Financial Performance Analysis: A study on Selected Private Banks in Ethiopia

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PROJECT SUBMITTED TO ANDHRA UNIVERSITY, SCHOOL OF DISTANCE EDUCATION, VISAKHAPATNAM

FOR THE AWARD OF THE DEGREE OF

EXECUTIVE MASTER

OF

BUSINESS ADMINESTRATION

DECLARATION

I declare that the project entitled "Financial Performance Analysis: A study on Selected Private Banks in Ethiopia" submitted by me for the award of Executive Master of Business Administration is original and it has not been submitted previously in part or full to any university for the award of degree or diploma

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Wesen Legessa Tekatel

Date: _____

CERTIFICATE

We certify that this is a bona fide work done by Mr. Wesen Legessa Tekatel, a student of School of Distance Education for the award of the Degree of Executive Master of Business Administration in the School of Distance Education, Andhra University, Visakhapatnam under my guidance.

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ACKNOWLEDGEMENT

First of all, I would like to thank my advisor, Dr. M. Sarada Devi, MBA, Ph. D. Professor Department of Commerce and Management for her unreserved guidance through the whole period. This research paper would not have been possible without her technical input and support. Secondly, I would like to thank Commercial Bank of Ethiopia for providing necessary data and material support during my stay.

My gratitude also goes to my friend Teshome Dula, for his generous assistance and sharing of knowledge to make this paper a success. Many thanks also go to the staff and management of the School of Distance Education, Andhra University for your cooperation and support during the study period.

Thank you all.

Wesen Legessa Tekatel

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

Though economic development of a particular country is dependent on a number of factors such as industrial growth and development, modernization of agriculture, expansion of domestic and foreign trade, political stability, its dependence to largest extent on the banking sector is undeniable and/or banks play a key role in improving economic efficiency by channeling funds from resource surplus unit to those with limited access and/or the needy. Misra & Aspal (2013)

According to Zerayehu et al., (2013) and Ermiase Mengesha(2016) a sound financial system is indispensable for a healthy and vibrant economy. The financial system in Ethiopia, which is characterized as highly profitable, concentrated, and moderately competitive is dominated by banking industry and it is also amongst the major under banked economy in the world (World Bank, 2013). The development of a vibrant and active private banking system that complements with the existing public sector work is considered important to Ethiopia's economic progress according to the professional advice of group of experts working in well-known financial organization like WB, AfDB, and IMF. (Keatinge, 2014)

Hence, maximum care should be taken in order to maintain the safety and soundness of private commercial banks in Ethiopia. Any failure /incident in the banking industry especially in a country where the commercial banks dominate the financial sector will definitely have a contagious effect that can lead to bank runs and crises. Hence, it would be mandatory to scrutinize and take proactive measures to maintain the health of the economy and build up the public confidence.

When analyzing financial fitness, corporate accountants and investors alike closely examine a company's financial statements and balance sheets to get a comprehensive picture of profitability. The study used to solve the problem explained such as financial statements in their raw format do not reveal the information as per required by its users. There are a number of metrics and corresponding financial ratios that are used to measure profitability. Typically, analysts look to the standardized profitability metrics outlined in the generally accepted

accounting principles (GAAP), because they are easily comparable across business and industries, but some non- GAAP metrics are widely used.

There is also no performance measurement among the private commercial banks operating in the country. This undermines the banks financial operations such as profitability, efficiency, liquidity, and solvency.

The study employs the ratio analysis to compare the financial performance for selected private Commercial Banks in Ethiopia. Presently there are sixteen private commercial banks and three state owned banks operating in Ethiopia. From those banks we were select ten private commercial banks namely: Awash International Bank, Bank of Abyssinia, Cooperative Bank of Oromia, Dashen Bank, Lion International Bank, Nib International Bank, Oromia International Bank, United Bank, Wegagen Bank, and Zemen Bank. To do so, fifteen financial ratio analysis used such as, operating profit margin, net profit margin, return on assets, return on equity, assets utilization, operating expenses ratio, loans to deposits ratio, loans to assets ratio, debt to equity ratio, earning per share, price earnings ratio, dividend payout ratio, dividend yield ratio, inventory turnover ratio and equity multiplier.

