ST. MARY'S UNIVERSITY

SCHOOL OF GRADUATE STUDIES

DETERMINANTS OF PROFITABILITY OF COMMERCIAL BANKS IN ETHIOPIA (2010-2014)

BY

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Declaration

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

Wubishet Gebrewold _____

St. Mary's University, Addis Ababa **January, 2016**

ENDORSEMENT

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

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Advisor Signature

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List of Abbreviations and Acronyms

CBE	COMMERCIAL BANK OF ETHIOPIA
DB	DASHEN BANK
AIB	AWASH INTERNATIONAL BANK
BOA	BANK OF ABYSINIA
WB	WEGAGEN BANK
NIB	NIB INTERNATIONAL BANK
CBO	COOPERATIVE BANK OF OROMIA
UB	UNITED BANK
ZB	ZEMEN BANK
OIB	OROMIA INTERNATIONAL BANK
CBB	CONSTRUCTION AND BUSINESS BANK
LIB	LION INTERNATIONAL BANK
BUIB	BUNNA INTERNATIOAL BANK
AB	ABAY BANK
BIB	BIRIHAN INTERNATIOAL BANK
AdIB	ADDIS INTERNATIONAL BANK
EB	ENAT BANK
DGB	DEBUB GLOBAL BANK
NBE	NATIONAL BANK OF ETHIOPIA
OLS	ORDINARY LEAST SQUARES
GLS	GENERAL LEAST SQUARES
ROA	RETURN ON ASSET
IINCOME	INTEREST INCOME
NIINCOME	NONINTEREST INCOME
NIEXPENSE	NON INTEREST INCOME
ROE	RETURN ON EQUITY
FE	FIXED EFFECT
RE	RANDOM EFFECT
IAT	INCOME AFTER TAX

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Abstract

The financial sector plays an important role in the development of the country. For sustainable economic growth, a country must have a strong banking sector. The Ethiopian banking sector has experienced several challenges over time. The government has implemented several reforms to enhance growth and competition in this sector. To achieve financial stability and growth, it is important to identify the determinants of performance of the banking sector. This paper aimed at investigating the impact of the internal determinants of profitability of commercial banks in Ethiopia over the period 2010-2014. This paper used ordinary least squares method to estimate the impact of bank size, capital, loans, deposits, interest income, non interest income(diversification) and noninterest expense(operation expense) on banks profitability. This paper used return on assets (ROA) as a measure of profitability. The findings revealed that bank size, loans, interest income, diversification and noninterest expense do significantly influence profitability of the banks. The result suggests that the management set strategies that encourage commercial banks to raise their assets, non interest income, loan, and interest income as this will enhance the performance of the banks. Another implication of the study is that commercial banks need to invest in technologies and management skills which minimize costs of operations as this will impact positively on their growth and survival.

Keywords: Bank *profitability, internal factors, return on assets, ordinary Least Squares method*

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

A number of other studies have examined bank profitability in an effort to isolate the factors that account for differences in bank profitability. Studies have linked bank earnings and various aspects of bank operating performance to profitability. Set of studies focused on the relationship between bank earnings performance and balance sheet structure and profitability. Different literature examined the impact of regulatory and macroeconomic factors on overall bank profitability. The main conclusion emerging from past studies is that internal factors explain a large proportion of banks profitability; nevertheless external factors have also had an impact on bank profitability.

According to Levin (1997) the banking sector is an integral part of an economy. The study shows an efficient banking sector contributes positively to economic development by promoting capital accumulation through supply of credit. The sector mobilizes and allocates savings, supports trade, helps in diversification and hedging of risk, and contributes to overall economic growth of a country through provision of credit to the private sector (Levin, 1997). The study recommends this sector to continue providing these services, it must be stable and be able to make profits from their operations. Besides, the commercial banks are the major transmitters of monetary policies implemented by the Central Bank in the economy (Siddiqui and Shoaib, 2011).

Susan(2014) using balanced panel data of top six commercial banks in Kenya for the period of 2008-2013 and by use of the Generalized Least Square(GLS) estimated independent variables such as bank size, capital adequacy, ownership, loan, operating expense and diversification impacts on profitability of commercial banks using return on assets(ROA) as a dependent variable. Result this paper using descriptive and correlation analysis shows that bank size, capital strength, ownership, expense, loan and non interest income are significant factors in determining the profitability of the banks.

Ani et al(2012) identified internal factors of the bank profitability with the data concerning total asset, net profit, loan and advances, and total equity for 10 years from

period 2001 to 2010 from 15 Nigerian banks with observation of 147 estimated by regression analysis using return on asset(ROA) as the major metric for measuring profitability. According to the study these internal factors are management controllable factors, bank specific financial ratios representing size, asset composition and quality, and capital adequacy.

Sehrish et al(2011) identified both internal and external factors that determine profitability of commercial banks using data from 15 top banks of Pakistan from period 2005 to 2009. The study used bank size, capital, loan and deposit as an independent variables and return on asset, return on equity, return on capital employed, and net interest margin as dependent variables. The result of the study shows that bank size, loan and deposit have positive relationship with return on asset while capital has negative relationship with return on asset.

Usman(2014) analyzed internal factors affecting profitability of commercial banks in Pakistan using panel data that covers period of 4 years from 2009 to 2012 by descriptive analysis, pearson correlation, and regression analysis. The study used cost efficiency, liquidity, capital adequacy, deposit and bank size as an independent variables and return on asset as a dependent variable. According to the study cost efficiency, capital adequacy, deposit and bank size are major internal factors.

Saira Javaid et.al (2011) examined the profitability of top 10 the commercial banks of Pakistan for the period of 2004-2008. Pooled ordinary least square method has been used to check the impact of internal factors includes assets, loan, equity and deposits on the profitability of banks on dependant variable called return on asset (ROA).The study found that internal factors stated above affect the bank's profitability. Bank size or total assets does not lead any profitability of commercial banks but equity and deposits have a significant influence on the profitability of commercial banks.

Study of Valentina et al (2009) shows Commercial banks appear very profitable in Sub-Saharan Africa (SSA). The result shows an average returns on assets were about 2 percent over the last 10 years, significantly higher than bank returns in other parts of the world. How banks can be so profitable?

1.2 Overview of Banking Sector in Ethiopia

The agreement that was reached in 1905 between Emperor Minilik II and Mr.Ma Gillivray, representative of the British owned National Bank of Egypt marked the introduction of modern banking in Ethiopia. Following the agreement, the first bank called Bank of Abyssinia was inaugurated in February 16, 1906 by the Emperor. Thus by 1931 Bank of Abyssinia was legally replaced by Bank of Ethiopia shortly after Emperor Haile Selassie came to power. Bank of Ethiopia took over the commercial activities of the Bank of Abysinia and was authorized to issue notes and coins. *(www.nbe.gov.et)*

The Ethiopian Monetary and Banking law that came into force in 1963 separated the function of commercial and central banking creating National Bank of Ethiopia and give birth to commercial Bank of Ethiopia. The first privately owned bank, Addis Ababa Bank Share Company, was established on Ethiopians initiative and started operation in 1964 with a capital of 2 million. Following the declaration of socialism in 1974 the government extended its control over the whole economy and nationalized all large corporations. Accordingly, the three private owned banks, Addis Ababa Bank, Banco di Roma and Banco di Napoli Merged in 1976 to form the second largest Bank in Ethiopia called Addis Bank. Consequently Addis Bank and Commercial Bank of Ethiopia S.C. were merged to form the sole commercial bank in the country till the establishment of private commercial banks in 1994. *(www.nbe.gov.et)*

There was also the Saving and Mortgage Corporation of Ethiopia whose aims and duties were to accept savings and trust deposits account and provide loans for the construction, repair and improvement of residential houses, commercial and industrial buildings and carry out all activities related to mortgage operations, until its changed to its current name ,Construction and Business Bank. On the other hand, there was a bank called Agricultural Bank that provides loan for the agricultural and other relevant projects established in 1945 and operated until it was replaced by its successor Ethiopian Agriculture and commerce bank in 1950.In 1979, Ethiopian Agriculture and commerce bank was replaced by Agriculture and industry development bank, which was then renamed to the present, Development Bank of Ethiopia. *(www.nbe.gov.et)*

Subsequent to the demise of the Dergue regime in 1991, EPRDF declared a liberal economy system. Consequently, the first private bank, Awash International Bank was established in 1994. There are 16 private and 2 government-owned commercial banks operating in Ethiopia. These banks include; Abay Bank S.C (est. 2010), Addis International bank S.C(est. 2011), Awash International Bank(est. 1994), Bank of Abyssinia(est. 1996), Berhan International Bank(est. 2010), Bunna International Bank(est. 2009), Commercial Bank of Ethiopia(est. 1963), Construction and Business Bank(est. 1983), Cooperative Bank of Oromia(est. 2005), Dashen Bank(est. 1996), Debub Global Bank(est. 2012), Enat Bank(est. 2013), Lion International Bank(est. 2006), Nib International Bank(est. 1999), Oromia International Bank(est. 2008), United Bank(est. 1998), Wegagaen Bank(est. 1997), and Zemen Bank(est. 2009)(Wikipedia.org 2015).

Table 1.1 Performance of Commercial banks in 2014 (*In Million Birr)*

Rank	BANK	Est. Year	ASSET	DEPOSIT	CAPITAL	NET INCOME
1	CBE	1963	242,726.00	192,275.00	10,703.00	**6,371.00**
2	DB	1996	21,962.20	17,681.34	2,597.62	**1,063.71**
3	AIB	1994	17,601.18	11773.71	2525.45	**618.27**
4	BOA	1996	11,276.39	9,096.48	1,528.97	**447.42**
5	WB	1997	11,242.58	8,384.48	2144.21	**304.90**
6	NIB	1999	10,747.28	7,923.29	1,964.36	**297.37**
7	CBO	2005	7,350.70	5,450.00	1,090.37	**343.80**
8	UB	1998	11,765.83	8,909.07	239.35	**278.18**
9	ZB	2009	3,925	3,031	656.59	**183.88**
10	OIB	2008	6152	5004	749	**153.87**
11	CBB	1983	7,838.80	5,076.50	731.20	**97.70**
12	LIB	2006	3613.33	2686.98	627.82	**96.58**
13	BUIB	2009	3,012	2,152	517	**79.96**
14	AB	2010	3196.78	2518.22	452.13	**57.60**
15	BIB	2009	2,813	2,012	554	**45.01**
16	AdIB	2011	1262.72	792.41	315.46	**45.00**
17	EB	2013	1417.34	929.44	289.9	**26.00**
18	DGB	2012	969	500	181	**6.00**

Source: NBE 2015

1.3 Statement of the Problem

Identifying the major determinants of profitability of the banks is vital to the industry in particular and for smooth economic growth in general (Sustrosuwito and Suzuki 2011). Different studies identified both internal and external determinants of profitability of commercial banks of different countries at different time using Panel Ordinary Least Square Model. Even though there a lot of studies conducted in the area, they have been debatable for many years because determinants of profit are dynamic through time to time and differ with the nature of the firm from place to place (Flamini et al 2009).

Different studies at different time mainly focused on bank size, deposit, loan, expense, capital adequacy, diversification and other internal and external factors. According to Saira et al(2011) bank size and its profitability are negatively related but study by Flamini et al(2009) shows as they are positively related. Study by Ani et al(2012) shows deposits have positive significant effect on bank performance even though study by Kunt and Huizinga(1999) shows negative relationship between them. Although study by Sehrish Gut et al (2011) shows loan affects bank profit positively, study by Wood (2003) shows negative effect of this factor on bank profitability. Study by Obamuyi(2013) suggests profitable banks operated at lower cost but study of Necear(2003) shows positive relationship between expense and profitability. Havrylchyk et al. (2006) found a positive and direct relationship between capital and profits of banks. But the study by Paolo Saona Hoffmann (2011) found that there is a negative relationship between the capital ratio and profitability. Study by Wanzerried(2011) shows positive association between diversification and bank performance but study by Williams(2007) shows negative relationship.

In Ethiopia, although there are relatively few studies that have been conducted by Belayneh (2011) and Habtamu (2012) about determinants of profitability of commercial banks, they have failed to take some important factors like operational expense and interest income, ignored government commercial banks and did not use recent data that the profitability strategies of the banks vary from time to time. Hence, this study seeks to fill the gap by including variables and banks that were not included in previous studies by

using most recent possible data. Therefore, this research intends to identify the factors that determine profitability of commercial banks in Ethiopia.

