Performance of Commercial Banks of Ethiopia and Global Financial Crisis

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This is to certify that the thesis prepared by Minyahil Assefa, entitled: The performance of commercial banks of Ethiopia and the impact of global financial crisis and submitted in partial fulfillment of the requirements for the Degree of Master of Accounting and Finance complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Statement of Declaration

I, Minyahil Assefa, have carried out independently a research work on the topic entitled "The performance of commercial banks of Ethiopia and the impact of global financial crisis" in partial fulfillment of the requirement of the MSc program in Accounting and Finance with the guidance and support of the research advisor. This study is my own work that has not been submitted for any degree or diploma program in this or any other institutions.

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May 2013

Abstract

Performance of Commercial banks of Ethiopia and the Impact of Global Financial crisis.

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Addis Ababa University, 2013

Commercial banks play a vital role in the economic resource allocation of countries. Investigating the performance of banks has been one of the more popular topics among researchers in banking studies. Hence, to contribute to the existing knowledge in Ethiopia, this study sought to analyze the performance of Commercial banks of Ethiopia and the impact of Global Financial crisis, using a sample of seven commercial banks over the period 2004/5-2010/11. The financial performance of the banks measured using basically CAMEL.. The study found that, during the study period, the performance of Commercial banks in Ethiopia mainly changes in accordance with NBE directives. The directives imposed at different time affected all components of CAMEL negatively or positively. However, regardless the tight monitory directives of NBE their performance had been improved. During the financial crisis shortage offoreign exchange earnings significantly reduced commercial banks of Ethiopia ability to meet the foreign exchange needs of their importing clients adequately. Also interest income from foreign deposit significantly decreased during the financial crisis. On the other hand, higher gains in foreign exchange dealings than usual by scoring 6% growth. Total revenue from international activities and return on asset growth decreased by 39% and 16% respectively. Also deposit in foreign banks slightly increased by 2%. However these were not statistically significant.

Keywords: Financial Performance, CAMEL model, Global Financial Crisis

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List of Acronyms and Abbreviations

AFDL	Allowance for doubtful loans
AHP	Analytical Hierarchy Process
CAMEL	Capital adequacy, Asset quality, Managements efficiency and Liquidity
CBE	Commercial Banks of Ethiopia
CBsE	Commercial Banks of Ethiopia
CDOs	Collateralized Debt Obligations
CDS	Credit Default Swaps
CEE	Central and Eastern Europe
CIS	Commonwealth of Independent States
DD	Demand Deposits
DEA	Data Envelopment Analysis
EBT	Earnings before
FD	Deposit in Foreign Banks
FDI	Foreign Direct Investment
FDIC	Federal Deposit Insurance Corporation
GDP	Gross Domestic Product
GFCTE	Gain from Foreign Currency Translation & Exchanges
IBA	International Banking Activities
II	Interest Income
IIFD	Interest Income from Foreign Deposit (IIFD)
LA	Liquid Assets
LI	Loan for Importers
M&As	Mergers and Acquisition
NBE	National Bank of Ethiopia
No.em	Number of Employee
NPLs	Non-Performing Loans
OCC	Office of the Comptroller of the Currency
ROA	Return On Asset
ROA	Return On Assets
ROE	Return On Equity ROE
RWA	Risk-Weighted Asset
SP	Spread
SSA	Sub-Saharan Africa
TA	Total Assets
TAd.	Total advanced
TC	Total Capital
TD	Total Debt
TD	Total Deposit
TI	Total Investment
TR	Total Revenue
TRIA	Total Revenue from International Activities

Chapter one

1. Introduction

1.1 Background of the study

Banks serve as back bone to the economic growth of countries, which facilitate the proper utilization of financial resources by intermediating deficit and surplus unites.

As of Dang (2011) banks are not simply involved in financial intermediation activities; rather they are rapidly innovating industry that urges them to create more specialized financial services to their customers.

Sound financial health of a bank and its measurement is not guarantee only to its customers but it is equally significant for shareholders, employees and the whole economy as well. Also Ongore, V.O. (2013) declared that good financial performance rewards the shareholders for their investment. This, in turn, encourages additional investment and brings about economic growth. On the other hand, poor banking performance can lead to banking failure and crisis which have negative repercussions on the economic growth.

The financial system, banks in particular, are exposed to a variety of risks that are growing more complex now a days. The economic down turn of 2007 which was resulted in banks failure are triggered in United States of America and then spread out widely around the world.

As a sequel to this, maximum efforts have been made from time to time, to measure the financial position of banks around the whole worlds using different methods (for example

Kouser, 2012; Reddy, 2012; Ashamu, 2012; Prasad;Webb, 2003; Tarawneh, 2006; Kiyota, 2009; Samad, 2004)

However, even if there are several researches in the area of banks performance evaluation in other countries, as to the extent of the researcher knowledge; in Ethiopia the studies in this area are scanty. It is against these conditions that the present study undertaken to fill up this gap.

1.2 Statement of the Problem

Sound financial health of a bank and its financial performance analysis are a guarantee to its creditors, managers, shareholders, depositors, employees and to the economy at large.

Creditors can use analysis of financial performance whether to agree on the terms and conditions of debt finance. Managers can use the analysis to assess and compare the performance of different divisions and the company as a whole. They have the chance to compare their company against competitors. Shareholders use analysis of financial performance to assist them to make buy and sell decisions, compare the performance of their investments with that of similar companies, and to assess the quality of managers. Depositors and employees at least need to know the liquidity and profitability of the bank. Finally, the proper function of these interests and sound financial function results economic growth in the country.

Hence regulators and other concerned body mobilize their resources and put their effort to maintain and control the rampant interest of these integrated participants in the banking industry. Unless, once the system failed, the whole economy will collapse as the

economic down turn of 2007 which was resulted in banks failure in United States of America and then it spread out widely around the world.

The crisis although started as a result of events in America housing market, it has spread to all regions of the world with direct consequences on global trade, investment, remittances, exchange rates and growth

Adamu, (2009) state that around the world stock markets have fallen, large financial institutions have collapsed or been bought out, and even government in the wealthiest nation have had to come up with rescue packages to bail out their financial system

Ashamu (2012) declared that the impacts of this global financial crisis on Africa are both direct and indirect. The direct effect was felt mostly through the financial sector.

In Ethiopia, some scholars argue that Commercial banks of Ethiopia are not vulnerable for global financial crisis. They usually put the following two reasons. First, Commercial banks of Ethiopia are owned by state and domestic investors. Second, the country does not allow foreign banks to operate in the country.

However they are not totally guaranteed from risks in international financial crisis. Because, today the banks are aggressively involve in international banking activities and strongly linked with foreign banks throughout the world.

International banking operations contributed significantly to the banks' total income through earnings on foreign exchange dealings and commission and service charges on imports and outward money transfers. For example, Wegagen bank and Bank of Abyssinia earned 463.3 million birr or 55% of its total income and 300.8 million birr or 49% of its income from International Banking Activities (IBA) respectively since 2010/11.

Furthermore, commercial banks of Ethiopia maintain good business relationships with various well-known international banks throughout the globe[1]. As a result commercial banks of Ethiopia can be directly affected through international banking activities. In addition as a result of regulatory requirements, financial and technological innovation Commercial banks in Ethiopia were faced with increasing competition and rising costs. Therefore these factors increasingly urge the need of more frequent banking examination particularly on their performance.

The measurements of commercial bank performance in different regions have been researched well and received increased attention over the past years (for example Kouser, 2012; Reddy, 2012; Ashamu, 2012; Kumbirai and Webb (2010), Prasad, 2012; Webb, 2003; Tarawneh, 2006; Kiyota, 2009; Samad, 2004)

However, as far as the researcher knowledge, there is scanty research that had been done on this area particularly on the overall commercial banks performance and global financial crisis impact on Ethiopian commercial banks performance using Capital adequacy, Asset quality, Managements efficiency and Liquidity (CAMEL) model.

1.3 Objective of the Study

1.3.1 General Objective

The main objective of this study is to measure the financial performance and the impact of Global financial crisis on the financial performance of commercial banks of Ethiopia during the period 2004/5-2010/11.

[1]Commercial Banks of Ethiopia maintains a SWIFT bilateral key exchange arrangement with 520 banks of international renown. Also By the end of 2011, Dashen Bank's correspondent banking relationship in SWIFT covered 161 cities in 68 countries (annual report, 2011).

1.3.2 Specific Objectives

In light of the general objective the study has the following specific objectives,

1. To examine the adequacy of capital employed by the banks.
2. To examine the banks' asset quality.
3. To examine quality of Managements on the financial performance of banks
4. To examine the quality of banks'

earnings. 5. To measure the Liquidity [2]of

1.4 Hypothesis

To examine whether the global financial crisis have a significant impact on the performance of commercial banks in Ethiopia, the following hypotheses formulated based on the literatures;

- There is no change between the International Banking Activities (IBA) variables growth mean before the crisis (2004/5-2005/6) and during the crisis (2007/8-2008/9)

[2]Liquidity is the ability of asset to be converted in to cash without losing their value to meet maturing financial obligations.

1.5 Significance of the Study

Berger & Humphrey (1997) assert that the whole idea of measuring bank performance is to separate banks that are performing well from those which are doing poorly. They further indicated that, "evaluating the performance of financial institution can inform government policy by assessing the effects of deregulation, mergers and market structure on efficiency" (p175).

