in the table. From table 4.6 the R-squared statistics and the adjusted-R squaredstatistics of the model was 66% and 60% respectively. The result indicates that the changein the independent variables explain 60% of the changes in the dependent variable. That isloan and advance, deposit with other bank, sum of investment, saving deposit, demanddeposit, fixed deposit, other liabilities, industry concentration, gross domestic product, andinflation rate communally explain 60% of the changes in ROA. The remaining 40% ofchanges was explained by other factors which are not included in the model. Thus thesevariables together, are good explanatory variables of the profitability of Ethiopian banking industry. The null hypothesis of F-statistic (the overall test ofsignificance) that the R-square is equal to zero was rejected at 1% as the p-value wassufficiently low. F value of 0.000 indicates strong statistical significance, which improvedthe reliability and validity of the model. All bank-specific independent variables exceptdeposit with other bank to average of assets, sum of investments to average of assets andsaving deposit to average of assets are statistically significant impact on profitability. Onthe other hand, among the three external independent variables used in this study

industryconcentration and gross domestic product are significant. Among the significant variables,loan and advance to average of assets, fixed deposit to average of assets, industryconcentration and gross domestic product were significant at 1% significance level sincethe p-value for both variables were 0.000. Whereas variables like demand deposit toaverage of assets and other liabilities to average of assets were significant at 5%significance level ever since the p-value was 0.0349 and 0.0121 respectively.

Table 6 Regression Results for factors affecting profitability of Ethiopian banking industry

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.012917	0.016712	0.772943	0.4429
A1	0.059973	0.014835	4.042766	0.0002***
A2	0.031095	0.024313	1.278959	0.2063
A3	-0.028262	0.025434	-1.111209	0.2713
L1	-0.013633	0.017583	-0.775348	0.4415
L2	0.049344	0.022818	2.162501	0.0349**
L3	-0.100170	0.036165	-2.769843	0.0076***
L4	0.057415	0.022121	2.595511	0.0121**
HHI	-0.054343	0.020022	-2.714112	0.0089***
INF	-0.016251	0.015280	-1.063546	0.2922
GDP	0.135614	0.034177	3.967998	0.0002***
R-squared	0.660109	Durbin-Watson stat		1.231878
Adjusted R-squared	0.598311			
S.E. of regression	0.009354			
F-statistic	10.68168			
Prob(F-statistic)	0.000000			

***, **, and * denote significance at 1%, 5%, and 10% levels respectively.
Source: Financial statements of banks, MoFED reports and own computation

The coefficient of sum of investment to average of assets, saving deposit to average of assets, fixed deposit to average of assets, industryconcentration and inflation against ROA were negative as far as the coefficients for thosevariables are negative -0.028, -0.013, -0.100, -0.054 and -0.016 respectively. This indicatesthat there was an inverse relationship between the aforementioned five independentvariables and ROA. Thus the increase of those variables was lead to a decrease in ROA.
On the other hand, variables like loan and advance to average of assets, deposit with otherbanks to average of assets, demand deposit to average of assets, other liabilities to averageof assets, and gross domestic product had a positive relationship with profitability as far astheir respective coefficients were 0.059, 0.031, 0.049, 0.057 & 0.135. This revealed thatthere was a direct relationship between the above five independent variables and ROA. Ingeneral as per the regression results provided in table 4.6 among the repressors used inthis study six of them were significant.
In general, so far, the results of the documentary analysis which includes tests for theclassical linear regression model, descriptive statistics, correlation matrix & regressionanalysis have been presented. The results of the tests for the classical linear regressionmodel showed as the data fit the basic assumptions of CLRMs.

5. Conclusion

Accordingly, the empirical findings ofthis particular study suggested the following conclusions:
First, the coefficient of the constant term is positive and statistically insignificant. Thepositive coefficient of constant term which represents economies of scale suggests thatEthiopian banking industry during the study period earn net positive income fromoff-balance sheet activities. That means that these banks enjoy increasing returns to scale intheir operation.
Second, the empirical findings of this study provide evidence that the profitability ofEthiopian banking industry is positively affected by assets management, exceptfor sum of investments. Specifically, the loans and advances have significant effect on theprofitability of Ethiopian banking industry. All other asset variables have no significanteffect on Ethiopian banking industry profitability. This implies that they cannot be able togenerate income from alternative sources. Particularly, the other investment activities arenot important as in the case of other countries. Although the other asset variables are notable to generate income for other banks, loans and advances are makingsignificant contributions toward profitability.
Third, all liabilities are negatively related to profitability except for demand deposit andother liabilities. Surprisingly, the coefficient of other liabilities is positive and it may bedispute that these banks pay only nominal interest on this liabilities but charge high servicefees. The demand deposits variable has positive and significant effect on profitability

ofEthiopian banking industry. That is because Ethiopian banking industries are receiving betterservice charges on demand deposits that can cover the liquidity requirement costs on its off balancesheet activities. From the liability variables the fixed deposits variable significantlycost the profitability of Ethiopian banking industry.
Fourth, Market concentration ratio represented by Herfindahl index has a negative signindicating that higher concentration in the market decreases the profitability of Ethiopian banking industry. This is against the structure-conduct-performance (SCP) hypothesis thatmarket concentration positively impact bank profitability.
Lastly, the macroeconomic variables incorporated in this study model were the general rateof inflation and real growth rate in GDP. The GDP growth has statistically significant andpositive relationship with profitability. On the other hand, inflation has no impact on theprofitability of Ethiopian banking industry in this model as far the variable is not significanteven at 10% significance level. In general, assets management, mainly loans and advances, contributes positively for the profitability of Ethiopian banking industry, except sum ofinvestments. While liability management, particularly saving and fixed deposits, costnegatively the profitability of Ethiopian banking industry.