1.4. Basic Research Questions

This study retains answers to the question agitating the minds of management of commercial banks as to what to do to adequately increase profitability of the bank. The study answered the following research questions:

1. How does size of bank affect its profitability?
2. What is the effect of loans on profits of the bank?
3. How noninterest expenses affect profits of the bank?
4. What is the effect of diversification on profits of the bank?
5. What is the effect of deposit on profits of the bank?
6. How capital adequacy affects profitability of the bank?
7. What is the effect of interest income on profitability of commercial banks?

1.5 Objective of the Study

The objective of this study is to identify management controllable internal factors that determine profitability of Commercial Banks in Ethiopia using 14 commercial banks industrial data set from 2010 to 2014.

Specific objectives of this study will focus on individual factor that determine profitability of the commercial banks stated as follows;

1. To find effect of bank size on the profitability of the bank;
2. To analyze effect of capital adequacy on banks profitability;
3. To identify effect of loan profitability of banks;
4. To identify effect of noninterest expense on profitability of commercial banks;
5. To analyze effect of diversification on profitability;
6. To analyze the effect of deposit on commercial banks profitability and
7. To analyze effect of interest income on profitability of commercial banks

1.6 Hypothesis

The study has developed following hypothesis

1. There is significant positive relationship between bank size and profitability of commercial banks.
2. There is significant positive relationship between deposit and commercial banks profitability.
3. There is significant positive relationship between loan and profitability of the banks.
4. Capital Adequacy has significant positive effects on profitability of commercial banks.
5. There is significant negative relationship between Operating Expense and commercial banks profitability.
6. There is significant positive relationship between Diversification and profitability of commercial banks.
7. Interest income has significant positive impact on profitability of commercial banks.

1.7 Definition of Terms

Banks are depository financial institutions that accept deposits from individuals and institutions and make loans. Commercial Banks are financial intermediaries that raise funds primarily by issuing deposits then give loan to different customers. They then use these funds to acquire assets such as securities and loans.

I. Return on Assets (ROA)

It is estimated as ratio of net income to total assets. It shows the bank`s ability to utilize the bank resources to generate profits. ROA is a ratio calculated by dividing the net income over total assets. ROA have been used in most of the studies for the measurement the profitability of the banks.

II. Return on equity (ROE)

It is the ratio of net income to total equity (Fraker, 2006). It measures the rate of return on the ownership interest (shareholders' equity) of the common stock

owners. It measures a firm's efficiency at generating profits from every unit of shareholders' equity. ROE shows how well a company uses investment funds to generate earnings growth.

III. Net Interest Margin (NIM)

It is the difference between interest income and interest expenses as a percentage of total assets. NIM is defined as the net interest income divided by total assets. NIM is a measure of the difference between the interest income generated by banks and the amount of interest paid out to their lenders (for example, deposits), relative to the amount of their assets. NIM is focused on the profit earned on interest activities (Berger, 1995; Barajas et al., 1999 and Naceur and Goaied, 2001).

IV. Size of bank: Size of the bank shows the economies and diseconomies of scale. It is used to capture the fact that larger banks are better placed than smaller banks in harnessing economies of scale in transactions to the plain effect that they will tend to enjoy a higher level of profits. The physical capital (bank buildings, computers, and other equipment) owned by the banks are their assets.

V. *Operating income* is the income that comes from a bank's ongoing operations. Most of a bank's operating income is generated by interest on its assets, particularly loans. Interest income fluctuates with the level of interest rates, and so its percentage of operating income is highest when interest rates are at peak levels. Noninterest income is generated partly by service charges which generate fees or trading profits for the bank.

VI. *Operating expenses* are the expenses incurred in conducting the bank's ongoing operations. An important component of a bank's operating expenses is the interest payments that it must make on its liabilities, particularly on its deposits. Just as interest income varies with the level of interest rates, so do interest expenses.

VII. Noninterest expenses include the costs of running a banking business: salaries for tellers and officers, rent on bank buildings, purchases of equipment such as desks and vaults, and servicing costs of equipment such as computers. The final item listed under operating expenses is provisions for loan losses.

1.8 Significance of the study

Although there are very few studies about profitability of commercial banks in Ethiopia, it requires further studies. Therefore, it contributes for further studies in the area.

The dataset will be made up of 14 bank level observations which are consisting of 73.68% of banks operating in Ethiopia and which have the highest market share. Hence, it will enhance the generalization of the result to all commercial banks operating in Ethiopia. Therefore, this study will help managers to focus on main determinants of profitability to achieve organizational goals.

1.9 Scope of the study

This study is about determinants of profitability of commercial banks period from 2010 to 2014. These determinants are only bank specific that are collected from balance sheet of the selected banks. This study used balanced panel data. The banks selected are which have atleast five years audited balance sheet. As a result, 14 commercial banks have audited five years balance sheets from 2010 to 2014. These banks include Awash International Bank (AIB), Bank of Abyssinia (BOA), Bunna International Bank (BUIB), Commercial Bank of Ethiopia (CBE), Construction and Business Bank (CBB), Cooperative Bank of Oromia(CBO), Dashen Bank (DB), Lion International Bank (LIB), Nib International Bank (NIB), Oromia International Bank(OIB), United Bank S.c (OIB), Wegagen Bank(WB), and Zemen Bank (ZB). External factors are not included in the study because they are assumed equally affect all banks and bank managers cannot control them.

Therefore, this study is limited to 14 commercial banks from period 2010 to 2014 about bank specific factors.

1.10 Limitation of the Study

The researcher faced problem in data collection process because of stiff bureaucracy in the attempt of getting annual financial statement from the banks and National Bank of Ethiopia which forced to reschedule and delay the time of completing the study.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.1 Theoretical Literature

2.1.1 Overview of Banking Activity Banks make profits by charging an interest rate on their holdings of securities and loans that is higher than the expenses on their liabilities. In general terms, banks make profits by selling liabilities with one set of characteristics (a particular combination of liquidity, risk, size, and return) and using the proceeds to buy assets with a different set of characteristics. This process is often referred to as *asset transformation*. For example, a savings deposit held by one person can provide the funds that enable the bank to make a mortgage loan to another person. The bank has transformed the savings deposit (an asset held by the depositor) into a mortgage loan (an asset held by the bank). Another way this process of asset transformation is described is to say that the bank "borrows short and lends long" because it makes long-term loans and funds them by issuing short-dated deposits. Bank manages its assets and liabilities in order to earn the highest possible profit. The bank manager has four primary concerns. The first is to make sure that the bank has enough ready cash to pay its depositors when there are deposit outflows, that is, when deposits are lost because depositors make withdrawals and demand payment. To keep enough cash on hand, the bank must engage in liquidity management, the acquisition of sufficiently liquid assets to meet the bank's obligations to depositors. Second, the bank manager must pursue an acceptably low level of risk by acquiring assets that have a low rate of default and by diversifying asset holdings (asset management). The third concern is to acquire funds at low cost (liability management). Finally, the manager must decide the amount of capital the bank should maintain and then acquire the needed capital (capital adequacy management). Banks obtain funds by borrowing and by issuing other liabilities such as deposits. These deposits include Checkable deposits (deposits on which checks can be written), savings deposits (deposits that are payable on demand but do not allow their owner to write checks), and time deposits (deposits with fixed terms to maturity).They then use these funds to acquire assets such as securities and loans. Banks make profits by charging an interest rate on their holdings of securities and loans that is higher than the expenses on their liabilities. A bank uses the funds that it has acquired by issuing liabilities to

purchase income earning assets. Bank assets are referred to as *uses of funds*, and the interest payments earned on them are what enable banks to make profits. The funds are raised by selling new equity (stock) or from retained earnings. Bank capital is a cushion against a drop in the value of its assets, which could force the bank into insolvency (having liabilities in excess of assets, meaning that the bank can be forced into liquidation). Banks make their profits primarily by issuing loans. A loan is a liability for the individual or corporation receiving it, but an asset for a bank, because it provides income to the bank. Loans are typically less liquid than other assets, because they cannot be turned into cash until the loan matures. Loans also have a higher probability of default than other assets. Because of the lack of liquidity and higher default risk, the bank earns its highest return on loans. The largest categories of loans for commercial banks are commercial and industrial loans made to businesses. Commercial banks also make consumer loans and lend to each other. To maximize its profits, a bank must simultaneously seek the highest returns possible on loans and securities, reduce risk, and make adequate provisions for liquidity by holding liquid assets. Banks have to make decisions about the amount of capital they need to hold for three reasons. First, bank capital helps prevents *bank failure*, a situation in which the bank cannot satisfy its obligations to pay its depositors and other creditors and so goes out of business. Second, the amount of capital affects returns for the owners (equity holders) of the bank. And third, a minimum amount of bank capital (bank capital requirements) is required by regulatory authorities.

Although net income gives us an idea of how well a bank is doing, it suffers from one major drawback: It does not adjust for the bank's size, thus making it hard to compare how well one bank is doing relative to another. A basic measure of bank profitability that corrects for the size of the bank is the return on assets (*ROA*) which divides the net income of the bank by the amount of its assets. *ROA* is a useful measure of how well a bank manager is doing on the job because it indicates how well a bank's assets are being used to generate profits. Although *ROA* provides useful information about bank profitability, it is not what the bank's owners (equity holders) care about most. They are

more concerned about how much the bank is earning on their equity investment, an amount that is measured by the return on equity (*ROE*), the net income per equity capital. Another commonly watched measure of bank performance is called the *net interest margin* (*NIM*), the difference between interest income and interest expenses as a percentage of total assets. If a bank manager has done a good job of asset and liability management such that the bank earns substantial income on its assets and has low costs on its liabilities, If the bank is able to raise funds with liabilities that have low interest costs and is able to acquire assets with high interest income, the net interest margin will be high, and the bank is likely to be highly profitable. If the interest cost of its liabilities rises relative to the interest earned on its assets, the net interest margin will fall, and bank profitability will suffer.

2.2 Estimation Method

2.2.1 Panel Data

In pooled, or combined, data are elements of both time series and cross-section data. Panel data is a special type of pooled data in which the same cross-sectional unit (say, a family or a firm) is surveyed over time.

Baltagi(1998) lists the following advantages of panel data:

1. Since panel data relate to individuals, firms, states, countries, etc., over time, there is bound to be heterogeneity in these units. The techniques of panel data estimation can take such heterogeneity explicitly into account by allowing for individual-specific variables
2. By combining time series of cross-section observations, panel data give more informative data, more variability, less collinearity among variables, more degrees of freedom and more efficiency.
3. By studying the repeated cross section of observations, panel data are better suited to study the *dynamics of change*.
4. Panel data can better detect and measure effects that simply cannot be observed in pure cross-section or pure time series data.

5. Panel data enables us to study more complicated behavioral models. For example, phenomena such as economies of scale and technological change can be better handled by panel data than by pure cross-section or pure time series data.
6. By making data available for several thousand units, panel data can minimize the bias that might result if we aggregate individuals or firms into broad aggregates.

In short, panel data can enrich empirical analysis in ways that may not be possible if we use only cross-section or time series data. Estimation depends on the assumptions about the intercept, the slope coefficients, and the error term, *uit*. In general simple linear panel data models can be estimated using common constant, fixed effect and random effect.

2.2.2 Pooled OLS Model

Common constant methods (pooled OLS method) of estimation presents results under the principal assumption that there are no differences among the data matrices of the cross sectional dimension. In other words, the model estimates a common constant for all cross sections. Practically the common constant method implies that there are no differences between the estimated cross sections and it is useful under the hypothesis that the data set is priori homogeneous. In pooled OLS, assuming the homogeneity (uniformity) of cross-sectional unit OLS regression is estimated by pooling cross-sectional time series data. If the assumption is valid, this model specification has some advantage over the others. Firstly, it is said to be very parsimonious (only few coefficients will be estimated). Secondly, it is computationally simple compared to other models. However, if the assumption becomes violated and unobserved cross-sectional unit specific factors are correlated with explanatory variables, pooled OLS result in estimates which are biased and inefficient. Therefore, to use pooled OLS as an appropriate specification it should pass homogeneity test. (Demitirios and Stafen, 2007),

2.2.3 Fixed Effects Model

In the fixed effects method constant is treated as group specific. The model allows for different constant for each group or section. The fixed effects estimator is also known as the least squares dummy variable (LSDV) estimator in order to allow for different constant for each group, it includes dummy variable for each group. This model treats unobserved cross-sectional unit specific heterogeneity as time invariant random variable distributed independently across cross-section with variance. Before assessing the validity of the fixed effects method it is needed to apply tests to check whether fixed effects should indeed be included in the model. To do this the standard F test can be used to check fixed effects against the simple constant OLS method. The null hypothesis is that all the constants are the same (homogeneity), and that therefore the common constant is applicable:

$$Ho: a_1=a_2=\ldots=a_N$$

The fixed effect model is very useful basic model to start from panel data estimation has been mainly applied to data sets where N is very large and in this case a simplifying assumption is sometimes made which gives rise to the random effect mode. (Wooldridge, 2003)

2.2.4 Random effects model

An alternative method of estimating a model is the random effects model. This model treat group (individual) specific heterogeneity as group specific random disturbance term and incorporated into disturbance term to form composite error term. The difference between the fixed effects and the random effects method is that the later handles the constant for each section not as fixed but as random parameters.