Therefore this study provides relevant information for the financial statement users such as investor, stakeholder, managers, and government about the financial performance of commercial banks in Ethiopia. Furthermore it can assist bankers and regulators to respond and look after the banking sectors from the unenthusiastic impact of international financial crisis.

1.6 Delimitation and limitation of the study

The study extent is limited on the financial performance of two state owned banks and other five private owned commercial banks and the impact of the 2007 global financial crisis on their financial performance. The time period for the study is bounded between 2004/5 and 2010/11.

In this study the sample banks are chosen purposively based on the period of data. This may carry bias inherent with non-probability sampling method. However, this is because there are only seven commercial banks that have complete data for the study period.

1.7 Organization of the paper

This paper organized in to five chapters. The first chapter is introduction which consists of back ground of the study, statement of the problem, objective, significance, delimitation and limitation of the study and organization of the paper. The second chapter briefly presents the theoretical and empirical literatures. Then the third chapter deals about research methodology. The fourth chapter which is the heart of this study deals about data presentation and analysis. Finally, chapter five states the conclusion and recommendation of the researcher.

Chapter Two

2. Literature Review

To achieve the study objectives, this chapter organized in to two sections. The first section explains models that are used for bank performance evaluation and overview of global financial crisis. Then the second part deals about empirical reviews.

2.1 Theoretical Review

2.1.1 Models for evaluating Bank Performance

Different scholars have conducted researches on performance evaluation of commercial banks. Various techniques of evaluations have also been developed so far. Financial ratio analysis, CAMEL and the later CAMELS, Data Envelopment Analysis (DEA model), Analytical Hierarchy Process (AHP) are some of the methods used by scholars. The following section presents these models.

2.1.1.1 Financial ratio analysis

Currently, bank regulators often use financial ratios of accounting data to screen banks. Banking business regulators in different countries found that financial ratios regarding capital adequacy, earnings, liquidity, liability, and growth of savings and deposits are useful in evaluating the economic performance and management quality of banks. Some authors like Chukwuogor-Ndu and Wetmore (2006) used return on asset (ROA) and interest income as a measure of performance to compare the performance of commercial banks. Traditionally, the evaluation of banks' performance usually employs financial ratio method, by which it provides a simple description about the bank's financial performance in comparison to previous periods and can thus; help to improve their efforts

of management.

However, a major weakness of ratio analysis is that there is a lack of agreement in the literature on the relative importance of various types of indicators. If a particular study wishes to incorporate the related financial indicators to measure technical efficiency in banks, it will lead to an issue of the weight assignment to each indicator. In addition, financial ratio analysis, each single ratio must be com-pared with some benchmark ratios one at a time while one assumes that other factors are fixed and the benchmarks chosen are suitable for comparison

The financial ratio method can be an appropriate method when firms use a single input or produce a single output. However, as in many organizations, banks employ various inputs to provide various services (outputs). Which ratio should be selected becomes an issue of evaluators when a great number of related financial indicators are involved. One of the solving methods is to aggregate average among all indicators in order to integrate a single measurement.

2.1.1.2 DEA Model

DEA approach can be employed to solve the issue of weight assignment which is the major limitation of the ratio analysis. This approach uses a mathematical programming method to generate a set of weights for each indicator. It considers how much efficiency in the banking sector could be improved, and ranks the efficiency scores of individual banks. Charnes et a (1985) was first to describe the DEA model, employing a mathematical programming model to determine the efficiency frontier based on the concept of the Pareto optimum when more than one measure is used.

DEA is a mathematical programming methodology that can be applied to assess the 'relative' efficiency of a variety of institutions using a variety of input and output data. The term 'relative' is rather important here since an institution identified by DEA as an efficient unit in a given data set may be deemed inefficient when compared to another set of data. One starts using DEA by building a relative ratio consisting of total weighted outputs to total weighted inputs for each institution. The relatively 'most efficient' units become the 'efficient frontier', and the degree of the inefficiencies of the other units relative to the efficient frontier are then determined using a mathematical method.

An advantage of DEA is that it uses actual sample data to derive the efficiency frontier against which each unit in the sample is evaluated with no a priori information regarding which inputs and outputs are most important in the evaluation procedure. Instead, the efficient frontier is generated when a mathematical algorithm is used to calculate the DEA efficiency score for each unit.

However, DEA as an evaluation tool has also some limitations. Firstly the traditional DEA framework is handicapped by its implicit distribution assumption that all input-output variables are specified accurately. Stochastic-tic disturbances, such as measurement error, random noise, outlier observations or external effects, may violate this assumption.

Secondly, authors like Home and Chen (2002) argued that each bank has its own business goal to pursue and bank managers may each have a different method of applying subjective weights to the related evaluating items in order to link-back the goal, and that the solving process of the DEA model cannot effectively deal with. Finally, the results of the DEA model only represent the ratio relationship of weights among different inputs/

outputs or various financial indicators. The reason is that DEA efficiency is obtained by way of mathematical linear programming algorithm, which derives a set of optimal weights of inputs/outputs. The DEA approach, as a whole, may be said to limit to `laboratory work' not easily lending itself to practical application.

2.1.1.3 AHP Model

AI-IP is one of the well known and the most widely exploited decision making methods in cases when the decision (the selection of given alternatives and their ranking) is based on several attributes used as criteria. As Stankevičienė and Mencaitė (2012) put it, AI-IP has got wider acceptance because of the fact that it allows considering financial and non-financial measures in the evaluation process, which is very important because the business of banking is very complex, and therefore it is not enough to take into account only financial measures. They further argue that, it helps with revealing bank ranking and recognizing better performing banks and those that need more attention either from supervisory institutions or management in order to improve the current performance

Complex decision problem solving which uses this method is based on the problem decomposition into a hierarchy structure which consists of the elements such as: the goal, the criteria (sub-criteria) and the alternatives. The other significant AI-IP method component is the mathematical model by which the priorities (weights) of elements positioned on the same hierarchy structure level are calculated.

I-Iunjak and Jakovčević (2001) explained the Model application in four steps:

(1) The hierarchy model of the decision problem is developed in such a way that the goal is positioned at the top, with criteria and sub-criteria on lower levels and finally alternatives at the bottom of the model. This includes defining both financial and non

financial measures.

(2) On each hierarchy structure level the pair wise comparisons should be done by all possible pairs of the elements of this level. The decision maker's preferences are expressed by verbally described intensities and the corresponding numeric values on 1-3-5-7-9 scale.

(3)On the basis of the pair wise comparisons relative significance (weights) of elements of the hierarchy structure (criteria, sub-criteria and alternatives) are calculated, which are eventually synthesized into an overall alternatives priority list.

(4) The sensitivity analysis is carried out.

2.1.1.4 CAMEL Model

CAMEL is, basically, a ratio based model commonly used for the evaluation of performance and ranking. In the 1980s, the US supervisory authorities, through the use of the CAMEL rating system, were the first to introduce ratings for on-site examinations of banking institutions. The concept introduced a uniform system of rating a banking institution in the United States. It is based on examiner assessment of a banking institution under certain supervisory criteria, and is used by all three US supervisory agencies, i.e. the Federal Reserve System, Office of the Comptroller of the Currency (OCC) and the Federal Deposit Insurance Corporation (FDIC). Under this system, each banking institution subject to on-site examination is evaluated on the basis of five (now six) critical dimensions relating to its operations and performance, which are referred to as the component factors. However, most of the developing countries are using CAMEL instead of CAMELS. Capital Adequacy, Asset Quality, Management Quality, Earnings and Liquidity are seen to reflect the financial performance, financial condition, operating

soundness and regulatory compliance of the banking institution.

2.1.2 Overview of the Global Financial Crisis

As of Osakwe (2010) the financial crisis started in the United States in 2007 and involved financial institutions in many developing countries. It was only when the crisis turned into a global economic recession that developing and emerging-market economies were affected, mainly through the trade channel, and in some cases through workers' falling remittances. In many developing countries, the economic consequences of these indirect effects were as severe as the direct effects were on developed countries. The worldwide recession, the first since the Second World War, led to a reduction of world gross domestic product (GDP) by 0.6 per cent in 2009. In the absence of countercyclical responses, the slump could have been much stronger. In 2009 global GDP growth was 5.8 percentage points lower than in 2007, and the downturn in emerging and developing countries was almost the same as in developed countries (IMF, 2010). Countries constituting the Commonwealth of Independent States (CIS) and those of Central and Eastern Europe (CEE) were the most severely affected, their GDP growth rates falling by an average of 15.2 percentage points between 2007 and 2009. The corresponding figures for Latin America and sub-Saharan Africa were 7.6 and 4.8 percentage points respectively. In general, countries with large current-account deficits or surpluses, and those with large fiscal deficits prior to the crisis suffered much greater output losses than others. Even in developing Asia growth rates dropped by 4 percentage points between 2007 and 2009.