Most of the studies on bank profitability have categorized the determinants of profitability into endogenous and exogenous factors. The endogenous factors are those firm specific factors that result from the decision and policies of management. Hence, efficiency, profitability, liquidity, capital structure, and asset quality ratios are among the endogenous factors. On the other hand, market concentration, ownership, and other macroeconomic factors such as economic growth and inflation are classified as exogenous factors. Unlike in Ethiopia, there are many literatures and arguments as to which factors determine commercial banks profitability in the developed world.

Hence, owing to existence of very limited literature in the subject matter and inspired by ratio analysis we explored the performance among selected private commercial banks in Ethiopia. The rationale behind focusing on bank specific variables only is owing to the existing less competitive and highly protected Ethiopian banking environment. Moreover, the exogenous factors are not expected to differ among the target banks that are selected for this particular study

since all are operating under the same financial system, same regulatory organ and are within the same geographic area.

Therefore, this work solely seeks to examine the effect of bank specific variables to rank the overall financial performance of selected private commercial banks. The project used seven years of secondary data in the industry so as to systematically analyze the effects of banks specific performance analysis. Hence, all the target banks selected for this particular study are classified under the medium category since all of them have stayed seven or more years in the business.

1.2 Overview of Ethiopian Private Financial Sector

The financial sector in Ethiopia is composed of the banking industry, insurance companies, microfinance institutions, saving and credit cooperatives and the informal financial sector. The banking industry accounts about 95% of the total financial sector assets, implying that the financial sector is under developed, and activities that banks could perform are legally limited, which in turn contribute to lesser contestability. (Zerayehu et al., 2013)

Ethiopia's banking industry is closed and generally less developed than its regional peers. The industry comprise one state owned development bank and 18 commercial banks, two of which are state-owned including the dominant commercial bank of Ethiopia (CBE), with assets accounting for approximately 70 percent of the industry's total holdings. As per the information disclosed in the NBE's Second Quarter Report (2014/15), the Ethiopian financial system is comprised of one central bank (NBE), 19 commercial banks of which three are owned by the government, 32 micro-finance institutions' (MFIs), 17 insurance companies of which 16 are privately owned, two pension funds namely: Social Security Authority and Private Sector Social Welfare Agency and numerous savings and microcredit associations. It contrasts with regional and international peer countries where banking industries have a much higher share of private sector and foreign participation. (Keatinge , 2014)

Financial intermediation is relatively low in Ethiopia and it is in declining trend. Financial intermediation is a driving force for economic development. In 2011, credit to private sector was around 14 percent of the gross domestic product (GDP). This indicates that it is falling behind its sub-Saharan African peers, which was compared to be 23 percent on average. Despite the overall

disintermediation trend, the Ethiopian financial sector continues to have the potential to be a driver of economic growth. The banking sector remains, stable, well capitalized and continues to be highly profitable. The Ethiopian banking sector ranks higher than the SSA average in terms of profitability measured on the basis of Return on Equity (ROE).

Modern banking in Ethiopia was introduced in 1905 by an agreement between the then Ethiopian Emperor Menelik II and a representative of the British owned National Bank of Egypt. The stated agreement has led to the establishment of Bank of Abyssinia and it has been inaugurated in Feb16, 1906. Later on in the 1930's, the bank was bought by the Ethiopian government and the State Bank of Ethiopia was established by a proclamation issued in August 1942. This bank was later disintegrated into two different banks forming the National Bank of Ethiopia and the Commercial Bank of Ethiopia. (Leulseged 2005; Alemayehu 2006)

In the history of Ethiopian banking industry, Addis Ababa Bank Share Company was the first private Ethiopian bank that had been established by the Ethiopian citizens' initiative and with the collaboration of National and Grandly bank London which had a possession of 40 percent of the total share holdings. The stated company had started its operation in 1964 with a paid up capital of two million. In the pre-1974 era, there hardly was any banking competitive environment, since the banking industry was dominated by a single government owned State Bank of Ethiopia. (Zerayehu et al., 2013)

After the termination of fragile and inefficient state-dominated banking sector that has existed in Ethiopia from 1974-1991, the current government restructured and introduced a new Banking and Monetary proclamation that gave more autonomy and further clarified the National Bank of Ethiopia's activities as a regulator and supervisor of the banking sector. Moreover, the reform has legalized investment in the domestic private banking sector in 1994 under proclamation no. 84/1994 that marked the beginning of a new era in the Ethiopian banking sector. (Admasu & Asayehegn 2014) In the Ethiopian banking industry, there exist only two forms of bank ownership: fully government owned or fully privately owned. No hybrid form of the two forms of ownership or the involvement of foreign ownership exists. (Tesfaye, 2014). Ethiopian law prohibits non-Ethiopian citizens from investing in Ethiopian Financial Institutions (NBE, Guideline No.FIS/01/2016). So almost all share holders of Ethiopian private banks are Ethiopian citizens.