Comparing the two methods, the use of random effects estimator is superior compared to the fixed effects estimator because the former is GLS estimator and the later is actually limited case of the random effects model, as it corresponds two cases where the variation in individual is relatively large. But on the other hand the random effects model is built

under the assumption that the fixed effects are uncorrelated with the explanatory variables, an assumption that in practice creates strict limitation in panel data treatment.

In general, the difference between two possible ways of testing panel data models is the fixed effects model assumes each cross section differs in its intercept term, whereas the random effects model assumes that each cross section differ in its error term. Usually, when the panel is balanced it is expected that the fixed effects model will work best. In other cases when the sample contains limited observation of the existing cross sectional units the random effects model is more appropriate. (Hausman and Taylor, 198)

Fixed effect model has advantage over random effect model, since it allows correlation of unobserved individual specific heterogeneity with other explanatory variables in the model. On the other hand, random effect model has two main advantages over fixed effect model. Firstly, it produces efficient estimator under serial correlation and secondly, it allows estimating the effect of explanatory variables that are constant overtime.

The Hausman test is formulated to assist in making a choice between the fixed effects and random effects approaches. Hauseman(1978) a test based on the idea that under the hypothesis of no correlation, both OLS and GLS are consistent but OLS is inefficient, while under the alternative OLS is consistent but GLS is not. For the panel data the appropriate choice between the fixed effects and random effects methods investigates whether the repressors are correlated with the individual effects. The advantage of the use of the fixed effects estimator is that it is consistent even when the estimators are correlated with individual effects. Thus the Hausman tests H0, that random effects are consistent and efficient, versus H1 that random effects are inconsistent (as the fixed effects will be always consistent). If the value of static is large, then the difference between the estimators is significant, so we reject the null hypothesis that the random effects model is consistent and we use the fixed effects estimators. In contrast, small value of the Hausman static implies that the random effects estimator is more appropriate. (Hausman and Taylor, 1981)

2.2. Empirical Literatures

This section of the research paper provides the overview of the previous studies related to the determinants of the bank profitability. An overview of previous studies indicates various ways that profitability was examined. Some studies were country specific and few of them considered panel of countries reviewing the determinants of profitability. The main conclusion emerging from these studies is that internal factors explain a large proportion of banks profitability; nevertheless external factors have also had an impact on their performance. The dependant variables in these studies have been mostly used like return on assets (ROA), return on equity (ROE) and net interest margin (NIM) and all the internal and external factors have been used as independent variables.

The profitability of European banks during the 1990s was investigated by Goddard et al. (2004) using cross sectional, pooled cross-sectional time-series and dynamic panel models. Their model for the determinant of profitability incorporates size, diversification, risk and ownership type, as well as dynamic effects. They found that despite intensifying competition there is significant persistence of abnormal profit from year to year.

Javaid et al. (2011) analyzed the determinants of top 10 banks' profitability in Pakistan over the period 2004 to 2008. They focused on the internal factors only. Javaid et al. (2011) used the pooled ordinary least square (POLS) method to investigate the impact of assets, loans, equity, and deposits on one of the major profitability indicator of banks which is return on asset (ROA). The empirical results found strong evidence that these variables have a strong influence on profitability. However, the results show that higher total assets may not necessarily lead to higher profits due to diseconomies of scales. Also, higher loans contribute towards profitability but their impact is explaining a significant part of the variation in bank profitability. High Jordanian bank profitability tends to be associated with well-capitalized banks, high lending activities, low credit risk, and the efficiency of cost management. Results also show that the estimated effect of size did not support the significant scale economies for Jordanian banks. Due to the fact that some of the differential slope coefficients are statistically significant, they conclude that the estimation results indicate that individual effects on the profitability are present.

Scott and Arias (2011) developed an appropriate econometric model whereby the primary determinants of profitability of the top five bank holding companies in the United States could be examined and understood. The econometric model was based on internal aspects of the banking organizations as they relate to their return on assets and external aspects of the environment in which they compete as measured by growth in GDP was developed based on guidance provided by economists and industry experts to determine the impact of the external national economy of these five leading banks according to their size as measured by total assets. The results show that profitability determinants for the banking industry include positive relationship between the return on equity and capital to asset ratio as well as the annual percentage changes in the external per capita income.

In another dimension, Gull et al. (2011) examined the relationship between bank-specific and macro-economic characteristics over bank profitability by using data of top fifteen Pakistani commercial banks over the period 2005 to 2009. The paper used the pooled ordinary least square (POLS) method to investigate the impact of assets, loans, equity, deposits, economic growth, inflation and market capitalization on major profitability indicators that is, return on asset (ROA), return on equity (ROE), return on capital employed (ROCE) and net interest margin (NIM) separately. The empirical results showed strong evidence that both internal and external factors have a strong influence on the profitability.

Goddard et al. (2004) had investigated the profitability of European banks during the 1990s using cross-sectional, pooled cross-sectional time series and dynamic panel models. Models for the determinants of profitability incorporate size, diversification, risk and ownership type, as well as dynamic effects. They found that despite intensifying competition there was significant persistence of abnormal profit from year to year. Their results suggests that evidence for any consistent or systematic size–profitability relationship is relatively weak; the relationship between the importance of off-balance-sheet business in a bank's portfolio and profitability is positive for the UK, but either

neutral or negative elsewhere. Furthermore the relationship between the capital–assets ratio and profitability was positive.

In a study on the determinants of the Tunisian banking industry profitability for 10 banks in Tunisia for the period 1980 to 2000, Naceur (2003) observed that high net interest margin and profitability are likely to be associated not significant. Equity and deposits have significant impact on profitability.

Imad et al. (2011) studied a balanced panel dataset of Jordanian banks for the purpose of investigating the nature of the relationship between the profitability of banks and the characteristics of internal and external factors for 10 banks over the period 2001 to 2010. Using two measures of bank's profitability: the rate of return on assets (ROA) and the rate of return on equity (ROE), the results show that the Jordanian bank's characteristics with banks with high amount of capital and large overheads. Further the paper also noted that other determinants such as loans has positive and bank size has negative impact on profitability.

Naceur and Goaied (2001) investigated the impact of banks' characteristics, financial structure and macroeconomic indicators on banks' net interest margins and profitability in the Tunisian banking industry from 1980 to 2000. Individual bank characteristics explain a substantial part of the within-country variation in bank interest margins and net profitability. High net interest margin and profitability tend to be associated with banks that hold a relatively high amount of capital, and with large overheads. Size is found to impact negatively on profitability which implies that Tunisian banks are operating above their optimum level.

Molyneux and Thornton (1992) examine the profitability of banking zone on different countries. They take about 18 European countries' data during the 1986-1989 periods. They found a significant positive association with the return on equity and the level of interest rates, bank concentration and government ownership during their study.

Molyneux and Forbes (1995) explain market structure and performance in 18 European countries for the four years period 1986-89, using pooled data. Their finding includes that

anti-trust or regulatory policy should be designed at changing market structure in order to increase competition or the quality of bank performance. Increasing concentration in banking markets should not be restricted by antitrust or regulatory measures.

Demirguc-Kunt and Maksimovic (1998) identified a positive relationship between size and profitability. They found that higher the funds can easily meet their rigid capitals so that they can have extra funds for giving loans to borrowers and thereby increase their profits and earning levels.

Havrylchyk et al.(2006) found a positive and direct relationship between capital and profits of banks. It implies that a more efficient bank should have higher profits since it is able to maximize on its net interest income.

Miller and Noulas (1997) find a negative relationship between credit risk and profitability. It shows that whenever there is negative relationship between them, then it signify that greater risk linked with loans, higher the level of loan loss supplies which thereby and create a trouble at the profit-maximizing strength of a bank.

Syafri (2012) checked the profitability of the commercial banks of Indonesia listed in the stock exchange for the period of 2002 to 2011 using pooling data from commercial banks. He applied the pooling data regression model in which return on assets is dependant variable and internal and external determinants have been used as independent variables. He has said in his research that loan to total assets, total equity to total assets have positive effect on profitability while on the other hand bank size and cost to income ratio have negative effect and economic growth and non interest income to total assets have no effect.

Ani,W.U et.al (2012) investigated the determinants of profitability of commercial banks in Nigeria for the period of ten years from 2001 to 2010 including the observation of 147 banks. Pooled ordinary least square was used to estimate the coefficient. Study finds that bank size does not increase the profit of any commercial banks in Nigeria. Greater capital-asset ratio increases the profitability of banks.

Saira Javaid et.al (2011) examined the profitability of top 10 the commercial banks of Pakistan for the period of 2004-2008. Pooled ordinary least square has been used to check the impact of internal factors includes assets, loan, equity and deposits on the profitability of banks on dependant variable called return on asset (ROA).The study found that internal factors stated above effect the bank's profitability. Bank size or total assets does not lead any profitability of commercial banks but equity and deposits have a significant influence on the profitability of commercial banks.

Abdel karim Almumani (2013) analyzed the internal factors that impact on the profitability of the commercial banks listed in Amman Stock Exchange in Jordan for the duration of 2005-2011.The study constitutes that the cost-income ratio has a significant collide with the profitability of commercial banks in Jordan.

Imad Z.Ramadan et.al (2011) took apart the determinants of profitability of 10 Jordan banks for the period of 2001-2010.They have used return on equity (ROE) and return on assets (ROA) as dependant variables and internal and external factors have been used as an independent variables and the type of data of Jordan banks is panel data. Results designated that profitability of the Jordan banks depend upon the well capitalized banks, high loaning activities, less credit risk and cost management efficiency. Findings also expressed that size does not increase the profitability of Jordan banks.

Fadzlan Sufian et.al (2008) studied the profitability of the banks in Philippines for the period of 1990-2005. The study also suggests that if the expense related behavior and credit risk increases the profitability of the banks operating in Philippines decreases and the non-interest income and capitalization both have the positive relationship with bank's profitability. During the study undertaken the inflation increases the profit of the banks in Philippines decreases.

Sehrish Gul, Faiza Irshad and Khalid Zaman (2011) tried out the relationship between the bank specific characteristics and the profitability of the banks using the data of top fifteen commercial banks operating in the economy of Pakistan for the period of 2005-2009.This paper applies the Polled Ordinary Least Square method to look into the hit of assets,

loans, equity, deposits, economic growth, inflation and market capitalization on major profitability blinkers like return on assets (ROA) ,return on equity (ROE), return on capital employed (ROCE) and net interest margin (NIM) one by one. The study constitute that both the internal and external factors have a solid influence on the banks profitability.

Paolo Saona Hoffmann (2011) tried out the determinants of profitability of the banks operating in US for the period of 1995-2007.The study undertakes the internal and external factors affecting the profitability of banks in US economy. The study found that there is a negative relationship between the capital ratio and profitability which affirms believe that banks are working most carefully and dismissing potentially profitable trading chances. The cost advantages due to the bank size do not impact on the profitability of the banking industry of US.

Deger Alper (2011) probed the internal and external factors of banks profitability of Turkey for the period of 2002-2010. In this study the return on assets (ROA) and return on equity (ROE) both are the dependant variables and the function of internal and external factors. Profitability increases when the non interest income and asset size increases. And real interest rate in the external factors has positive effect on profitability.
Dr. Srinivas Madishetti et.al (2013) analyzed the profitability determinants of Tanzania commercial banks for the period of 2006-2012. Internal determinants use the variables like liquidity risk, credit risk, operating efficiency, business assets and capital adequacy and external determinants use the variables GDP growth rate and inflation rate. All of these variables are independent. The study found that internal variables determine the bank's profitability whereas external factors do not influence the profitability of commercial banks.

Abuzar (2013) studied the determinants of profitability of Islamic banks operating in Sudan. This study found that only the internal factors have the substantial impact on the profitability of the commercial banks. Cost, liquidity and the size of the banks have the

positive relationship with the bank profitability. Macroeconomic or external factors have no substantial impact on profitability.

Alpera and Anbar (2011) analyzed the internal and external factors of the commercial banks of Turkey for the period of 2002-2010. The study shows that non interest income and bank size have the positive impact on the bank profitability. And on the side of the macroeconomic or external factors only the real interest rates impact on the profitability of the commercial banks positively.