2.1.2.1 Causes of the crisis

Priewe (2010) summarized causes of the financial crisis in five key areas:

1. The starting point was a classical asset price and speculation crisis that emerged in the United States housing market in 1995 and accelerated after 2001. This was facilitated by an ill-designed policy and uncontrolled excessive securitization by the financial industry. The bubble burst due to a monetary stance of increasing interest rates necessitated by global inflationary pressure. This in turn led to a banking crisis, including a liquidity and solvency crisis.
2. The housing bubble translated into the build-up of a financial house of cards comprising multiple securitizations, collateralized debt obligations (CDOs) and credit default swaps (CD S). This represented an enormous extension of the derivatives markets, in part facilitated by shadow banks (so-called "special investment vehicles") and non-banks such as hedge and pensions funds. Extreme leveraging, excessive maturity risks and considerable overall risk taking occurred, as in many historical boom-bust cycles.
3. The methods of risk assessment by bank managers for their financial products and for the banks themselves, based on mainstream thinking in the economics profession, were systematically flawed. The underestimation of risk was masked by mass demand for "toxic" assets.
4. Until the failure of Lehman Brothers in September 2008, there was a general miss judgment of the accelerators in the spreading of the financial crisis to the national and global economy, especially the role of vulnerable interbank money markets.
5. Traditional banking supervision had not kept up with financial innovations and the ever-increasing complexity of the financial industry, either in the United

States or in most countries. This holds true also for supranational institutions, specifically the IMF, which was not aware of the inherent risks of financial globalization.

2.1.2.2 Impacts of the crisis on Africa

According to Osakwe (2010) the financial and economic crisis has had severe impacts on the financial and real sectors of African economies, with serious consequences for growth and poverty reduction. Countries such as Botswana, Seychelles and Equatorial Guinea have been the worst affected, with growth rates estimated to have declined by 10.3, 8.5 and 5.4 per cent, respectively, in 2009. The crisis affected Africa through four main channels: exchange rates, stock markets, capital flows, and trade and commodity prices.

1. **Exchange rates**

The financial sector was the first to be affected by the crisis, with several countries experiencing greater volatility in their exchange rates and stock markets. Between the third quarter of 2008 and the first quarter of 2009, the currencies of six African countries depreciated against the United States dollar by 30 per cent or more (table 1). The Seychellois rupee was the most affected, with a depreciation of 108 per cent, followed by the Zambian kwacha which depreciated by 54 per cent over the same period.

As of Agbeyegbe and Osakwe (2005) cited in Osakwe (2010) asserted that rapid and unanticipated movements in exchange rates are immense. They have negative consequence on investment, output, and growth. It is interesting to note that the crisis poses challenges for both floating and managed currencies

Table 1.1 Depreciation of African currencies against the United States dollar, from 2008/third quarter to 2009/first quarter

30 per cent or more	15–29 per cent	Less than 15 per cent
Congolese (DRC) franc Lesotho loti Namibian dollar Seychellois rupee Swazi lilangeni Zambian kwacha	Botswana pula Gambian dalasi Ghanaian cedi Kenyan shilling Malagasy ariary Mauritian rupee Nigerian naira Tunisian dinar Ugandan shilling West African CFA franc***a*** Central African CFA	Angolan kwanza Burundian franc Egyptian pound **Ethiopian birr** Liberian dollar Malawian kwacha Moroccan dirham Mozambican metical Sierra Leonean leone South African rand Sudanese pound

Source: united nation publication paper 2010

According to Ltaifa, Kaendera and Dixit (2009) cited in Osakwe (2010) in countries with floating currencies, it has increased exchange-rate volatility, with serious consequences for long-term investment. In countries with managed currencies and above-trend inflation rates, interventions aimed at halting the depreciation of the local currency resulted in appreciation of the real exchange rate and reduced export competitiveness.

2. Stock markets and bank balance sheets

The crisis has also affected African countries through its impact on local stock markets. Since the onset of the crisis there has been an increase in stock market volatility in the region. Between the end of 2007 and 22 January 2010, the Nigerian stock exchange index declined by 62 per cent and the Kenyan and Egyptian exchange indices by more than 30 per cent. There has also been a significant reduction in market capitalization in most stock markets. For example, between 2007 and 2008, the Namibian stock market lost about 55 per cent of its market value and the Mauritius stock exchange lost 41 per cent. Ghana, Malawi and the United Republic of Tanzania (Dares Salaam) are the only countries with exchanges that experienced gains in market capitalization over the same period

3. Trade and commodity prices

Trade is one of the key channels through which the crisis has had a devastating effect on African economies. This is not surprising given the fact that African countries generally have high trade-GDP ratios. Over the period 2003–2006, the average trade-GDP ratio for sub-Saharan Africa was 68 per cent, although 20 countries in the region had ratios above 80 per cent. While trade data for some African economies for 2009 are not yet available, available data indicate that the crisis has had a negative impact on trade in several countries. For example, Algeria's merchandise exports fell by about 53 per cent in the third quarter of 2009 compared with the same quarter in 2008. Countries such as Burundi, Mauritius, Nigeria, South Africa and Tunisia also experienced a significant reduction in

merchandise exports over the same period. On the import side, Mauritius, Morocco, Nigeria, Sierra Leone, South Africa and Tunisia saw a more than 25 per cent decline over that period. The slowdown in trade flows was due to declining import demand in key export markets, a shortage of trade finance and falling commodity prices. Since the crisis began, several countries in the region have experienced difficulties in obtaining trade credit.

4. Capital flows

The financial crisis has also affected capital flows to the region. Foreign direct investment (FDI) flows to Africa declined by 36 per cent in 2009 relative to 2008, reflecting partly the fall in global demand for commodities resulting from the crisis. The crisis affected the two main components of FDI: Greenfield investments and cross-border mergers and acquisition (M&As). For example, M&As declined by 73 per cent between 2008 and 2009. Reduced FDI flows have had a more severe impact in countries such as Chad, Equatorial Guinea, Gambia, Liberia and Seychelles, that have average FDI-GDP ratios above 10 per cent. Remittances are another form of capital flows that have been affected by the crisis. The annual growth rate of remittance flows to sub-Saharan Africa fell from 47.6 per cent in 2007 to -3 per cent in 2009. The main reason for this decline is that the reduction in economic activities in developed countries has reduced opportunities for African migrants. Cape Verde, Gambia and Lesotho are particularly vulnerable because remittances account for over 10 per cent of their GDP. On the other hand, although North African countries receive large inflows of remittances, the reduction of these inflows does not affect their economies as badly because they represent a small percentage of their GDP.

2.2 Empirical review

Ongore, V.O. (2013) assessed the determinants of financial performance of commercial banks of Kenya. The authors used linear multiple regression model and Generalized Least Square on panel data to estimate the parameters. His findings showed that bank specific factors significantly affect the performance of commercial banks in Kenya, except for liquidity variable. But the overall effect of macroeconomic variables was inconclusive at 5% significance level. The moderating role of ownership identity on the financial performance of commercial banks was insignificant. Thus, he concluded that the financial performance of commercial banks in Kenya is driven mainly by board and management decisions, while macroeconomic factors have insignificant contribution. Kouser (2012) investigates the financial performance of Islamic banks and compares with the conventional banks operating in Pakistan using CAMEL model. The samples were composed of four banks from Full-fledge Islamic Banks, six from Islamic Branches of Conventional Banks and four Conventional Banks. Through comparison of means and trend analysis of ratios supplemented with ANOVA and Levene's test, he found that Islamic banks have adequate capital and have good asset quality when compared to Islamic branches of conventional banks and conventional banks. In addition, Islamic banks in general have good management competency in comparison to conventional banks. The earnings of Islamic branches of conventional banks are greater than full-fledge Islamic banks and conventional banks. Reddy (2012) evaluate relative performance of banks in India using CAMEL approach. He used public (26), domestic private sector (19) and foreign banks (16) and rankings are given to various banks for the years 1999 and 2009. He found that public sector banks have significantly improved

indicating positive impact of the reforms in liberalizing interest rates, rationalizing directed credit and Investments and increasing competition.

Ashamu (2012) examined the impact of global financial crises on the Nigeria banking system using survey. The study revealed that the financial crisis has caused depression of the Nigerian capital market and drop in the quality of part of the credit extended by banks for trading in the capital market, exchange rate risk tightening of liquidity, greater loan-loss provisioning, slower growth rate of banks' balance sheet in response to the crisis and higher provisioning leading to lower profitability among others. Karande, S.B (2012) examine the impact of global financial crisis on Indian banks using selected financial ratios. The study found that, hence India banks maintain appropriate adjustments to their portfolios and ensuring sound assets quality, the crisis did not impose significant impact. Reddy M. Prasad, K.V.N. (2011) studied a sample of two rural and regional banks, Andhra pragathi grameena bank (APGB) and Sapthagiri grameena bank (SGGB) for a period of 2006-2010. Twenty variables related to CAMEL model were used. The study revealed that APGB rated top on the basis of overall performance. Prasad (2011) examined the economic sustainability of a sample of thirty nine banks in India using CAMEL model during the period 2006-20 10. To evaluate the performance of banking sector they adopt CAMEL model which measures the performance of banks from each of the important parameter like Capital Adequacy, Assets Quality, Management Efficiency, Earning Quality and Liquidity. Their finding revealed that on average Karur vysya bank was at the top most position followed by Andhra bank, Bank of Baroda also it is observed that Central Bank of India was at the bottom most position. The largest Public sector bank in India availed 36th position.