To sum up, the banking industry in Ethiopia is highly regulated and closed from foreign competition. Banks operate extremely in conservative lending policies and require physical collateral for virtually all loans constrain inclusive growth. Key risks to financial stability and inclusive growth include: Unpredictable inflation; foreign exchange shortage exacerbated by unstable export performance; lack of skilled manpower in the banking industry; collateral based lending is constraining private sector lending and alternative financing mechanism is lacking; ineffective ICT infrastructure on account of very weak internet connectivity; regulatory burden and/or tightening of regulations (the 27% NBE bill and entry barrier for new private banks by increasing the capital requirement can be mentioned); restriction of foreign bank entry; lack of standardized accounting practices, and very weak and less organized risk management practices. Getnet(2012) and Ermiase(2016).

1.3 Statement of the problem

Competition in the Ethiopian banking industry is labeled as incontestable and difficult to enter owing to legal, technological and economic policy factors. Zerayehu et al. (2013) As a matter of fact, the Ethiopian government has implemented a number of reforms in the banking sector since it took power. However, all the measures taken to improve the banking sector significantly fall short. Hence, the existing Ethiopian financial sector is not able to offer adequate and competitive services on the scale required and it is not yet competitive and efficient. Admassu & Asayehgn (2014), Ermiase(2016).

Moreover, the Ethiopian banking sector has been known for supplying limited financial products, expensive branch expansions, low levels of technology utilization, huge reliance on manual work, and concentration on urban areas over the past two decades. Therefore, private commercial banks cannot continue doing business using traditional business models in this very competitive industry and need to upgrade their overall competitiveness. As a matter of fact, it has alerted the need for frequent bank examinations all over the world. Thus, Ethiopian private commercial banks need to learn timely on how to stay healthy, competent and profitable in a very competitive and dynamic business environment. In this study we will alert the private commercial banking sector to take necessary measures based on the recommended analysis. And also we have shown the position of selected banks in the industry. Hence, this particular research is meant to fill the gap in this regard.

1.4 Research Objectives

1.4.1 General Objective

The general objective of the study is to analyze the performance of private commercial banks in Ethiopia and to rank the respective private commercial banks based on their performances.

1.4.2 Specific Objectives:

Specific objectives that are derived from the general objective and needed to be addressed in the studies are:

- To identify the key bank performance.
- To measure the significance level of performance drivers in Ethiopian private commercial banks
- To examine the performance of private commercial banks by rating each bank specific proxy (in a multi -dimensional way)

1.5 Significance of the study

This study assists investors in understanding the current situation (strength & weaknesses) of Private commercial banks in Ethiopia which in turn will help investors to make information based decisions. The outputs of the study are expected to have the following importance:

It assists the government body to rank the private banks based on results.

It helps for decision making of the new investors in the private banking industry.

To be used as a spring board for other advanced researchers.

1.6 Scope of the study

The study is going to use the data's of ten private commercial banks for the years 2009-2015 (7 years) ; however, results can be generalized to cover all private commercial banks.

1.7 Limitations of the study

The study is limited to the performance analysis of private commercial banks by applying financial ratio analysis only.

1.8 Organization of the Study

Introduction → Literature Review → Research Method → Quantitative Research(using secondary data, books, journals, working papers , internet sources, etc.) → Empirical research → Analysis of finding → Conclusion.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

A healthy and vibrant economy requires a financial system that moves funds from people who save to people who have productive investment opportunities. The financial system is complex in both structure and function throughout the world. It includes many different types of institutions': banks, insurance companies, mutual funds, stock and bond markets, etc. According to Spong(2000), efficiency and competition are closely linked. In a competitive banking system, banks must operate efficiently and utilize their resources wisely if they are to keep their customers and remain in business. Zerayehu et al., (2013) also argued that survival in today's competitive environment totally depends on performance and growth. Competition has implications for efficiency, innovation, pricing, availability of choice, consumer welfare, and the allocation of resources in the economy.