Vong and chan (2006) analyzed the impact of internal and external factors on the profitability of Macao banking industry for the period of 15 years. This study found that high capitalization leads to the high profitability and size of the bank increases the profitability its mean banks are enjoying the benefit of economies of scale. And on the other hand loan loss provision impact on the profitability of the Macao banking industry unfavorably.

Eljelly(2013) paper aimed to explore the determinants of profitability of Islamic banks in Sudan, one of the few countries that have total Islamic economic and banking systems. Using a sample of Sudanese banks, the paper found that only the internal factors to these banks have a significant impact on banks' profitability, as measured by return on assets (ROA), return on equity (ROE), and net financing margin (MARG). More specifically, cost, liquidity and size of the bank are found to have positive and significant effects on profitability. However, external macroeconomic factors are classified as redundant and have no significant effects on profitability.

Javaid et al.(2011) study aimed to give the analysis of the determinants of top 10 banks' profitability in Pakistan over the period 2004-2008. The focus is on the internal factors only. This paper uses the pooled Ordinary Least Square (POLS) method to investigate the impact of assets, loans, equity, and deposits on one of the major profitability indicator return on asset (ROA). The empirical results have found strong evidence that these variables have a strong influence on the profitability. However, the results show that

higher total assets may not necessarily lead to higher profits due to diseconomies of scales. Also, higher loans contribute towards profitability but their impact is not significant. Equity and Deposits have significant impact on profitability.

Bintawim (2011) paper objective was to provide performance analysis comparison of Saudi banks as well as to examine the impact of banks' internal characteristics indicators on financial performance. A total of eleven banks are financially analyzed between 2005 and 2009. The methodology is used including ratio analysis and panel data regression to test the research hypothesis. The results show that large banks performance has reached the mature growth unlike medium-size banks. They are growing to compete against large banks. Meanwhile, small-size banks are facing some difficulties to achieve a better growth. The results indicate all Saudi banks are doing well to maintain the stability of banking sector. In addition, regression results show that banks' size has a negative impact on financial performance, while asset utilization has a positive impact on Saudi banks profitability. Moreover, increasing banks operating expenses leads to increase the net special commission and decrease ROA and ROE.

Ramadan et al. (2011) studied a balanced panel data set of Jordanian banks was used for the purpose of investigating the nature of the relationship between the profitability of banks and the characteristics of internal and external factors. For this purpose 100 observation of 10 banks over the period 2001-2010 were comprised. Two measures of bank's profitability have been utilized: the rate of return on assets (ROA) and the rate of return on equity (ROE). Results showed that the Jordanian bank's characteristics explain a significant part of the variation in bank profitability. High Jordanian bank profitability tends to be associated with well-capitalized banks, high lending activities, low credit risk, and the efficiency of cost management. Results also showed that the estimated effect of size did not support the significant scale economies for Jordanian banks. Finally, the estimation results indicated that individual effects on the profitability are present; this is concluded due to the fact that some of the differential slope coefficients are statistically significant.

Haron (2004) investigated the determinants of profitability. For the past three decades, researchers have managed to examine and identify various factors that have a significant influence on bank's profitability. All previous profitability studies, however, have been of conventional banks and until now there has been no study to determine the profitability of Islamic banks. This study examines the effects of the factors that contribute towards the profitability of Islamic banks. This study finds that internal factors such as liquidity, total expenditures, funds invested in Islamic securities, and the percentage of the profit-sharing ratio between the bank and the borrower of funds are highly correlated with the level of total income received by the Islamic banks. Similar effects are found for external factors such as interest rates, market share and size of the bank. Other determinants such as funds deposited into current accounts, total capital and reserves, the percentage of profit-sharing between bank and depositors, and money supply also play a major role in influencing the profitability of Islamic banks.

Scott and Arias (2011) developed an econometric model whereby the primary determinants of profitability of the top five bank holding companies in the United States could be examined and understood. The econometric model was based on internal aspects of the banking organizations as they relate to their return on assets and external aspects of the environment in which they compete as measured by growth in GDP was developed based on guidance provided by economists and industry experts to determine the impact of the external national economy of these five leading banks according to their size as measured by total assets. The results show that profitability determinants for the banking industry include positive relationship between the return on equity and capital to asset ratio as well as the annual percentage changes in the external per capita income.

In another dimension, Gull et al. examined the relationship between bank-specific and macro-economic characteristics over bank profitability by using data of top fifteen Pakistani commercial banks over the period 2005 to 2009. The paper used the pooled ordinary least square (POLS) method to investigate the impact of assets, loans, equity, deposits, economic growth, inflation and market capitalization on major profitability indicators that is, return on asset (ROA), return on equity (ROE), return on capital employed (ROCE) and net interest margin (NIM) separately. The empirical results

showed strong evidence that both internal and external factors have a strong influence on the profitability.

Bashir (2003) paper analyzed how bank characteristics and the overall financial environment affect the performance of Islamic banks. Utilizing bank level data, the study examines the performance indicators of Islamic banks across eight Middle Eastern countries between 1993 and 1998. A variety of internal and external banking characteristics were used to predict profitability and efficiency. Controlling for macroeconomic environment, financial market structure, and taxation, the results indicate that high capital-to-asset and loan-to-asset ratios lead to higher profitability. The results also indicate that foreign-owned banks are likely to be profitable. Everything remaining equal, the regression results show that implicit and explicit taxes affect the bank performance and profitability negatively while favorable macroeconomic conditions impact performance measures positively.

Berger (1995) examines the relationship between the return on equity and the capital asset ratio for a sample of US banks for the 1983-1992 time period. Using the Granger causality model, he shows that the return on equity and capital to asset ratio tend to be positively related.

Ben Naceur and Goaied (2001) investigate the determinants of the Tunisian bank's performances during the period 1980-1995. They indicates that the best performing banks are those who have struggled to improve labour and capital productivity, those who have maintained a high level of deposit accounts relative to their assets and finally, those who have been able to reinforce their equity.

Guru et al. (2002) attempt to identify the determinants of successful deposit banks in order to provide practical guides for improved profitability performance of these institutions. The study is based on a sample of seventeen Malaysian commercial banks over the 1986-1995 period. The profitability determinants were divided in two main categories, namely the internal determinants (liquidity, capital adequacy and expenses management) and the external determinants (ownership, firm size and external economic

conditions). The findings of this study revealed that efficient expenses management was one of the most significant in explaining high bank profitability. Among the macro indicators, high interest ratio was associated with low bank profitability and inflation was found to have a positive effect on bank performance.

Abreu and Mendes (2002) investigate the determinants of bank's interest margins and profitability for some European countries in the last decade. They report that well capitalized banks face lower expected bankruptcy costs and this advantage "translate" into better profitability. Although with a negative sign in all regressions, the unemployment rate is relevant in explaining bank profitability. The inflation rate is also relevant.

Bashir (2000) examines the determinants of Islamic bank's performance across eight Middle Eastern countries for 1993-1998 period. A number of internal and external factor were used to predict profitability and efficiencies. Controlling for macroeconomic environment, financial market situation and taxation, the results show that higher leverage and large loans to asset ratios, lead to higher profitability. The paper also reports that foreign-owned banks are more profitable that the domestic one. There is also evidence that taxation impacts negatively bank profitability. Finally, macroeconomic setting and stock market development have a positive impact on profitability.

In a comprehensive study Demerguç-Kunt and Huizingha (1999) examine the determinants of bank interest margins and profitability using a bank level data for 80 countries in the 1988-1995 period. They report that a larger ratio of bank assets to GDP and a lower market concentration ratio lead to lower margins and profits. Foreign banks have higher margins and profits than domestic banks on developing countries, while the opposite prevail in developed countries.

Demerguç-Kunt and Huizingha (2001) present evidence on the impact of financial development and structure on bank profitability using bank level data for a large number of developed and developing countries over the 1990-1997 period. The paper finds that

financial development has a very important impact on bank performance. Specifically, the paper reports that higher bank development is related to lower bank performance (Tougher competition explains the decrease of profitability). Stock market development on the other hand, leads to increased profits and margins for banks especially at lower levels of financial development, indicating complementarities between bank and stock market.

According to the study by Susan(2014) bank size which is measured by natural log of total assets has positive significant effect on profit of Kenyan top six commercial banks. According to study by Sehrish et al(2011) bank size have significant positive relation with ROA, where total assets indicate the size of the bank. This positive relationship shows that the size of the bank have significant positive impact on profitability. It suggests that larger banks achieve a higher ROA. Goddard et al. (2004) examined that the evidence for any consistent or systematic size–profitability relationship is relatively weak. But according to Ani et al(2012) the size has a significant negative relationship with profitability. This significant negative relationship shows that the size of a bank could significantly affect the profitability of the bank negatively. This is in consonance with the findings of Berger et al. (1987), Naceur (2003) and Javaid et al. (2011). The major outcome of this study is that higher total assets may not necessarily lead to higher profits. The negative coefficient of size indicates that this relation might be negative due to diseconomies of scale suffered by banks due to uncontrollable increased size.

A study by Boyd and Runkle (1993) and Sairaet al., (2011) found a negative relationship between size and bank performance. Sinkey(1992) results indicate that size affects negatively for big firms and positively for smaller banks. Study by Staikouras and Wood (2003) concludes that medium banks earn the highest profits followed by smaller ones. Positive association between size and bank performance are also confirmed by the study done by Flamini et al.,(2009); Bikker & HU (2002). Large banks operate at lower costs because of economies of scale and can raise capital at lower costs. Findings of Molyneux and Thornton (1992) and Bikker and Hu (2002) and Sehrish Gul et al(2011) shows size of banks have significant positive relation with bank profitability suggesting that larger banks achieve a higher profit. But According to findings of Berger et al.(1987), Boyd and

Runkle (1993), Bourke (1989), Naceur(2003) and Javaid et al. (2011) and Ani et al., 2012 higher total assets may not necessarily lead to higher profits due to diseconomies of scale suffered by banks due to uncontrollable increased size.

According to the study by Susan(2014) capital strength impacts positively on Kenyan top banks` profitability in the period 2008-2013. Among the explanatory variables in the study, capital was found to have the largest impact on the changes in profits. The results are similar to Obamuyi (2013) and Bourke (1989) who argue that the positive relationship between bank profitability and size of capital is due to the fact that well capitalized banks access funds cheaply and can invest in better quality assets. The results suggest that the commercial banks can improve their profits if they are well capitalized. Banks with large capital are able to diversify their investments and are able to stand strong even during general financial crisis in the country. Such banks are strong in attracting more funds at cheaper rates which enhance their liquidity position (Obamuyi, 2013). The final impact is that such banks will have more funds to give out in form of credit at lower lending rates of interest. According to Ani et al (2012) Capital adequacy (ratio of total equity total asset) shows a positive correlation with profitability (ROA). In the presence of asymmetric information and bankruptcy costs, the way the assets are funded could affect the banks value. A well-capitalized bank may send a good signal to the market regarding its performance (Imad et al., 2011). Our result is in consonance with the findings of (Goddard et al., 2004) that investigated profitability of European banks profitability. According to the study by Goddard et al. (2004) the relationship between the capital–assets ratio and profitability is positive.

According to the study by Susan(2014) increases in bank operation expenses reduce bank profitability of the top Kenyan banks in the period 2008-2013. With 1% increase in operations cost, profits of the top Kenyan commercial banks decrease by 0.02%.The results are consistent with the work of Nsambu(2014).However these results are contrary to other research findings. Molyneux and Thornton (1992) and Naceur (2003) found that bank operation expenses are positively associated with high profits. The results for this paper, implies that poor expenses management explains the poor performance of commercial banks in Kenya. Managing expenses well will improve the performance of

the top six banks in Kenya. Bank operation expenses significantly reduce bank profits. This suggests that there is possibility for these commercial banks to increase their profits by putting more effort on proper costs control and operating efficiency. This can be achieved by finding ways of optimal utilization of bank resources during production of banking products and services. Commercial banks need to invest on efficient management and in technologies that reduce costs of operations in order to enhance their performance. Overall we conclude that asset composition and capital adequacy are the major endogenous factors under the control of management that determines the profitability of banks in Nigeria.

Negative relationship has been supported by various studies like Bourke (1989), Jiang et al (2003), Obamuyi (2013), suggesting that profitable banks operate at lower costs. However, this variable gives mixed results as shown by other studies. Molyneux and Thornton (1992) found that expenses impact positively on profits. The positive association between profitability and expenses was also observed in a study done in Tunisia (Naceur, 2003), and in Malaysia (Guru et al., 2002).