Specios, N. (2011 analyze the extent to which investment in loans and treasury bills influence the overall profitability of commercial banks in Uganda and he found that the Volume of Loans and Treasury Bills (TBs) having a positive correlation while Lending Rates and average yields on TBs revealed negative correlation with ROA as an element of the dependent variable. With regard to ROE, Loan Volume, Lending rates and Volume of TBs showed a positive relationship while average yields on TBs indicated a negative correlation with this element of the dependent variable. However, in the two analyses, commercial banks' investment volume in loans was found to be the only variable that had a statistically significant influence in accounting for profitability of commercial banks in Uganda. Mwega F. M. (2010) investigated the impact of global financial crisis on Kenya's economy using descriptive method. The paper has addressed a whole range of issues. On the banking system, for example, it looks at a number of indicators and he concludes that the None-Performing Loons (NPLs), Return on Asset and Liquidity of the banks seem quite sound and have not been affected substantially by the crisis. However, financial statements for the first half of 2009 show a sharp decline in banks' profitability. Tabassum & Mohi-ud-Din (2010) measured the financial performance of the two largest commercial banks of India using CAMEL model. The analysis reveals that both the banks are financially viable as both have adopted prudent policies of financial management. The results are also in line with the research by Sangmi (2010) who evaluates the financial performance of the two major banks operating in northern India. This evaluation has been done using CAMEL Parameters Kumbirai and Webb (2010) investigated the performance of South Africa's commercial banking sector for the period 2005- 2009. Financial ratios are employed to measure the profitability, liquidity and

credit quality performance of five large South African based commercial banks. The study found that overall bank performance increased considerably in the first two years of the analysis. A significant change in trend is noticed at the onset of the global financial crisis in 2007, reaching its peak during 2008-2009. This resulted in falling profitability, low liquidity and deteriorating credit quality in the South African Banking sector.

Kiyota (2009) in a two- stage procedure investigated the profit efficiency and cost efficiency of commercial banks operating in 29 Sub-Saharan African countries during 2000-2007. The article employs the SFA for the estimation of profit and cost efficiency, financial ratios and the Tobi regression to provide cross-country evidence on the performance and efficiency of African commercial banks. The findings based on a range of performance ratios as well as stochastic cost and profit frontier estimation, suggest that foreign banks tend to outperform domestic banks in terms of profit efficiency as well as cost efficiency. The results are also in line with the research by (Kirkpatrick 2007) who used a sample of 89 banks from Sub-Sahara African countries for the period 1992-1999 and found that banks are on average 67% profit efficient and 80% cost efficient, as indicated by the results from both the distribution free approach and SFA methods. Aikaeli, J. (2008) asses the efficiency of commercial banks of Tanzania using Non-parametric Data Envelopment Analysis (DEA) model, while x-inefficiency is estimated using multi-product translog cost function. Though banks were not full efficient in all respects, they performed fairly well during the 1998-2004 period. His conclusions show that banks in Tanzania still have reasons to improve their performance. Tarawneh (2006) in his study measured the performance of Oman commercial banks

analysis to investigate the impact of asset management, operational efficiency and bank size on the performance of Oman commercial banks. The findings indicated that bank performance was strongly and positively influenced by operational efficiency, asset management and bank size. Samad (2004) investigated the performance of seven locally incorporated commercial banks of Bahrain during the period 1994-2001. Financial ratios were used to evaluate the credit quality, profitability, and liquidity performances. The performance of the seven commercial banks was compared with the banking industry in Bahrain which was considered a benchmark. He applied a Student's t-test to measure the statistical significance for the measures of performance. The results revealed that commercial banks in Bahrain were relatively less profitable, less liquid and were exposed to higher credit risk than the banking industry, in which wholesale banks are the main component.

However, even if there are several researches in the area of banks performance evaluation in other countries (both developed and developing), as to the extent of the researcher knowledge; in Ethiopia there are a little studies on these area particularly using CAMEL model to evaluate the performance of commercial banks and the impact of Global economic crisis on the performance of commercial banks of Ethiopia. It is against this backdrop that the present study undertaken to fill up this gap.

Chapter Three

3. Methodology

3.1 Research Design

The primary objective of this study is to measure and analyze the financial performance of Ethiopian commercial banks and effect of global financial crisis on their performance during the period 2004/5-2010/11 using basically CAMEL model. Hence, to achieve this objective survey strategy of inquiry particularly longitudinal type employed. Because survey allows economy of accessing data which may not be available from other sources; being able to identify attributes of a large population from a small group of individuals (Babbie 1998, Fowler 2010)

The following section has four parts. The first part deals about the source of data and collection methods. Then the second, third and the fourth parts deals about sampling design, data analysis method and variables descriptions respectively

3.2 Source of Data and Collection Method

Although accounting data in financial statements is subject to manipulation and financial statements are backward looking, they are the only detailed information available on the bank's overall activities (Sinkey, 2002). Furthermore, they are the only source of information for evaluating the firm's potential to generate satisfactory returns and achieving the interest of stock holders in future. Hence, this study is mainly used secondary data drawn from the annual audited financial statements and annual reports of the banks..

3.3 Sampling Design

The population of the study is all commercial banks operating in Ethiopia. According to National Bank of Ethiopia, there are two national and fifteen private commercial banks are operating in the country as of December, 2012. The study used non-probability purposive sampling based on the age and accessibility of complete audited financial statements.

As a result a sample frame of eight commercial banks were selected, representing two state owned banks (Commercial bank of Ethiopia and Construction & Business bank) and six private banks (Awash international bank, Dashen bank, Bank of Abyssinia, Wegagen bank, Nib International bank and United bank). But, differently from other commercial banks, Awash International bank accounting period was in accordance with European calendar until 2008/9. Hence the sample size of the study was two state owned banks and the other five private commercial banks.

3.4 Data Analysis Method

This study primarily used CAMEL model to measure and analyze performance of commercial banks between the periods 2004/5-2010/11.

In addition, to examine the progress of performance and consistency of the mean result of CAMEL ratios during the study period, the researcher implemented time serious analysis technique and descriptive statistics on excel and SPSS.

Then, to examine the impact of global financial crisis on the performance of commercial banks of Ethiopia, the researcher identified six variables that are exposed to the global financial crisis. Namely; Total Revenue Earned from International Banking Activities,

Loan Disbursed to Importers, Deposit in Foreign Banks, Interest income from Foreign Deposit, Gain from Foreign Currency Translation and Exchange and Return on Asset. Then these variables growth mean classified in to two categories i.e. before the crisis (2004/5-2005/6) & during the crisis (2007/8-200/9). Considering, the recent global financial crisis begun[3] in 2007 & reaches its pack during 2008 and 2009.

Therefore, to test whether the difference in performance of the banks before the crisis (2004/5-2005/6) was statistically different or not during the crisis (2007/8-2008/9), a Paired-Samples T test adopted. Because the paired-samples t taste is appropriates whenever two related samples means are to be compared.

The appropriateness of the parametric tests has been checked considering assumptions of normality, none extreme or outlying values and independent of the order of observation (Field, 2005).This implies that difference scores are assumed to follow reasonably normal distribution, especially with respect to skeewnes.

Hence, the normality of the data has been checked using the Kolmogorov-Smirnov tests of normality. Also variables were carefully tested with extreme or outlying values. Furthermore Runs Test procedure was adopted to check the assumption that the value of the test variable is independent of the order of observation. Fortunately, all the six variables hold these assumptions.

Inferences about the hypothesis are made by looking at test statistics and critical values associated with the growth mean.

[3]As of Osakwe (2010) in 2009 global GDP growth was 5.8 percentage points lower than in 2007. Countries constituting the Commonwealth of Independent States (CIS) and those of Central and Eastern Europe (CEE), GDP growth rates failed by an average of 15.2 percentage points between 2007 and 2009. The corresponding figures for Latin America and sub-Saharan Africa were 7.6 and 4.8 percentage points respectively. Even in developing Asia growth rates dropped by 4 percentage points between 2007 and 2009

If P-value $\leq \alpha$, reject the null hypothesis. If P-value$> \alpha$, do not reject the null hypothesis. The results of the test are handled with caution as there are very few observations and the statistical tool might not be very effective when the sample is small.

3.5 Variables

The following section discuses the major components of CAMEL and variables related with IBA that are used in this study.

a) Capital adequacy:

Capital Adequacy reflects the overall financial condition of the banks. It also indicates whether the bank has enough capital to absorb unexpected losses. Capital Adequacy ratio acts as an indicator of bank leverage. The main components of this ratio are,

i. Total Debt to Total asset: This ratio indicates the degree of leverage of a bank. It indicates how much of the bank business is financed through debt and how much through equity. Higher ratio indicates less protection for the creditors and depositors in the banking system.

ii. Total capital to Risk-Weighted Assets: it indicates the riskiness of asset employed by the bank.

iii. Tier 1 Capital to total assets: it is the ratio of share holders equity to total asset

b) Assets quality:

This indicates what types of advances the bank has made to generate interest income. The ratios necessary to assess the assets quality are

i. Allowance for doubtful loans to total assets: This ratio discloses the efficiency of bank in assessing the credit risk and, to an extent, recovering the debts. It is the ratio of allowance for doubtful loans and total assets.

ii. Allowance for doubtful loans to loans outstanding: It is the most standard measure of assets quality measuring the net non-performing assets as a percentage to net advances.

iii. Non-Performing Loans (NPLs) to total loans outstanding: this measure the loss incurred due to poor loon quality.

iv. Total Investment (TI) To Total Asset (TA): it indicates the proportion of banks asset used in other investment instead of loan disbursement.

c) Management efficiency:

The ratio in this segment involves subjective analysis to measure the efficiency and effectiveness of management. The ratios used to evaluate management efficiency are described as:

i. Total advances to total deposits[4] (TAd./TD): This ratio measures the efficiency and ability of the bank's management in converting the deposits available with the bank excluding other funds like equity capital into high earning advances.

ii. Earnings before Tax (EBT) to Total Revenue (TR): It rate Managers' efficiency in reducing costs that would be incurred to generate bank's revenue.