6. Recommendations

Ethiopian banking industry should focus on increasing public awarenessto mobilize more savings; this was enhanced their performance in provision of loans andadvance to customers.
Additionally, Ethiopian banking industry should not only be concerned about internalstructures and policies, but they must consider both the internal environment and themacroeconomic environment together in fashioning out strategies to improve theirprofitability.
Finally, the study sought to investigate factors affecting profitability of Ethiopian banking industry. For comprehensive investigation future researcher could increase thenumber of observations by increasing the sample size and extending the period of time withunbalanced data. In addition, future research could cover cross countries to capturecountries differences and to uncover difference from financial system and regulationfactors.

References

Abreu, M & Mendes, V 2008, „Commercial bank interest margins and profitability: evidence from European countries", Porto working paper series.

Aburime, TU 2008, „Determinants of bank profitability: macroeconomic evidence from Nigeria" working paper, viewed 28 October 2011, <http://ssrn.com/abstract=1231064>.

Athanasoglou, PP, Delis, MD &Staikouras, CK 2006, „Determinants of bank profitability in the South Eastern European region", Journal of Financial Decision Making, vol. 2, pp. 117

Angbazo, L. (2009).Commercial Bank Interest Margins, Default Risk, Interest-rate Risk, and Off-balance Sheet Banking. Journal of Banking and Finance, Vol. 21, pp. 55-87. 5. Atemakeng T. and Joseph N. (2010). Market Structure and Profitability Performance in Banking Industry of CFA Countries: The Case of Commercial Banks Profitability in Cameroon, Cameron.

Athanasoglou, PP, Brissimis, SN & Delis, MD 2008, „Bank-specific, industry-specific & macroeconomic determinants of bank profitability", Journal of International Financial Markets, Institutions & Money, vol.18, no. 2, pp. 121-136

Badola, B. and Verma R. (2010). Factors affecting of profitability of banks in India a multivariate analysis, Delhi Business Review X, Vol. 7, No. 2, pp. 11 – 19. Belayneh

Ben-Naceur, SB & Omran, M.(2011)."The effects of bank regulations, competition, and financial reforms on banks performance, Emerging Markets Review, vol. 12, no. 1, pp. 1-20.

Baltagi, BH 2005, Econometric analysis of panel data, 3rd edn, John Wiley & Sons, Ltd,

Baum G. (2009), Asset-Liability Management, 3rd Edition,VonPensionsfondsVerlog

Versicherungswirtschaffe.V.Karsruhe, India, pg 453-461

Berger, AN & Humphrey, DB 2009, "Efficiency of financial institutions: internationalsurvey and directions for future research" European Journal of OperationalResearch, vol. 98, pp. 175–212.64

Brooks, C 2008, Introductory Econometrics for Finance, 2nd edn, Cambridge UniversityPress, New York.

Dietricha A. and Wanzentied G. (2011). What Determines the Profitability of Commercial Banks? Evidence from Switzerland, Institute of Financial Service, Switzerland.

Fabozzi, Fran J. Franco Modigliani, Michael G. Ferri(1998), "foundations of financialmarkets and institutions", upper saddle river, :Prentice Hall

Flamini, V., McDonald, C. and Schumacher, L. (2013). The Determinants of Commercial Banks profitability in Sub-Saharan Africa. IMF working paper, (09/15).

Funacova, P. and p. Thorton (2011). The determinants of European bank profitability, Journal of Banking and Finance 16 (6), 1173-1178.

Guru B., J., Staunton and Balashanmugam. (2013). Determinants of commercial bank profitability in Malaysia. University Multimedia working papers, pp. 19 - 27.

Hailegeorgis (2011),Determinants of Commercial Banks Profitability: An empirical study on Ethiopian Commercial Banks Addis Ababa University

Kosmidou, K., and Zopounidis, C. (2008). Management of Bank performance in Greece. South-eastern Europ Journal of Economics, Issue, 1, pp. 79 – 95.

Olweny, T & Shipo, T. (2011).Effects of banking sectoral factors on the profitability of commercial banks in Kenya, Economics and Finance Review, Vol. 1, no. 5, pp. 1-30.

Pasiouras, F., & Kosmidou, K. (2011). Factors influencing the profitability of domestic and foreign commercial banks in the European Union. Research in International Business and Finance, Issue. 21, No.2, pp. 222-237.

Ponce, A.(2012)."What determines the profitability of banks? Evidence from Spain", working papers, Pablo de Olavide University.

Stiroh, K.J. and Rumble, A. (2010). The Dark side of Diversification: the case of U.S. Financial holding companies. Journal of Banking and finance, Issue, 30, pp. 31 – 61.

Sufian, F., and Habibullah, M.(2013). "Factors affectingof bank profitability in a developingeconomy: Empirical evidence from the Bangladesh. ." Journal of Business Economics and Management, Vol.10, No.3, 2009: 2007-2017.

Van Ommeren, S.(2015).An examination of the determinants of banks profitability in the European banking sector, Msc thesis, Erasmus University.