According to Ani et al (2012) an asset composition (ratio of total loans and advances to total asset) shows a positive and significant relationship with profitability. This study suggests that with increase in inflation in the economy, the banks interest rate on all kinds of advances would increase and in this way the bank's interest earnings would show significant increase. The study assuming other variables remains constant concludes the higher the rate of transforming deposits into loans, the higher the profitability of the bank. This result is consistent with the study of Athanasoglou et al. (2006). Also, Abreu and Mendes (2000) found a significant and positive relationship between asset composition and profitability. In addition to these studies, Sehrish et al(2011) study concludes loan shows positive and significant relationship with ROA. This study suggests that with more loans the chances of return on assets will be high.

The study by Abreu and Mendes (2000), Sehrish Gul et al(2011) and Athanasoglou et al. (2006) gives evidence of a positive association between loan ratio and bank profitability.

The studies by Bashir and Hassan (2003) and Staikouras and Wood (2003) contradict the above results by arguing that higher loans impact negatively on bank profits.

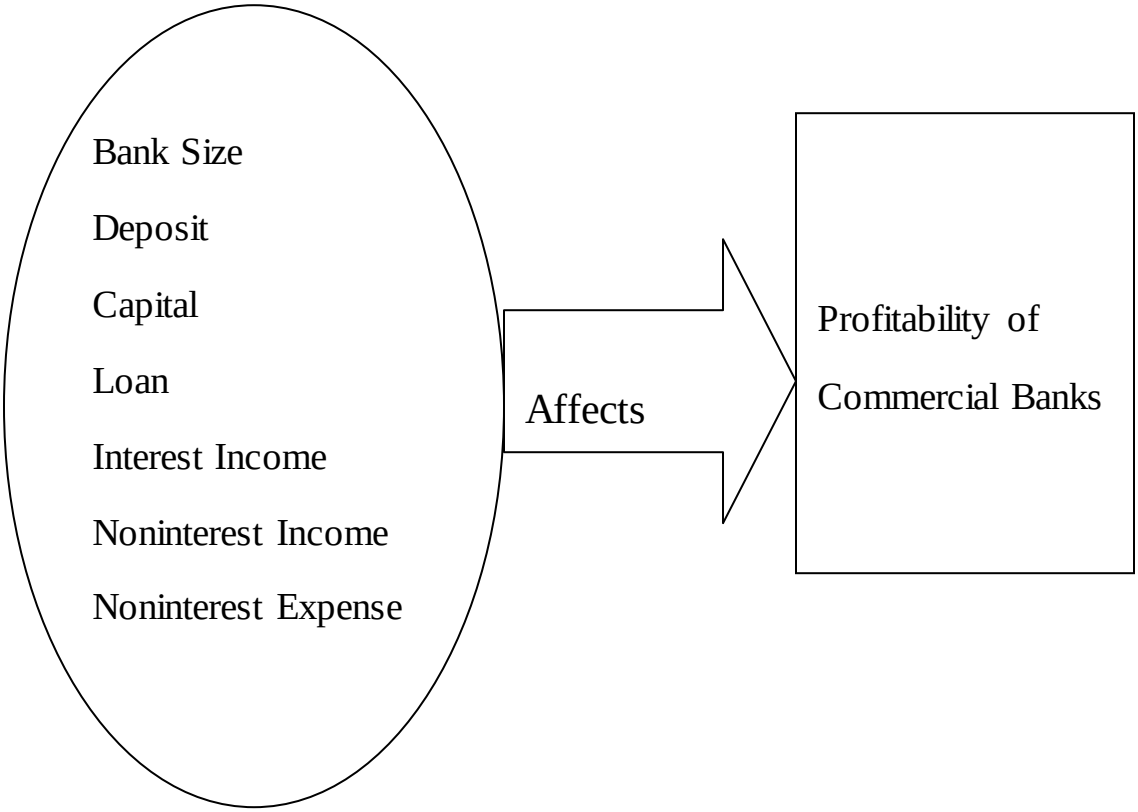
In the literature this variable is measured as the ratio of non-interest income related to loans on operating income. However, according to the study by Susan(2014) the coefficient of diversification was found non-significant in determining profits of the top six commercial bank of Kenya. Dietrich and Wanzenried (2011) found a positive association between the degree of diversification and bank performance. The findings of the study by Barros, Ferreira and Williams (2007) revealed that diversification has a negative impact on bank performance. They argue that the more diversified banks are less likely to be successful and more likely not to perform well.

Study by Sehrish et al(2011) shows deposits to total assets have the positive and significant impact on the profitability of the banks. It shows that deposits have positive impact on profitability and banks depending on deposits for funds can achieve better return on assets. Different studies show that bank performance can also be determined by the amount of deposits. According to results by Alkassim (2005) and Ani et al., 2012 deposits have the positive and significant impact on the profitability of the bank. It shows that banks depending on deposits for funds can achieve better return on assets. Kunt and Huizinga (1999) found that deposits affect bank profits negatively due to large costs incurred in their management.

2.3 Conceptual Framework

Different empirical evidences suggested that profitability of commercial banks is affected by different factors. Based on different literatures this study used following variables that could be determinants of bank profitability. These variables include bank size, capital, loan, deposit, interest income, non interest expense, and noninterest income. The study has seen how these variables determine the profitability of commercial banks using data period from 2010 to 2014.

Figure 2.1 Conceptual Framework



The discussion the researcher has written in the literature review affirms a strong relationship between the bank's profitability and the internal and factors impacting the profitability of the banks. The study covers the gap in the literature by testifying the profitability of the commercial banks operating in Ethiopia using panel data from 2010 to 2014. In the literature review different independent variables have been used in each study but the researcher used operational expense, loan, diversification, capital adequacy, deposits and size of the bank as independent variables.

CHAPTER THREE: RESEARCH DESIGN AND METHODOLOGY

3.1 Research Design

This research is empirical and evaluative type. It identifies and evaluates determinants that have impact on the profitability of commercial banks by using secondary data. The determinants are identified using hypothesis testing by using Wald test with significance level of 5%. Data was collected based on the concepts defined in the research questions and hypothesis. It has identified the characteristics of internal factors affecting profitability of commercial banks by using balanced panel data from selected commercial banks.

3.2 Study Population and Sampling techniques

3.2.1 Study Population

All commercial banks in Ethiopia were taken as the study population. There are 19 commercial banks operating in Ethiopia.

3.2.2 Sampling Method

From the target population, sample was selected based on purposive sampling method which is non probability sampling procedure.

But for the study the researcher used 14 commercial banks that are established before 2009 in order to collect data from balance sheet for the period from 2010 to 2014. The criterion for selecting the banks was to collect data of at least for five years but other banks that have no data more than five years are not included in this study. Therefore, the study included all banks that have balance sheet of five years. Banks under the study are Awash International Bank (AIB), Bank of Abyssinia (BOA), Bunna International Bank

(BUIB), Commercial Bank of Ethiopia (CBE), Construction and Business Bank (CBB), Cooperative Bank of Oromia(CBO), Dashen Bank (DB), Lion International Bank (LIB), Nib International Bank (NIB), Oromia International Bank(OIB), United Bank S.c (OIB), Wegagen Bank(WB), and Zemen Bank (ZB).

3.3 Types of Data and Instrument of data collection

This study used the most recent secondary balanced panel data to analyze determinants of profitability of commercial banks from 2010 to 2014 from 14 commercial banks. Panel data has various advantages over conventional time series and cross sectional data. Panel data give large number of data points, more variability, less collinearity among explanatory variables; more degrees of freedom and more efficiency (Baltagi, 2001). In addition, panel data help us to control individual specific heterogeneity which would be unobserved and correlated with other explanatory variable (Hausman and Taylor, 1981, Wooldridge, 2003). As a result, it enables us to produce more reliable and efficiently parameter estimates.

Data was gathered from secondary source such as financial statements and balance sheets of the selected banks over the period of 2010-2014 from National Bank of Ethiopia and websites of the banks. Data collected is about internal factors only. All data used in study are quantitative data. This study used cross sections of 14 banks for five years with total of 70 observations.

3.4 Method of Data Analysis

Descriptive analysis was done to show the means of the data. Correlation analysis was done so as to select the variables which entered in the econometrics model and also check for multicolliearity of the data. The model used balanced panel data and was estimated by use of the Fixed Effect Method so as to reduce autocorrelation and heteroscedasticity of the data.

Regression analysis is used to explain the total variation in dependent variable by breaking it into the explained variation due to explanatory variables included into the model and the residual variation. Balanced panel data about the determinants of profitability of commercial banks was analyzed using computer software. For this purpose the research used Eviews 8.1 to compute the data.

The basic estimation strategy involved was pooling the observations across the banking industry and estimating the determinants of bank profitability by means of regression analysis.

Panel regression analysis was done using the multiple linear regression model:

$$\pi_t = \beta_0 + \sum_{n=1}^{N} \beta_n X_{nt} + U_t \ldots\ldots\ldots\ldots\ldots\ldots \text{(Equation 1)}$$

π refers the dependent variable which is profit.

β refers to the value of parameter.

X refers independent variables

N is number of independent variables.

U_t = Error term

This study used the model as follows;

$$ROA_{jt} = \beta_{0+} \beta_1 ASSET_{jt} + \beta_2 LOAN_{jt} + \beta_3 NIEXPENSE_{jt} + \beta_4 NIINCOME_{jt} + \beta_5 DEPOSIT_{jt} + \beta_6 CAPITAL_{jt} + \beta_7 IINCOME_{jt} \ldots. \text{(Equation 2)}$$

Where,

ROA_{jt} is return on asset of j^{th} bank in time t which is proxy of indicating the profit of a given bank

$ASSET_{jt}$ is natural logarithm of total asset of j^{th} bank in time t

$LOAN_{jt}$ is total loan to total asset ratio of j^{th} bank in time t

$NIEXPENSE_{jt}$ is noninterest expense which is measured by total noninterest expense to total asset ratio of j^{th} bank in time t

$NIINCOME_{jt}$ is noninterest income which is measured by total noninterest income to total assets ratio j^{th} bank in time t

$DEPOSIT_{jt}$ is deposit to asset ratio of j^{th} bank in time t

$CAPITAL_{jt}$ is capital to asset ratio of j^{th} bank in time t

$IINCOME_{jt}$ is interest income to total asset ratio of j^{th} bank in time t

3.4.1 Variable Specification

This study used ROA which is calculated by dividing net income to total asset as a dependent variable. There are seven independent variables that affect profitability of the bank. These variables are specified as follows;

a. Bank size (ASSET) which is calculated as natural logarithm of Asset to reduce number effect and make consistent with other variables;
b. Loan (LOAN) which is calculated by dividing total loan to total asset;
c. Operating Expense (NIEXPENSE) which is calculated by dividing total operating expense to total;
d. Diversification (NIINCOME) which is calculated by dividing noninterest income to total asset;
e. Deposit (DEPOSIT) which is calculated by dividing total deposit by total asset;
f. Capital Adequacy (CAPITAL) which is calculated by dividing total capital to total asset and;

g. Interest Income (IINCOME) which is calculated by dividing interest income to total asset.

3.4.2 Model Specification

The researcher used the multiple regression models. Characteristics of the model and proposed variables are likely not to violet the classical assumption underlying the OLS model.

Model specification involved the determination of the dependent and explanatory variables which will be included in the model and the expectations about the sign and the size of the parameters of the function. Appropriate model for the study is selected by Hausman and Wald Tests.

There are three estimation procedures used in panel data sets: pooled OLS (common constant method), fixed-effects (FE), or random effects (RE) estimations. If the assumption holds that the unobservable individual bank-specific effects are not very different, pooled OLS estimations are the most simple and efficient method. The FE estimations allow for the unobservable bank heterogeneity. The FE allows for different constants for each bank. However, the use of a fixed-effects model will eliminate the time-invariant hidden bank features that affect profitability, and will make FE estimations less efficient than the RE estimation counterpart. Like the FE model, RE estimations take into consideration the unobservable bank heterogeneity effects, but incorporate these effects into the error terms, which are assumed to be uncorrelated with the explanatory variables. In the RE constants for each bank are taken as random parameters hence incorporated in the error term. However, the Hausman specification test (1978) guides the choice of the appropriate Panel data model either fixed affects method or Random effects model.

Hausman Test

Null: Random effect Model is appropriate

Alt: Fixed effect Model is appropriate

Table 3.1 Hausman Test

Correlated Random Effects - Hausman Test
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	16.162647	7	0.0237

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
ASSET	0.003583	0.002396	0.000001	0.1755
CAPITAL	0.022867	0.023117	0.000017	0.9516
DEPOSIT	0.008043	0.004108	0.000006	0.1157
IINCOME	0.330317	0.372042	0.001575	0.2930
LOAN	0.029622	0.024416	0.000009	0.0775
NIEXPENSE	-0.857679	-0.825419	0.000242	0.0381
NIINCOME	0.692197	0.661160	0.000168	0.0167

Source: Eviews 8.1 output 2015

The research cannot accept null hypothesis instead alternative hypothesis accepted because p value is less than 5%. Therefore, appropriate model for the study is Fixed Effect Model.