4 Total deposit includes demand deposit, saving deposits, term deposits.

iii. Total revenue per employee (TR/No.Em): it shows the productivity of human force of bank. It is used as a tool to measure the efficiency of employees of a bank in generating business for the bank. Higher the ratio, the better it is for the bank

iv. Earnings before Tax per employee (EBT/No.Em): This shows the surplus earned per employee.

d) Earning quality

It basically determines the profitability of bank and explains its sustainability and growth. The following ratios are used to explain the quality of banks earning.

i. Return on assets: This ratio measures return from assets employed or the efficiency in utilization of assets. The higher return on asset the more efficient in asset utilization.

ii. Return on equity: measures the efficiency in utilizing the bank equity. The higher return on equity the more efficient in equity utilization.

iii. Interest income to Total Revenue (II/TR): Shows the share of banks interest income earned from advances out of the total revenue[5].

iv. Spread[6] to total assets (SP/TA): greater spread means that the banks keep their interest low on deposits and high on advances to increase their earnings capacities. This ratio indicates the percentage of spread earned from the total asset utilized. The higher this ratio the more profitability and efficient in utilizing its deposit and advances.

[5] Total Revenue includes income both from advances and other banking activities.

[6] Spread is the difference between the interest income and interest expenses.

e) Liquidity

Risk of liquidity is curse to the image of bank. Bank has to take a proper care to hedge the liquidity risk. The following ratios are used to measure the liquidity under the CAMEL Model. They are:

i. Liquid assets[7] to total assets (LA/TA): It measures the overall liquidity position of the bank. The higher this ratio indicates the more solvent[8].

ii. Liquid assets to demand deposits (LA/DD): This ratio measures the ability of bank to meet the demand from depositors in a particular year. To offer higher liquidity for them, bank has to invest these funds in highly liquid form.

iii. Liquid assets to total deposits (LA/TD): This ratio measures the liquidity available to the total deposits of the bank.

[7] Liquid assets include cash on hand, cash balance in National Bank of Ethiopia and money at call and short notice.

[8] Solvent bank is a bank that can easily meet maturing financial obligations.

Table 2: Operationalization of the Study Variables on International Banking Activities

No.	Variables	Indication
1	Loan for Importers (LI)	Indicates the availability of foreign currency to finance importers
2	Deposit in Foreign Banks (FD)	Indicates banks? cash deposit in foreign currency
3	Interest Income from Foreign Deposit (IIFD)	Indicates the interest income earned from abroad banks? deposit in foreign currency & international interest rate
4	Total Revenue from International Activities (TRIA)	Indicate the overall revenue generated from international banking activities.
5	Gain from Foreign Currency Translation & Exchanges (GFCTE)	Indicate revenues earned from foreign currency dealings & translation at
6	Return on Asset (ROA)	Indicate the changes in ROA during the global financial crisis.

These variables were selected assuming that they are directly vulnerable to be affected by global financial crisis.

Chapter Four

4. Analysis and Discussion of Results

This chapter deals with the analysis and discussion of the results of the study. The chapter begins with the time series analysis and presentation of the descriptive statistics for CAMEL variables.

These are presented using the means and standard deviation including the minimum and maximum values for each of the variables. This is then followed by the Hypotheses test using Paired-Samples T test for six international banking activities variables.

4.1 Time Series Analysis and Descriptive Statistics for CAMEL Variables

4.1.1 Capital Adequacy

The capital adequacy framework (also known as the Risk-Weighted Capital Adequacy Framework) sets out the approach for the computation of minimum capital required by a banking institution in order to operate as a going concern entity. The framework comprises mainly three broad categories, namely the ratio of TC to RWA, TD to TA, and teir1 capital to total asset.

Figure 1: Capital Adequacy Trend

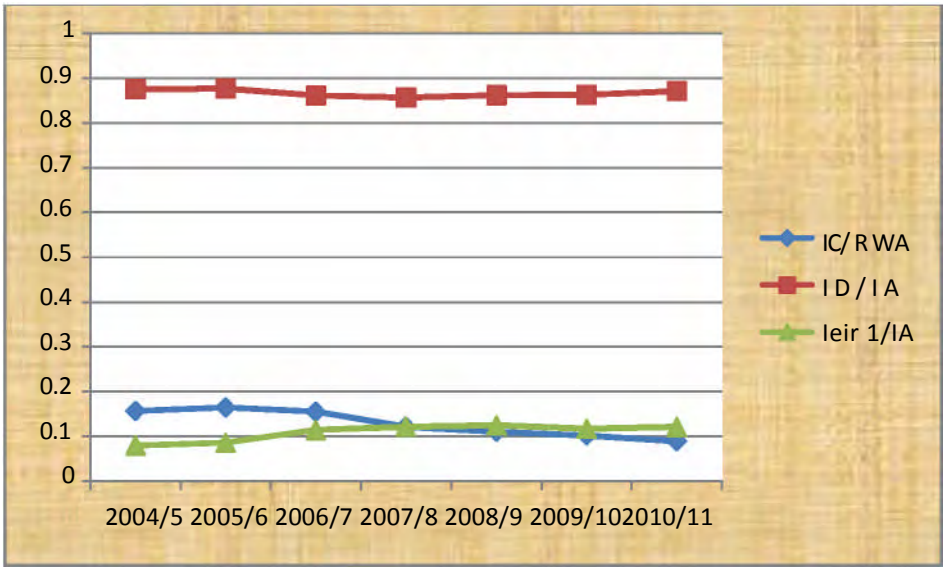


Table 3: Descriptive Statistics for CA

	Max	Mini	Average	SD
TC/RWA	16.44	8.94	16.44	0.030097
TD/TA	87.67	85.63	87.67	0.007853
Teir1/TA	12.45	7.98	12.45	0.018351

Source: Researcher computation

It is clear that the above figure show as, the trend of all the ratios seems to be stable.TC to RWA decrease from 16.5% in 2005/6 to 8.9% in 2010/11. The possible reason for the gradual decrease of TC to RWA is, following the entrance of new banks and innovation of new technology, competition among banks becomes strong. As a result banks were forced to take certain risky investments (off balance sheet activities) to maintain their competitive positions. In addition, as the economy grew, credit demands incredibly increased and banks were able to provide more loan and advances than ever.

Consequently, this enlarged the RWA and eroded the asset quality of commercial banks of Ethiopia during 2004/5 and 2010/11. However the amount of capital adequacy is more than from both National Banks of Ethiopia (NBE) and Basel requirements which is 8%. Regarding TD to TA ratio it is between 87.7% and 85.6%. This tell us, on average 87.7% of Ethiopian Commercial banks assets are financed by debt and the contribution of share holders is less than 13%. It seems that the banks are excessively levered. However, banks are highly levered industry throughout the world; this is not a surprise or unique scenario for Commercial Banks of Ethiopia.

4.1.2 Asset Quality

The quality of assets is an important parameter to gauge the strength of bank. The prime motto behind measuring the assets quality is to find out the riskiness or quality of the banks' total asset.

In order to measure the asset quality of commercial banks, the ratio of AFDL and Net Loan Outstanding (NLO) is commonly used. This ratio measures the proportion of loans which is exposed to default risk. Loans are the riskiest assets and usually account for the majority of banks' assets. A high share of AFDL to NLO ratio indicates a more sensitive structure to loan losses and may be a result of poor quality of loan and advance which poses a risk to the banks' profitability and financial viability. Likewise AFDL to TA, NPLs to NLO and TI to TA are the other class of this category used to gauge banks' asset quality

Figure 2: Asset Quality Tend

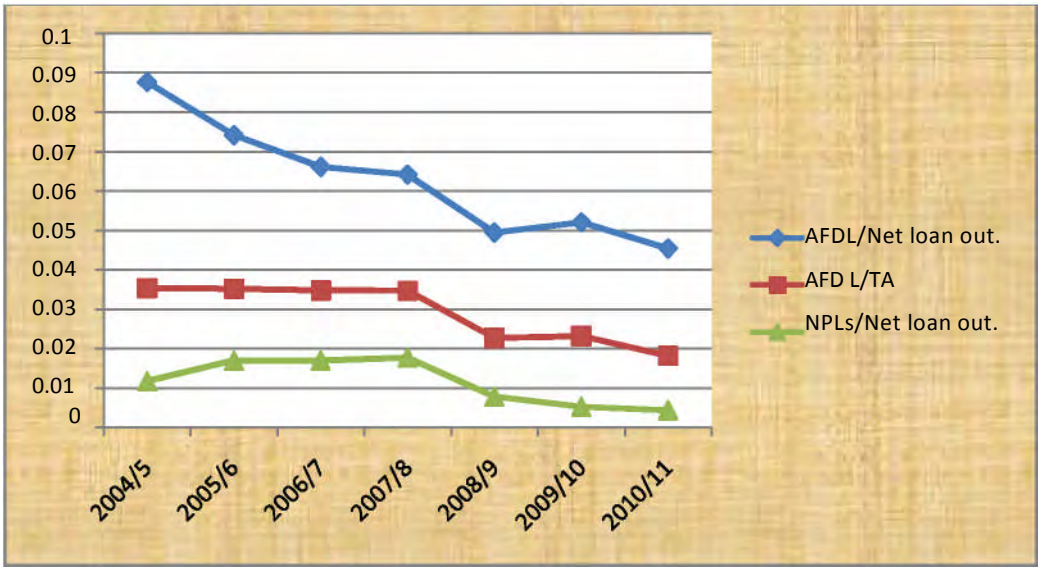


Table 4: Descriptive Statistics for AQ

Descriptive Statistics

	Minimum	Maximum	Mean	SD
AFDL/Netloanout.	4.54064	8.761462	6.271454	0.015019
AFDL/TA	1.819411	3.534472	2.91696	0.007469
NPLs/Net loan out.	0.435688	1.771327	1.154653	0.005814

Source: Researcher computation

Figure two shows the ratios of AFDL to NLO, AFDL to TA and NPLs to NLO constantly decrease between 2004/5 & 2010/11 from 8.8% to 4.5%, 3.5% to 1.8% and 1.2% to 0.4% respectively. The change was remarkable during 200 8/9 when the directives on credit cup implemented which reduce the amount of loan and advances.

Comparatively it was better than the international standard of commercial banks and SSA countries. For example, AFDL to NLO ranges between 1.8% in Malawi and 69.1%

in Sudan (Hiroyuki K. 2009). Hence commercial banks of Ethiopia maintain quality assets. This implies that commercial banks in Ethiopia are generally managed to absorb possible loan losses that might be occurred during the study period.

Figure 3: Total Investment to Total Asset ratio as a measure of Asset quality

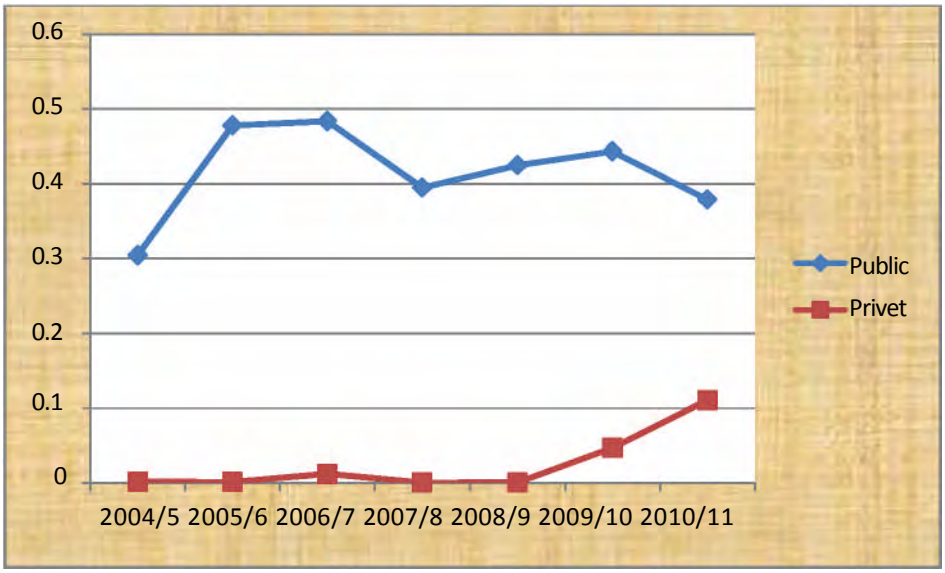


Table 5: Descriptive Statistics for TI/TA

	Mini	Max	Average
Public	30.5	48.4	41.5
Privet	0.1	11.1	2.5

Source: Researcher computation

On the other hand TI to TA used to measure the percentage of total assets locked up in investments against advances. This ratio between privet and public banks are remarkably different. Public banks had an erratic trend which oscillates between 30.5% and 48.4% at average amount of 41.5%. Here regardless the fashion and the amount of this huge investment, it is directed towards government projects or institutions. Whereas private

banks had almost zero investment until 2009/10 and then it suddenly skyrocketed to1 1% in 2010/11. What cases the sudden private banks' investment rise in 2010/11?

The direct cause is, the National Bank of Ethiopia had issued a Directive "Establishment and operation of National Bank of Ethiopia Bills Market Directive No MFA/NBE BILLS/001/2011" which requires all banks in Ethiopia to purchase NBE Bills to the amount of 27% of loans and advances disbursed to rise finance for the Grate Renaissance Dam project on Nile River[9]. The Bills have a maturity period of 5 (five) years, and bear interest at the rate of 3% per annum. This directive has an advantage to raise domestic financial resource to support the Grate Renaissance Dam successful completion and improve banks asset quality as well.

However, at banks specific level, since long term investment financed by short term deposit it crates maturity mismatch. International Monitory Fund (IMF) now strongly condemned NBE as this action gradually leads banks to be insolvent. Furthermore it can negatively affect banks' profitability[10]. Because, excluding inflation, the cost of the finance is more than 3% where as the annual return from the bond is exactly 3%. As a result IMF frequently urges NBE to slow down diverting the country finance towards its mega project so as to protect the private banks viability and the economy at large. On the

[9] Grand renaissance dam is being funded by Ethiopians as foreign lenders were unwilling to finance it because of Egypt historical resistance to develop any project on the river.

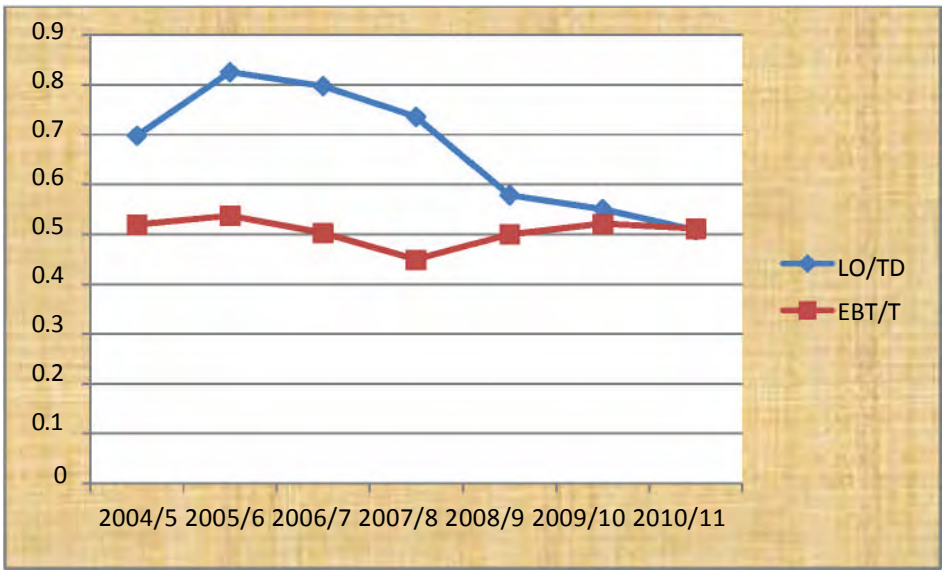
[10] As it is, private banks lending to priority sectors (via NBE bills) is fixed at 3 percent, while the lending of the two state banks to priority sectors is generally well above that. DBE, for example, offers long-term loans at interest rates of about 8 percent and the CBE's most favored interest rate is offered to exporters at rates of 7 percent. As a result this provides free advantage for public banks in the cost of private banks.

other hand the banks' credit available to private sectors diverted to government mega projects.

4.1.3 Management Quality/Efficiency

In fact, it is not an easy task to measure the management quality because it is not solely dependent on the current financial performance. This component includes a wide range of issues such as the education level and expertise of the management. According to Keovongvichith, P (2012) from financial data available, the most appropriate measures to evaluate the management quality are operating efficiency and the skill of management over deposits disbursement. In this regard there are two indicators usually used to measure management efficiency. They are operating income as a share of total revenue and ratio of loan outstanding to total deposit.