Before assessing the validity of the fixed effects method, the researcher applied tests to check whether fixed effects (i.e. different constants for each group) should indeed in the model. To do this the F-test is used to check fixed effects against simple common constant OLS method. The null hypothesis is that all constants are the same (homogeneity), and that therefore the common constant method is applicable.

Null Hypothesis: C(2)=C(3)=C(4)=C(5)=C(6)=C(7)=C(8)

Table 3.2 Wald Test

Wald Test:

Test Statistic	Value	df	Probability
F-statistic	71.72632	(6, 49)	0.0000
Chi-square	430.3579	6	0.0000

Source: Eviews 8.1 output 2015

Since P value is less than 5%, null hypothesis is rejected. Fixed effect model is an appropriate model than common constant OLS method.

Therefore, Fixed Effect Model is appropriate model than both common constant OLS method and Random Effect Model.

CHAPTER FOUR: RESULTS AND DISCUSSION

4.1 Results of the Study

This section deals with the results of research paper like descriptive analysis, correlation analysis and regression analysis.

4.1.1 Descriptive Analysis

Conducting descriptive analysis before undertaking regression analysis helps to show much about the relationships between dependent and independent variables. Table 4.1 shows the descriptive analysis of the 14 commercial banks operating in Ethiopia. This analysis includes mean, minimum, maximum and standard deviation. The value of the mean reports the arithmetical average of the variables which are included in the study. The minimum and maximum values indicate the lower and the highest value of the variable. The standard deviation exhibits how much variation or dispersion exists from the mean. A low standard deviation indicates that the data points are inclined to be extremely close to the mean; while high values of standard deviation (SD) indicates that the data set is broaden out over a large range of values. The descriptive analysis that would be carried out in this section mainly depends on summary statistics presented below.

Table 4.1: Descriptive analysis of the dependant variable (ROA) and all the independent variables

	ASSET	CAPITAL	DEPOSIT	IINCOME	LOAN	NIEXPENSE	NIINCOME	ROA
Mean	8.682	0.141	0.741	0.045	0.418	0.030	0.043	0.028
Maximum	12.400	0.352	0.844	0.069	0.553	0.056	0.097	0.053
Minimum	5.939	0.020	0.500	0.014	0.293	0.012	0.006	0.016
Std. Dev.	1.275	0.056	0.063	0.013	0.056	0.008	0.017	0.010
Observations	70	70	70	70	70	70	70	70

As stated in the above table, mean of ROA is 0.028 for the commercial banks for the study period undertaken. This is to mean that an average amount of profit obtained from one birr investment is 2.80 cents. Therefore, 2.8% of profit is obtained by investment.

Minimum value is 0.016 and 0.053 is the maximum value in the data set. This means, the most profitable bank of sample banks earned 5.3 cents of net income from one birr investment in asset. This shows 5.3% of net income for most profitable bank comes from investment. The least profitable bank in the study earned net income of 1.60 cents from one birr investment. On the other hand, 1.6% of net income for the least profitable bank in the study comes from investment. The data set has the standard deviation of 0.010 which is low and indicates that there is very low variation in the data set and more close to the mean.

Regarding the explanatory variables of the model there are some statistics that have to be mentioned. The mean of capital adequacy which the ratio of equity to total asset is 0.141 for the commercial banks for the study period undertaken. This indicates 14.10% of the total asset is capital for sampled banks. Minimum value is 0.020 and 0.352 is the maximum value in the data set. For the least capitalized bank from total asset, only 2% is capital. For highest capitalized bank in the sample, 35% of the total asset is its capital. The data set has the standard deviation of 0.056 which is low and also close to mean value. Achieving high level of the capital adequacy ratio is the sign of having more capital to hedge against the risk.

Output of the descriptive statistics indicates in table 4.1 that the mean value of deposits which is ratio of total deposit to total asset equal to 0.741. This is to mean that on average 74% of total asset of a bank is deposit. On the other hand, deposits of the bank with lowest deposit to asset ratio equal to 0.500 and a bank with highest deposit to asset ratio is 0.844 over the study period and given data set. The research data set of deposits has experienced standard deviation equal to 0.063 which is not closely to mean value in given data set which shows banks highly vary with deposit to asset ratio.

The observation of interest income of the commercial banks has showed the mean for the given data set is 0.045. This is to mean that a unit birr asset is generating 4.5 cents of interest income. On the other hand, this study shows the minimum value equal to 0.014 and 0.069 is maximum value over the study period and given data set. Data set of interest

income has experienced standard deviation equal to 0.013 which closer to the mean value. This indicated that there is lower variation in average interest to asset ratio of sample banks.

It is clear cut from the above table that loan have the mean of 0.418. This indicates that average of loan to asset ratio in banks under study is 41.8%. Minimum value of the loan is 0.293 and 0.553 is the maximum value of the given data set. This indicates bank with lowest and highest loan to asset ratio, loan comprises 29.3% and 55% from total assets respectively. The data set has showed the standard deviation equal to 0.056. This implies that there is higher variation in total loan to total asset ratio in the sample banks.

Noninterest expense has showed the values of mean equal to 0.030. 0.056 is the maximum value in the given data set and 0.012 is the minimum value in the study period undertaken. Standard deviation has registered the value equal to 0.008.

Noninterest income of the commercial banks has showed the mean and median for the given data set 0.043 and 0.039 respectively. It shows the minimum value equal to 0.006 and 0.097 is maximum value over the study period and given data set. My data set of noninterest income has experienced standard deviation equal to 0.017.

4.1.2 Correlation analysis

Correlation analysis was used in this study to find out the relationship between variables.

Table 4.2: The Correlation coefficients among the variables

Birr in millions

	ASSET	CAPITAL	DEPOSIT	IINCOME	LOAN	NIEXPENSE	NIINCOME	ROA
ASSET	1.000							
CAPITAL	0.693	1.000						
DEPOSIT	0.396	-0.543	1.000					
IINCOME	0.189	0.009	0.479	1.000				
LOAN	0.038	0.160	0.228	0.595	1.000			
NIEXPENSE	0.590	0.490	-0.227	0.241	0.149	1.000		
NIINCOME	0.159	-0.054	0.060	0.094	0.003	0.315	1.000	
ROA	0.326	-0.233	0.278	0.367	0.159	-0.143	0.636	1.000

From the correlation coefficients presented in the Table above, there is no serious multicollinearity among the variables. Profitability of the sample banks are strongly associated (0.64) with their noninterest income and moderately correlated with the rest of the independent variables.

Bank size (asset), interest income, loan and deposit have the positive relationship with return on assets, capital adequacy and noninterest expense have negative correlation with return on assets. And on the other hand, noninterest income has strong positive relationship with the return on assets.

4.1.3 Stationarity Test

This study used common unit root process method in order to test stationarity of the series. Levin, Lin & Chu t* method is used to test hypothesis.

Panel unit root test: Summary

H_o= series contains a unit root

H_1= series is stationary

1. ROA

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-10.0053	0.0000	14	56

Because P value (0.00) is less than 5%, H_o rejected. Therefore, the series is stationary.

2. ASSET

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-12.1001	0.0000	14	56

Because P value (0.00) is less than 5%, H_o rejected. Therefore, the series is stationary.

3. CAPITAL

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-22.1662	0.0000	14	56

Because P value (0.00) is less than 5%, H_o rejected. Therefore, the series is stationary.

4. DEPOSIT

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-12.5881	0.0000	14	56

Because P value (0.00) is less than 5%, H_o rejected. Therefore, the series is stationary.

5. IINCOME

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-3.08928	0.0010	14	56

Because P value (0.00) is less than 5%, H_o rejected. Therefore, the series is stationary.

6. LOAN

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-4.77634	0.0000	14	56

Because P value (0.00) is less than 5%, H_o rejected. Therefore, the series is stationary.

7. NIEXPENSE

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-2.19477	0.0141	14	42

Because P value (0.014) is less than 5%, H_o rejected. Therefore, the series is stationary.

8. NIINCOME

Method	Statistic	Prob.**	Cross-sections	Obs

Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-3.23872	0.0006	14	56

Because P value (0.014) is less than 5%, H_o rejected. Therefore, the series is stationary.

All variables are stationary.

4.1.4 REGRESSION ANALYSIS

This section presents the empirical findings from the econometric results on the determinants of profitability of commercial banks in Ethiopia. The section covers the empirical regression model used in this study and results of the regression analysis.

$$ROA_{jt} = \beta_{0+} \beta_1 ASSET_{jt} + \beta_2 LOAN_{jt} + \beta_3 NIEXPENSE_{jt} + \beta_4 NIINCOME_{jt} + \beta_5 DEPOSIT_{jt} + \beta_6 CAPITAL_{jt} + \beta_7 IINCOME_{jt}$$

Dependent Variable: ROA

Method: Panel Least Squares

Periods included: 5

Cross-sections included: 14

Total panel (balanced) observations: 70

Table 4.3: Regression Analysis

Birr in millions

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.043348	0.014780	-2.932802	0.0051
ASSET	0.003583	0.001286	2.786013	0.0076
CAPITAL	0.022867	0.015066	1.517746	0.1355
DEPOSIT	0.008043	0.010478	0.767554	0.4464
IINCOME	0.330317	0.071959	4.590375	0.0000
LOAN	0.029622	0.009429	3.141553	0.0028
NIEXPENSE	-0.857679	0.073545	-11.66198	0.0000
NIINCOME	0.692197	0.037859	18.28348	0.0000

Effects Specification			
Cross-section fixed (dummy variables)			
R-squared	0.958469	Mean dependent var	0.028154
Adjusted R-squared	0.941518	S.D. dependent var	0.010367

S.E. of regression	0.002507	Akaike info criterion	-8.896013
Sum squared resid	0.000308	Schwarz criterion	-8.221465
Log likelihood	332.3605	Hannan-Quinn criter.	-8.628074
F-statistic	56.54265	Durbin-Watson stat	1.998007
Prob(F-statistic)	0.000000		

The model for the bank's profitability is selected on the basis of Hausman Test. By using Fixed Effect Model, above mentioned table 4.3 represents the result of regression analysis. The value of R-Squared is 0.95 in the model which shows that 95% variation in the dependant variable or ROA is described by the independent variables of the model and 5% variation is not explained by the independent variables or internal factors. The value of F- statistic 56.54 and is significant supporting the model relevant to the study. The value of Durbin Watson is 1.99 which shows that there is no autocorrelation in residuals.

The empirical model used in the study used for the study in order to analyze determinants of the profitability of the banks is as follows;

ROA = -0.0433481384274 + 0.00358265141709*ASSET + 0.0228667842034*CAPITAL + 0.00804260910875*DEPOSIT + 0.330317461703*IINCOME + 0.0296221203209*LOAN - 0.85767915705*NIEXPENSE + 0.692197172337*NIINCOME + [CX=F]

4.1.5 SUMMARY OF HYPOTHESIS

The regression analysis from Table 4.3 is used to test the hypothesis.

The study has developed following hypothesis

Table 4.4: The Hypotheses Summary

Hypothesis	Test
1. There is significant positive relationship between bank size and profitability of commercial banks.	Accepted
2. There is significant positive relationship between deposit and commercial banks profitability.	Rejected
3. There is significant positive relationship between loan and profitability of the banks.	Accepted
4. Capital Adequacy has significant positive effects on profitability of commercial banks.	Rejected
5. There is significant negative relationship between Operating Expense and commercial banks profitability.	Accepted
6. There is significant positive relationship between Diversification and profitability of commercial banks.	Accepted
7. Interest income has significant positive impact on profitability of commercial banks.	Accepted

As expected bank size, loan, diversification and interest income affects banks profitability positively. As it was expected operating expense and bank profit are negatively associated.

4.2 Discussion of the study

Following the result obtained from the regression analysis as depicted in the above table 4.3 the next section tries to present the analysis with respect to each profit determinant.

A. Size of bank

Size of the bank shows the natural logarithm of total assets and demonstrates significant positive relationship with the profitability of commercial banks which means that the size of banks affects profitability for the commercial banks positively. According to the study by Susan(2014) bank size which is measured by natural log of total assets has positive significant effect on profit of Kenyan top six commercial banks. According to study by Sehrish et al(2011) bank size have significant positive relation with ROA, where total

assets indicate the size of the bank. This positive relationship shows that the size of the bank have significant positive impact on profitability. It suggests that larger banks achieve a higher ROA. Therefore, this study has the same result with these studies.

B. Capital

The explanatory variable capital is measured by the ratio of capital to total asset. Coefficient of the capital is positive and it is statistically insignificant determinant of profitability.

Capital of the commercial banks establishes the insignificant positive relationship with dependant variable which means banks with capitalization insignificantly affects profitability of commercial banks. Goddard et al. (2004) has showed the same result.

C. Deposit

Total deposits are the part of the study and have been used as independent variable in the research. This variable is measured by ratio of total deposit to total asset. Banks use deposit to make loan. Holding higher deposit is not making banks to more profitable. Because by their own deposits are costs to banks by paying interest expense, they do not make the banks profitable. It depicts the insignificant positive relationship in the research. The same result has been showed by the Alkassim (2005) and Ani et al., 2012.

D. Interest Income

This variable is explained in the model as a ratio of interest income to total asset. It is a primary source of income for the banks because banks make loan and receive interest income. According to the study when the interest income is higher, profitability is higher. Havrylchyk et al.(2006) found a positive and direct relationship between interest income and profits of banks. It implies that a more efficient bank should have higher profits since it is able to maximize on its net interest income. As expected interest income has positive effect on profitability of commercial banks. This result is consistent with the study of Havrylchyk et al.(2006).

E. Loan

Variable loan is explained by ratio of loan to total asset as expected it has positive and significant effect on ROA at 5% level. The finding suggests that loan is one of the main income sources for the bank from interest income. Banks are intermediaries between lenders and borrowers and the more the deposit that are transformed into bank

performance, the higher the level of profit will be. Therefore, it is expected to have a positive relationship with profitability. This indicates that with more loans the chances of return on assets will be high. This result is consistent with the study of Athanasoglou et al. (2006).

F. Noninterest Expense

Consistent with expectation the result suggests that noninterest expense has the negative significant relationship with the ROA. This negative relationship shows that when the noninterest expense ratio increases profitability of the commercial banks decreases. According to the study by Susan(2014) increases in bank operation expenses reduce bank profitability of the top Kenyan banks in the period 2008-2013. Negative relationship has been supported by various studies like Bourke (1989), Jiang et al (2003), Obamuyi (2013), suggesting that profitable banks operate at lower costs. . The results for this paper, implies that poor expenses management explains the poor performance of commercial banks in Ethiopia. Managing expenses well will improve the performance of the banks. Bank operation expenses significantly reduce bank profits. This suggests that there is possibility for these commercial banks to increase their profits by putting more effort on proper costs control and operating efficiency. This can be achieved by finding ways of optimal utilization of bank resources during production of banking products and services. Commercial banks need to invest on efficient management and in technologies that reduce costs of operations in order to enhance their performance.

G. Diversification

Diversification (noninterest income) is another determinant of profits of the commercial banks in the period 2010 to 2014. The ratio of noninterest income to total asset which is a measure of diversification and business mix has a positive effect on profitability. As expected it has significant positive effect on ROA. This could be an attribute to the fact that the banks are undergoing a gradual transformation away from the traditional business of deposit and lending, financial intermediation and towards provision of other financial services including foreign currency, brokage, guarantee service, and modern money transfer system.

This result is consistent that concludes Dietrich and Wanzenried (2011) found a positive association between the degree of diversification and bank performance.

CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary of Finding

The findings revealed that bank size, bank operation expenses, loan, interest income, and non interest income are the major significant determinants of the profitability of commercial banks of Ethiopia. According to this study, bank size, loan, interest income, and non interest income have significant positive effect on profitability of the banks but operating expense has significant and the negative effect. On the other hand, deposit and capital are insignificant determinants of the profitability.

All the variables except capital and deposit are significant at the 1% level in the regression with the predictions. This significance suggests that the bank size, capital adequacy, deposit, interest income, loan, noninterest expense, and noninterest income are important in jointly determining the profitability of commercial banks.

5.2 Conclusions

The empirical findings of the determinants of profitability of commercial banks in Ethiopia for the sample suggests following conclusions.

The main purpose of this study was to find out the most important internal factors that affecting the profitability commercial banks in Ethiopia 2010 to 2014. The necessary data was collected from secondary sources. Financial ratios were calculated and statistical tools including; (percentages, averages, the natural logarithm, correlation, descriptive analysis of variance and regression analysis) were utilized in testing the hypotheses and to measure the differences and similarities between the banks according to their different characteristics. As a result, this paper investigated the effects of internal determinants of profitability on commercial banks of Ethiopia over the period 2010 to 2014. The study used secondary balanced panel data obtained from the National Bank of Ethiopia and websites of the banks. The regression analysis was done using the Panel Least Squares.

Bank size has positive and highly significant effect on profitability of the banks. This positive relationship is suggesting that larger banks are earning higher profit through economies of scale. The commercial banks are still benefiting from economies of scale.

From this result the researcher concludes that banks that have higher size or asset can generate more profit than banks with smaller size or assets. Therefore, size of bank is an important factor in determining profitability of commercial banks.

This study found significant positive effect of noninterest income on profitability of commercial banks. This indicates that these banks in addition to business of deposit and lending they are focusing on provision of other financial services. From this result the researcher concludes that banks that focus on noninterest income are earning higher profit than that focus on only interest income. Therefore, noninterest income is an important determinant of profitability of commercial banks.

Noninterest expense has significant negative effect on profitability of commercial banks in Ethiopia. According to the result, best performing banks are that have lowest noninterest expense to asset. Decreasing the ratio of noninterest (operational) expense to asset is decreasing costs and increasing profitability. The researcher concludes that banks that lower noninterest expense earns higher profit than that do not. Therefore, noninterest expense is among major determinants of the profitability of banks. Noninterest expense significantly determines performance of the commercial banks. This suggests that there is possibility for these commercial banks to increase their profits by putting more effort on proper costs control and operating efficiency. This can be achieved by finding ways of optimal utilization of bank resources during production of banking products and services.

Deposit which is measured by total deposit to total asset ratio has insignificant positive effect on profitability of commercial banks. This is not an important determinant of profitability of the banks. Banks pay interest to saving deposit and current (demand) deposit are very volatile although they use deposit to make loan.

Capital which is measured by total capital to total asset positively affects profitability of commercial banks but it is insignificant. Hence, capital is not determining profitability of the banks.

Loan has significant positive effect on ROA. Therefore, it is concluded that loan and advances are largest segments of interest bearing assets and that enables banks to generate more profit through interest income.

However, further research is needed to clear the grey areas especially over a longer period of time.

5.3 Implications

This study was intended to find determinants of profitability of commercial banks in Ethiopia by using data period from 2010 to 2014. As a result, the study identified determinants that have potential of affecting profit of the banks. Implications of the study are summarized as following;

As the study has identified bank size has positive significant effect on ROA at level of 1%. This implies that banks that have higher asset are enjoying better profit. Loan is another determinant of profitability of profitability of the banks. This implies that by increasing loan, banks can increase their profit with interest income. Noninterest income is mainly affecting profit of the banks. Banks with better noninterest income can have better profit than the banks with lower noninterest income. Operational expense is highly affecting profitability of commercial banks. Banks that could manage their operational expense were earning better profit. But deposit and capital have no significant effect on profitability of banks.

5.4 Recommendations

Since bank size is among main determinants of profitability, they need to increase asset as this has potential of increasing their performance. Size of the bank is measured by assets the banks have. Since increasing bank assets increases the profitability of banks, they have to increase both their liability and capital.

The results also confirmed that improvement in interest income of commercial banks leads to higher profits. Banks are recommended to increase their interest income by providing loan and improving loan collection mechanisms such as lending for feasible projects and holding collateral.

The study confirms that noninterest income sources can be among main determinants of profitability of banks, they should improve and diversify their noninterest income sources such as money transfer, guarantee serves, letter of credit, currency exchange and other service charge and commission collection methods.

Commercial banks need to invest on efficient management and in technologies that reduce costs of operations in order to enhance their performance.

Loan is significantly affecting profitability of the banks. They need to increase loan to their customers as this has potential of increasing their performance.

Since deposit and capital are insignificant determinants of profitability banks have not to cost too much to increase them.

Bibliography

1. A.M.Bashir, Determinant of Profitability in Islamic Banks: Some Evidence from the Middle East, *Islamic Economic Studies*, **11**(1) (2003), 31-57.
2. Abuzar M.A. (2013). Internal and external determinants of profitability of Islamic banks in Sudan: evidence from panel data, Afro-Asian J. of Finance and Accounting, 2013 Vol.3, No.3, pp.222 – 240.
3. Abreu M. and V. Mendes. 2002. "Commercial bank interest margins and profitability: evidence from E.U countries", *Porto Working paper series*.
4. Alkassim FA (2005). "The profitability of Islamic and conventional banking in the GCC countries: A comparative study.
5. Ani, W. U., Ugwunta, D. O., Ezeudu, I. J. and Ugwuanyi, G. O.(2012). An empirical assessment of the determinants of bank profitability in Nigeria: Bank characteristics panel evidence. Journal of Accounting and Taxation Vol. 4(3), pp. 38-43, December, 2012
6. Athanasoglou PP, Delis MD, Staikouras CK (2006). "Determinants of Bank Profitability in the South Eastern European Region" Munich Personal RePEc Archive MPRA Paper No. 10274, http://mpra.ub.unimuenchen. de/10274. Accessed 25/09/11.
7. Athanasoglou, P., Brissimis, S., Delis, M (2008). Bank-Specific, Industry-Specific and Macroeconomic determinants of bank profitability. Journal of International Financial Markets, Institutions and Money, 18(2), 121-136.
8. Badi H. Baltagi, *Econometrics*, Springer-Verlag, New York, 1998, p. 111
9. Barros,C., Ferreira, C., and Williams, J. (2007). Analyzing the determinants of performance of best and Worst European banks: A mixed logit approach. Journal of Banking & Finance 31, 2189-2203.
10. Bashir A. 2000. "Assessing the Performance of Islamic Banks: Some Evidence from the Middle East", Paper presented at the ERF 8th meeting in Jordan.
11. Ben Naceur S. and M. Goaied. 2001. "The determinants of the Tunisian deposit banks' performance", *Applied Financial Economics*, Vol.11:317-19.

12. Berger, A. N. (1995). The Profit-Structure Relationship in Banking Tests of Market-Power and Efficient-Structure Hypotheses. Journal of Money, Credit, and Banking, Vol. 27, No. 2, pp: 404-431
13. Berger A. 1995. "The relationship between capital and earnings in banking", *Journal of Money, Credit and Banking*, Vol.27:404-31.
14. Bourke P (1989). 'Concentration and Other Determinants of Bank Profitability in Europe, North America, and Australia', J. Bank. Financ.13(1):65-79.
15. Boyd JH, Runkle DE (1993). "Size and Performance of Banking Firms.Testing the Predictions of Theory," J. Monet. Econ. 31:47-67.
16. Demerguç-Kunt A and H. Huizinga. 2001 "Financial Structure and Bank Profitability" in *Financial Structure and Economic Growth: A Cross-Country Comparison of Banks, Markets, and Development*, Eds. Asli Demirguc-Kunt and Ross Levine. Cambridge, MA: MIT Press,
17. Demirgüç-Kunt, A., R. Levine, et al. (1998). Opening to Foreign Banks: Issues of Stability, Efficiency,and Growth. Central Bank of Korea Conference on the Implications of Globalization of World Financial Markets, Seoul, Korea, Central Bank of Korea 2001.
18. Dietrich, A., and Wanzenried, G. (2011). Determinants of bank profitability before and during the crisis: Evidence from Switzerland. Journal of International finance markets, institutions money. Doi: 0.1016.
19. Dimitirios A. and Stafen G, (2007). Applied Econpmetrics. Palgrave MacMillan.
20. Flamini, Valentina, McDonald, Calvin A. and Schumacher, Liliana B., (2009), 'The Determinants of Commercial Bank Profitability in Sub-Saharan Africa', IMF Working Papers, pp. 1-30.
21. Goddard J, Molyneux P, Wilson JOS (2004). "The Profitability of European Banks: A Cross-Sectional and Dynamic Panel Analysis" The Manchester School 72(3):363-381.
22. Gul S, Irshad F, Zaman K (2011). Factors Affecting Bank Profitability in Pakistan, Romanian Econ. J. 14(39):61-87.