Figure 4: Management efficiency in Deposit Mobilization and General Operation Trend



Source: Researcher computation

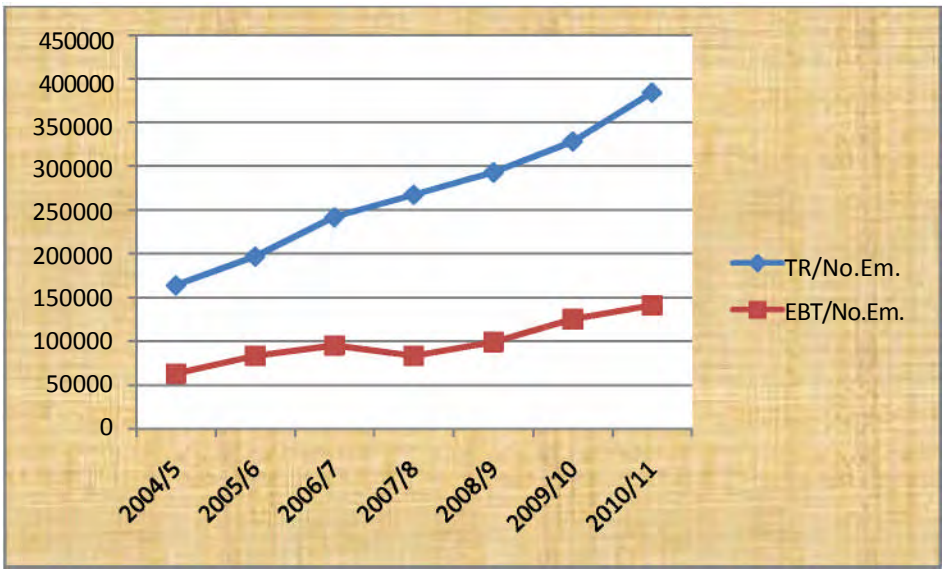
Table 6: Descriptive Statistics for Management Efficiency on Deposit and Operation

	Aver.	Max	Mini	SD
LO/TD	67.01839	82.51135	50.80197	0.115969
EBT/TR	50.57406	53.71937	44.90457	0.02593

Source: Researcher computation

In terms of management efficiency on customers' deposit utilization, it is continuously decreased starting from 2006/7. The highest decrease rate scored in 2008/9. Why? Because, at the mid of 2009 NBE enforced credit cup on private commercial banks loan disbursement. As a result, managers were forced not to use the existing deposit efficiently and to address the alarming loan demand of their customers. Hence the main cause at this time was not management efficiency problem. Concerning the operating efficiency of managers, which measured by the share of operating income on total revenue, it maintains a slight improvement during the last three years regardless the large investment on new technology and financial services.

Figure 5: Total Revenue and Earnings before Tax to the Number of Employee Trend



Source: Researcher computation

In addition to the above two ratios, Total revenue and Earnings before tax to the number of employee are used to measure the overall quality or efficiency of managers. Figure 5 shows that Commercial banks of Ethiopia managers are efficient throughout the study period and it continuously improved.

4.1.4 Earning quality

Earning quality reflects the risk and adequacy of a bank's profitability. In fact banks usually established to achieve various goals and objectives, the ultimate goal needs to be generating adequate and consistent profit that assures the existence of the bank and guarantee the interest of both share holders and depositors. Also measuring and closely controlling the statuesque of earning is crucial to maintain banks competitive position

.That is why this parameter gains importance and widely used in performance measurement. Under earning quality parameter, Return on Asset, Return on Equity and Spread and Interest income to total Revenue are the dominant and widely used ratios.

Figure 6: Earning Quality Trend

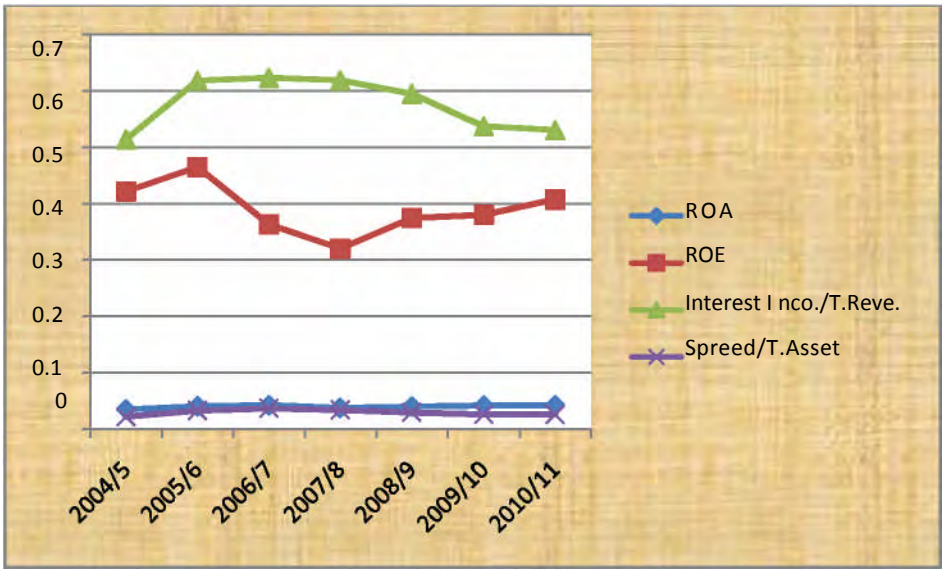


Table 7: Descriptive Statistics for Earning Quality

	Minimum	Maximum	SD	Mean
ROA	3.5	4	0.002739	4
ROE	32	46	0.046177	39
II/TR	51	62.3	0.04750	57.6

Source: Researcher computation

ROA measures the return earned from the total assets invested. The commercial banks in Ethiopia during the study period have a constant trend having almost zero standard deviation with average ROA of 4%. Likewise, spread to total asset tread is constant with mean value of 2.9% and zero standard deviation. This implies that the banks had no

earning fluctuation risk. It also outperformed both the average ROA of Sub-Sahara countries and the international banking benchmark which was 2 % and 1.5% respectively. Whereas, both ROE and interest income to total revenue decline from 2006 up to 2008 and then scored a slight increase. The decline in ROE may be resulted from the increase in asset financed by the bank equity arose more than the raise of profit. But it is much greater[11] than both from developing countries and some international banks which have the highest scores of 10% (Keovongvichith, P 2012).

On the other hand the possible reasons for II/TR decline are; firstly, in a situation where the Bank continues to record high deposit growth, credit ceiling was enforced during the first half of 2009. This provision created a strong negative impact on the contributions of credit activity to the Banks' interest income. Secondly, the decrease in interest income growth from international banking activities in which the international interest rate goes down following the financial crisis and also domestic banks were relatively generate more revenue from their none-core business activities.

4.1.5 Liquidity

Liquidity management is the most important aspect of commercial banks .Once a bank loses its liquidity position soon or latter it encounters serious bank run and solvency problems. Lack of liquidity of a bank can also seriously damage the profitability and depositors confidence. Hence increase the likelihood of a bank failure. Managing liquidity is a daily process requiring bank managers to monitor and project cash flows to ensure adequate liquidity is maintained. Therefore, maintaining a balance between short-term assets and short-term liabilities is critical.

[11] However if we consider inflation, both ROA and ROE of Ethiopian commercial banks could not outperform SSA countries and the standard level.

Within the last three or four years NBE[12] drown tight monitory directives on banks reserve requirement and liquidity. Reserve requirement was raised from 5% to 10% in July, 2007, was further raised to 15%, and liquidity requirement was also raised from 15% to 25% in April 2008.The intention of these directives did not to safe gourde the depositors or the banking industry, it is a directive to control the alarming inflation which was between 25% & 35 (Annual reports 2008/9). Also on January 2012 reserve requirement reduction enacted by 5%.

Figure 7: Liquidity Trend

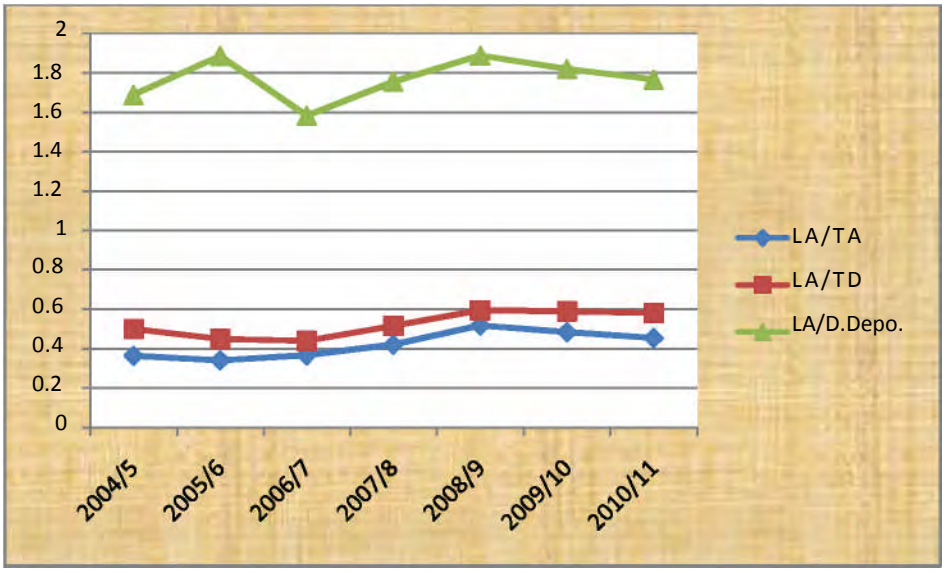


Table 8: Descriptive Statistics for Liquidity

	Max	Mini	SD
LA/TA	51.71021	34.09777	0.066877
LA/TD	59.49346	44.05786	0.065537
LA/DD	188.7438	158.159	0.109693

Source: Researcher computation

[12]The NBE has a mandate to supervise liquidity position of commercial banks in Ethiopia using the ratio of Liquid asset to Total deposit (LA/TD).

What so ever the motive of these directives, it improve the liquidity position of the banks. As we can see from the above figure and table all the three liquidity ratios' maximum achieved in 2008/9 following the directives.

Are commercial banks of Ethiopia liquid? Yes, because as per the above results during 2004/5-2010/11 they can meet any sudden withdrawal measured by the share of most sensitive liability, demand deposit, and banks liquid asset. It ranges between 158% and 189% of demand deposit. The Liquid Assets to Total Assets ratio for banks account for more than 34 percent, revealing that the banks are still in a better shape of liquidity and this may be considered that the operation of banks will be stable in the future. The Liquid Assets to Total Deposits ratios, which enable banks to cover unexpected deposit withdrawals, almost indicate the same trend and it is also above the regulatory requirement[13] with stable position.

4.2 Hypothesis Test

As evidenced from the literature, like other developing countries, Ethiopian commercial banks can be affected through international banking activities. Hence, using descriptive statistics and Paired-Samples T test, the following section test the hypothesis that the growth mean of the six variables before the crisis and during the crisis were not changed.

[13] The NBE requires banks to maintain at least 25% liquidity position.

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Table 9: Descriptive statistics for Commercial Banks of Ethiopia; before and after the crisis.

Variables	Mean		Difference
	Before	After	(After-Before)
LI	121.52000	-92.79286	-214.312857
FD	5.40041	7.79211	2.391695
IIFD	155.17716	-61.94965	-217.126804
TRIA	62.94326	23.54797	-39.395288
GFCTE	42.94013	49.08337	6.143239
ROA	13.14290	-2.68815	-15.831047

Source: Researcher computation

As of the above descriptive statistics result, except the growth mean difference of Deposit in Foreign Banks and Gain from Foreign Currency Translation and Exchange the remaining four variables were decreased.

Table 10: Paired-Samples T test results

Variables	Mean	Std. Deviation	Std. Error Mean	t	Sig. (2-tailed)
ALI - BLI	-214.312857	84.857014	32.072937	-6.682	.001*
AFD - BFD	2.391695	57.396084	23.431853	0.102	0.923
AIIFD - BIIFD	-217.126804	140.477328	57.349629	-3.786	.013*
ATR - BTR	-39.395288	76.159025	34.059351	-1.157	0.312
AGFCTE-BGFCTE	6. 143239	30.083095	13.453569	0.457	0.672
AROA - BROA	-15.831047	23.613098	9.640007	-1.642	0.161

Method: SPSS (Paired-Samples T test) researcher computation result

*Statistically significant at 5% level

As of the above Paired-Samples T test results, loan dispersed for importers (LI) decreased on average by 214% and it is statistically significant at 5% level. This implies that commercial banks of Ethiopia faced a significant shortage of foreign currency[14] to finance importers. The result is consistent with the banks' annual reports which disclosed the global financial crisis reduced banks ability to meet the foreign exchange needs of their importing clients adequately. Thereby it lowered the contributions of import activities to the Banks' overall income.

Though, the foreign deposit increased by 2% and was not significant, the interest income significantly decreased by 217% due to international interest rate fluctuation.

Consequently, total revenue generated from international banking activities on average reduced by 39% which was not statistically significant at 5% significance level.

[14] The country's foreign exchange reserve, which used to cover more than three months of imports, fell to cover only around one month of import during 2008/9.

Regarding GFCTE, the global financial crisis positively affected the banks earning on average by 6% but it was not statistically significant at 5%. The possible reason was the depreciation of Ethiopian Birr against United States Dollar[15].

Finally the Commercial Banks of Ethiopia Return on Asset average growth declined by 39% during the global financial crisis. However, the decline was not statistically significant at 5% significance level.

[15] Between the third quarter of 2008 and the first quarter of 2009, the currencies of six African countries depreciated against the United States dollar by 30 per cent or more. Ethiopian birr deprecated by 15%.

Chapter Five

5. Conclusions and Recommendations

This chapter has two sections. The firstly section concludes the CAMEL variables results and the impact of global financial crisis. The Second section presents the researcher recommendations.

5.1 Conclusions

Following the double digit economic growth credit demand by private sectors become rampant. This allows banks to mobilize their finances to the credit starved private sectors. On the other hand, the iterance of new banks, innovation of new technology and new financial services are the main character of Ethiopian commercial banks during the study period. Thus, the industry becomes more competitive than ever. These lead banks to take risky banking activities and it raise the level of RWA. As a result Capital Adequacy of commercial banks of Ethiopia slightly deteriorated during the study period. Despite this, the banks have maintained the National Banks of Ethiopia Capital Adequacy requirement.

When the Asset quality measured by AFDL to NLO, AFDL to TA and NPLs to NLO ratios, the banks' asset quality significantly improved following the NBE directives on banks credit limit since 2008/9. Relatively commercial banks of Ethiopia maintain more quality assets compared with the international standard and SSA countries.

Regarding investment on NBE bills and other government securities, public banks take the lion share through channeling resources from private sectors to government mega projects. Whereas private banks had almost zero investment until 2009/10 and then it

suddenly skyrocketed to1 1% in 2010/11 following National Bank of Ethiopia Bills Market Directive No MFA/NBE BILLS/001/2011.

As of IMF Report, this directive will gradually lead banks to be insolvent, erode credit availability for private sectors and it can negatively affect banks' profitability. Because excluding inflation, for private sectors, the cost of the finance is more than 3% where as the annual return from the bond is exactly 3%.

Managers' efficiency in deposit mobilization significantly deteriorates in 2008/9. Because, credit cup on private commercial banks loan disbursement were forced managers not to use the existing deposit efficiently to address the alarming loan demand of their customers. Concerning the operating efficiency of managers, they maintains improvement regardless the large investment on new technology and financial services.

Commercial banks of Ethiopia earning quality measured by ROA and ROE, it is much greater than both from developing countries and some international banks.

However if we consider inflation, both ROA and ROE of Ethiopian commercial banks more or less in line with SSA countries and the standard level.

According to the study findings Commercial banks of Ethiopia are liquid. Because, measured by ratio of the most sensitive liability to banks liquid asset, they can meet any sudden withdrawal. Also the Liquid Assets to Total Assets ratio for banks account for more than 34 percent, revealing that the banks are still in a better shape of liquidity and this may be considered as the operation of banks will be stable in the future. The Liquid Assets to Total Deposits ratios, which enable banks to cover unexpected deposit withdrawals, almost indicate the same trend and it was above regulatory requirement with stable position.

The above three liquidity ratios' maximum achieved in 2008/9 following reserve requirement raise from 5% to 10% in July, 2007, was further raised to 15%, and liquidity requirement raise from 15% to 25% in April 2008. Fortunately, reserve requirement reduction enacted in early January 2012 by 5%.

Generally, during the study period, the performance of Commercial banks in Ethiopia measured by CAMEL mainly changes in accordance with NBE directives. The directives imposed at different time affected all components of CAMEL negatively or positively. However, regardless the tight monitory directives of NBE their performance had been improved.

Regarding the global financial crisis, for developing countries such as Ethiopia, the immediate impact of the crisis was reflected mainly in the shortage of foreign exchange flows direly needed for their economic growth. The financial crisis hampered the capacities of the developed world to channel adequate volumes of foreign exchange to developing countries through purchase of developing countries' goods and services, giving grants, and through tourist and Diaspora remittance flows.

Hence, during the financial crisis, shortage of foreign exchange earnings significantly reduced commercial banks of Ethiopia ability to meet the foreign exchange needs of their importing clients adequately. Thereby it lowered the contributions of import activities to the Banks' overall income. Also interest income from foreign deposit significantly decreased during the financial crisis. Hence the null hypothesis there were no change in the mean growth of loan to importers and interest income from foreign deposit before and during the crisis are rejected.

On the other hand, the accelerated depreciation of the Birr led to higher gains in foreign exchange dealings than usual by scoring 6% growth. This has slightly compensated for low interest earnings. Total revenue from international activities and return on asset growth decreased by 39% and 16% respectively. Also deposit in foreign banks slightly increased by 2%. But these were not statistically significant. As a result, the null hypotheses in these variables have been rejected.

5.2 Recommendation

The researcher recommends the following;

- The interest rate when private banks lend to priority sector should have to be improved from 3% at least to maintain their earnings performance.
- The recent reserve requirement reduction should have to be continued to strengthen the room for providing funds to a credit-starved private sector improve the banks earning.
- With the appropriate regulatory and risk-related safeguards in place, allowing private banks more latitude to borrow from abroad would expand banks foreign currency sources to address their importers loan demand.
- Instead of drown tight monitory directive, the government should have to allow relatively free ground for banks.
- National Bank of Ethiopia should have to allow banks to temporarily liquidate their stock of NBE Bills when warranted for short-term liquidity needs

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Appendix

One-Sample Kolmogorov-Smirnov Test

Variables	Kolmogorov-Smirnov Z	Asymp. Sig. (2-tailed)
LI	0.633	0.818
FD	0.447	0.988
IIFD	0.416	0.995
TRIA	0.654	0.786
GFCTE	0.482	0.975
ROA	0.685	0.735

Source: researcher computation using SPSS

Note: the test distribution is normal for all the variables.