23. Guru B., J. Staunton and Balashanmugam. 2002. "Determinants of commercial bank profitability in Malaysia", *University Multimedia working papers*.
24. Havrylchyk, Olena and Emilia Jurzyk (2006). Profitability of foreign banks in Central and Eastern Europe: Does the entry mode matter?, Bank of Finland, BOFIT Discussion Papers 5.
25. Hausman, J. A and W. Taylor (1981). Panel data and unobserved individual effects. Econometrica, 49 (6), 1377-1398
26. I.Z.Ramadan, A.Q Kilani and T.A.Kaddumi, Determinants of Bank Profitability: Evidence from Jordan, *International Journal of Academic Research*, **3**(4) (2011), 180-191.
27. Imad Ramadan Z, Qais Kilani A, Thair Kaddumi A (2011). Determinants of Bank Profitability: Evidence from Jordan, Int. J. Acad. Res. 3(4):180-191.
28. J.W.Scott, and J.C Arias, Banking Profitability Determinants, *Business Intelligence Journal*, **4**(2) (2011), 209-230.
29. Javaid, S., Anwar, J., Zaman, K and Gaffor, A. (2011). Determinants of Bank Profitability in Pakistan: Internal Factor Analysis, Mediterranean Journal of Social Sciences, 2(1): 59-78.
30. Javaid S, Anwar J, Zaman K, Ghafoor A (2011). Determinants of Bank Profitability in Pakistan: Internal Factor Analysis, J. Yasar Univ. 23(6):3794-3804.
31. M.A.Eljelly, Internal and external determinants of profitability of Islamic banks in Sudan: evidence from panel data, *Afro-Asian Journal of Finance and Accounting* **3**(3) (2013), 222-240.
32. Miller, S.M. and A.G. Noulas (1997). Portfolio Mix and Large-bank Profitability in the USA, Applied Economics, 29 (4), pp. 505-512.
33. Molyneux P, Thorton J (1992). "Determinants of European Bank Profitability; A Note" J. Bank. Financ. 16:1173-1178.
34. Molyneux, P. and W. Forbes (1995). Market Structure and Performance in European Banking., Applied Economics 27(2): 155-159
35. Naceur SB (2003). 'The Determinants of the Tunisian Banking Industry Profitability: Panel Evidence,' Universite Libre de Tunis Working Papers.

36. Naceur SB, Goaied M (2001). "The Determinants of Commercial Bank Interest Margin and Profitability: Evidence from Tunisia" Working paper 856365 htpp://www.papers.ssrn.com/sol3/papers.cfm. Accessed 25/9/11.
37. Nsambu K.F.(2014) . Factors affecting performance of commercial Banks in Uganda: a case for domestic commercial banks. Proceedings of 25th international Business Research Conference 13-14 Jan , 2014 .
38. Obamuyi, T. M. (2013). Determinants of bank`s profitability In developing economy: Evidence from Nigeria. Organizations and markets in emerging economies, vol 4 no 2(8) 97-111.
39. S.Gul, F.Irshad, and K. Zaman, Factors Affecting Bank Profitability in Pakistan, *The Romanian Economic Journal*. No. 39 (2011), 61-87.
40. S.Haron, Determinants of Islamic Bank Profitability, *Global Journal of Finance and Economics*, USA, **1**(1) (2004), 2-22.
41. S. Javaid, J. Zaman, and A.Gaffor, A, "Determinants of Bank Profitability in Pakistan: Internal Factor Analysis", *Mediterranean Journal of Social Sciences*, **2**(1) (2011), 59-78.
42. S.S.Bintawim, Performance Analysis of Islamic Banking: Some Evidence from Saudi Arabian Banking, *Ritsumeikan Asia Pacific University (APU)* (MBA Program), (2011), P.3
43. Scott JW, Arias JC (2011). "Banking Profitability Determinants" Bus. Intell. J. 4(2):209-230.
44. Sehrish Gul, Faiza Irshad and Khalid Zaman(2011) Factors Affecting Bank Profitability in Pakistan The Romanian Economic Journal
45. Sinkey, J. J.(1992). Commercial bank financial management in the financial services industry. N.Y: Macmillan Publishing Company.
46. Sufian, F. (2011). Profitability of the Korean Banking Sector: Panel Evidence on Bank-Specific and Macroeconomic Determinants, Journal of Economics and Management, 7(1):43-72.
47. Susan Moraa Onuonga(2014). The Analysis of Profitability of Kenya`s Top Six Commercial Banks: Internal Factor Analysis. *American International Journal of Social Science*

48. Syafri (2012). Factors Affecting Bank Profitability in Indonesia, The 2012 International Conference on Business and Management 6 – 7 September 2012, Phuket – Thailand.
49. Vong, P. I. and Chan, H. S., (2006), 'Determinants of Bank Profitability in Macau', Journal of Banking and Finance.
50. Wooldridge, J. M., (2003). Introductory Econometrics. A Modern Approach second ed. Michigan State University.
51. www.nbe.gov.et

Data Set									
Bank	Year	LOAN	ASSET	DEPOSIT	CAPITAL	IINCOME	NIINCOME	NIEXPENSE	IAT
CBE	2010	23,572.81	74,186.91	54,646.21	5,555.00	1,998.69	1,751.39	942.32	1,968.33
CBE	2011	35,099.26	114,264.93	84,798.54	6,261.55	2,964.33	2,912.68	1,639.42	2,862.98
CBE	2012	60,940.26	158,814.43	116,584.46	7,724.21	5,027.05	4,870.40	1,965.86	5,434.14
CBE	2013	69,674.77	197,104.24	152,386.03	9,045.23	7,162.98	4,425.57	2,786.34	6,106.91
CBE	2014	89,665.00	242,726.00	192,275.00	10,703.00	11,997.00	4,004.00	4,073.00	6,371.00
CBB	2010	1,748.78	3,161.66	2,354.39	320.22	100.19	105.04	74.33	91.63
CBB	2011	1,726.92	3,504.87	2,507.16	363.07	92.06	128.99	98.15	85.86
CBB	2012	1,803.23	5,946.60	3,517.18	478.89	83.00	229.00	150.00	115.00
CBB	2013	1,964.79	6,699.50	4,097.59	665.27	99.05	264.03	175.67	139.11
CBB	2014	3,126.30	7,838.80	5,076.50	731.20	268.10	323.70	323.10	97.70
DB	2010	5,048.84	12,353.38	10,144.55	1,123.35	482.66	481.67	257.89	324.04
DB	2011	6,217.54	14,659.79	11,841.24	1,396.40	603.68	678.51	327.04	450.66
DB	2012	8,123.81	17,520.04	14,065.60	1,827.89	897.73	827.63	421.86	652.02
DB	2013	8,862.32	19,747.17	15,851.26	2,045.70	1,020.76	796.05	513.98	606.79
DB	2014	9,429.63	21,962.20	17,681.34	2,597.62	1,140.82	1,355.40	614.25	1,063.71
AIB	2010	3,145.69	7,944.78	6,105.94	940.33	303.33	383.38	180.95	247.56
AIB	2011	3,986.46	10,115.78	7,743.78	1,308.19	394.71	532.84	213.01	360.63
AIB	2012	5,504.61	11,936.68	9,204.36	1,610.33	668.69	442.04	295.20	394.42
AIB	2013	7,710.00	14,858.82	12,545.21	2,011.14	890.19	598.46	474.03	507.56
AIB	2014	9,176.36	17,601.18	11,773.71	2,525.45	1,218.16	703.01	616.79	618.27
BOA	2010	3,153.24	6,279.54	5,138.85	585.49	261.88	207.07	145.30	140.58
BOA	2011	3,315.69	7,277.96	6,075.26	660.76	372.08	245.98	195.96	180.93
BOA	2012	3,897.41	8,239.51	6,771.46	906.59	497.49	225.59	226.05	216.32
BOA	2013	4,702.07	10,129.37	8,496.15	1,107.63	583.51	281.00	264.83	264.76
BOA	2014	5,061.01	11,276.39	9,096.48	1,528.97	734.20	450.80	345.30	270.71
WB	2010	2,473.87	5,741.93	3,922.80	1,051.72	247.25	318.09	172.07	223.34

WB	2011	2,910.05	8,061.05	5,957.48	1,337.33	314.85	500.08	256.60	323.28
WB	2012	3,565.67	8,347.15	5,758.18	1,604.13	441.66	408.49	252.03	336.25
WB	2013	4,690.14	10,393.80	7,550.66	1,830.42	585.45	365.70	325.84	343.32
WB	2014	4,604.42	11,242.58	8,384.48	2,144.21	659.99	408.78	438.05	304.90
UB	2010	2,613.61	5,896.23	4,724.85	637.55	251.01	406.36	158.69	174.45
UB	2011	3,276.96	7,725.62	6,065.82	901.36	338.88	485.71	163.17	231.83
UB	2012	4,085.38	8,786.86	6,757.51	1,101.71	518.65	632.93	226.43	297.86
UB	2013	4,710.76	9,977.67	8,063.47	1,201.15	601.59	658.81	352.87	213.74
UB	2014	4,996.57	11,765.83	8,909.07	239.35	716.23	763.23	400.76	278.18
LIB	2010	583.99	1,363.61	1,017.58	241.80	56.38	54.66	41.19	39.96
LIB	2011	676.33	1,808.11	1,297.37	352.92	75.77	65.25	52.08	43.75
LIB	2012	970.66	2,463.03	1,736.66	441.72	115.71	103.90	74.77	75.41
LIB	2013	1,318.06	2,942.43	2,105.86	541.94	168.96	128.08	90.54	111.41
LIB	2014	1,541.17	3,613.33	2,686.98	627.82	209.11	132.93	140.90	96.58
CBO	2010	721.77	1,768.32	1,371.81	189.00	74.92	53.58	65.04	25.10
CBO	2011	801.90	2,500.59	1,980.41	245.83	94.94	97.36	80.99	47.27
CBO	2012	1,383.51	3,670.73	2,797.54	417.21	172.05	131.94	104.97	102.02
CBO	2013	2,116.06	6,538.72	4,465.04	695.99	239.67	300.89	189.35	204.47
CBO	2014	3,644.00	7,350.70	5,450.00	1,090.37	422.29	459.63	305.40	343.80
NIB	2010	2,546.14	5,970.51	4,127.19	916.51	266.28	290.22	181.56	200.89
NIB	2011	2,766.52	7,111.52	5,157.40	1,170.65	332.86	323.79	193.16	246.43
NIB	2012	3,708.90	8,275.70	5,838.13	1,527.95	433.65	325.78	218.04	286.23
NIB	2013	4,542.99	9,144.54	6,655.21	1,665.93	570.52	280.67	274.56	299.37
NIB	2014	5,407.74	10,747.28	7,923.29	1,964.36	570.52	280.67	275.56	297.37
ZB	2010	383.92	1,055.62	688.02	158.59	31.24	102.76	42.05	50.99
ZB	2011	645.23	1,613.42	1,162.56	240.71	60.64	157.03	55.47	84.71
ZB	2012	1,012.69	2,394.24	1,792.88	280.60	102.83	163.78	77.18	86.37
ZB	2013	1,369.65	3,248.47	2,505.53	493.49	150.11	254.94	180.71	94.15
ZB	2014	1,429.96	3,924.77	3,030.87	656.59	205.43	249.82	120.31	183.88
OIB	2010	368.99	1,118.57	820.93	212.01	30.38	49.88	43.52	19.23

OIB	2011	661.74	1,961.94	1,526.32	296.02	62.08	91.06	63.88	44.46
OIB	2012	1,019.60	2,787.39	2,117.30	437.68	122.43	106.90	108.77	49.52
OIB	2013	1,621.23	3,911.23	3,050.44	547.60	195.84	137.62	178.16	66.93
OIB	2014	2,531.61	6,151.66	5,004.00	748.52	326.60	218.85	238.59	153.87
BUIB	2010	192.26	480.11	240.26	169.10	8.43	11.50	17.98	0.05
BUIB	2011	366.26	781.00	491.32	232.43	34.07	39.43	33.60	19.47
BUIB	2012	651.94	1,365.03	903.31	287.01	63.16	46.94	47.61	27.84
BUIB	2013	949.43	2,128.45	1,547.61	374.29	120.92	50.70	64.55	46.22
BUIB	2014	1,343.30	3,011.94	2,151.59	516.76	180.56	115.58	133.12	79.96
BIB	2010	153.19	379.52	238.01	102.36	5.85	2.42	12.44	- 6.00
BIB	2011	331.82	913.80	694.26	149.94	34.10	33.13	23.50	21.22
BIB	2012	499.55	1,285.03	931.73	236.14	57.82	51.50	34.57	33.62
BIB	2013	978.90	2,197.31	1,593.13	381.55	87.07	55.29	50.19	52.97
BIB	2014	1,184.70	2,813.46	2,011.80	554.44	167.76	86.37	116.16	45.01

Source: NBE 2015