2.2 Theories of Bank Profitability

According to literatures, bank performance studies have been started in the late 1980s and/or early 1990s. These studies revolve on different theories. For Instance, the signaling theory, which elaborates the relationship between capital and profitability, suggests that higher capital is a positive signal to the market of the value of bank. (Berger, 1995) By the same token, a lower leverage indicates that banks perform better than their competitors who can't raise their equity without further deteriorating the profitability (Ommeren, 2011). Bankruptcy cost hypothesis on the other hand, argues that in case where bankruptcy costs are

unexpectedly high , a bank holds more equity to avoid period of distress (Berger, 1995). Hence, both the signaling theory and bankruptcy cost hypothesis support the existence of a positive relationship between capital and profitability. However, the risk-return hypothesis suggests that increasing risks, by increasing leverage of the firm, leads to higher expected return (profitability) on one hand and it will definitely reduce the equity to asset ratio (represented by capital) on the other hand. Thus, risk-return hypothesis predicts a negative relationship between capital and profitability. (Obamuyi, 2013)

Contrary to the above argument, Modigliani - Miller theorem conclude that no relationship exists between the capital structure (debt or equity financing) and the market value of the bank (Modigliani and Miller, 1958). In other words, no relationship exists between equity to asset ratio and funding costs or profitability under perfect market. However, when the concept of Money Market's perfect market is scrutinized there is no such a thing in the real world owing to agency problem, information asymmetry problem, existence of transaction costs, etc. Thus, when the perfect market does not hold there could be a possible negative relationship between capital and profitability. Ommeren, (2011), Olweny and Shipho (2011) argued that the Market Power theory (MP) assumes bank profitability is a function of external market factors, while the Efficiency Structure (ES) theories and the balanced portfolio theory largely assume that bank performance is influenced by internal efficiencies and managerial decisions. Despite the existence of several models to deal with bank specific aspects, none of the models are believed to be sufficient to express all bank specific behaviors in a holistic manner, the researchers asserted.

2.3 Performance Measurement in Banks

According to Aburime (2009), the importance of bank profitability can be appraised at the micro and macro level of the economy. At the micro level, profit is the essential prerequisite of a competitive banking institutions and the cheapest source of funds. It is not merely a result, but also a necessity for successful banking in a period of growing competition on financial markets. Hence, the basic aim of every bank management is to maximize profit, as an essential requirement for conducting business.

Various literatures written by academicians also assert that profitability is the bottom line or ultimate performance result showing the net effects of bank policies and activities in a financial year. As a matter of fact, numerous factors such as inflation, accounting policy, high level of

competition, etc., may have an influence on a bank's profitability. In due course, wide varieties of ratios are discussed and different measures of profitability of commercial banks have been suggested.

For instance, Net Interest Margin (NIM), Return on Assets (ROA), and Return on Equity were identified by Ahmed (2003) are in use in the literature since then. Profitability measures according to Akinola (2008) include Profit before Tax (PBT), Profit after Tax (PAT), ROE, Rate of Return on Capital (ROC). Some other, studies on profitability have also used returns on average bank assets (ROAA), net interest margin (NIM) and return on average equity (ROAE) to measure profitability according to Francis (2013). However, owing to divergent views among scholars on the superiority of one indicator over the others as measures of profitability, there is no clear cut stand as to which best fits. Nonetheless, most literatures confine the profitability measure only to the three widely used measures namely Return on Assets (ROA), Return on Equity (ROE), and Net Interest Margin (NIM). Accordingly, some scholars select either of the three and some others preach to select three of them at once. In line with the above discussion, the researcher has used ROA as measure of profitability for this particular study owing to the limitations of NIM & ROE. NIM is reported to have two major limitations. First, it doesn't measure the total profitability of the bank as most of them earn fees and other non-interest income through service like brokerage and deposit account services without taking account operating expenses, such as personnel and facilities costs, or credit costs. Besides, net interest margin of two banks can't be contrasted as both the banks are poles apart in their own way in the nature of their activities, composition of customer base, etc. http: // www.readyratios.com

ROE is also indicated to have a lot of limitations. First, it is not risk sensitive. A decomposition of ROE shows that a risk component represented by leverage can boost ROE in a substantial manner. Second, ROE is unable to indicate risky assets and their solvency situation. Third, ROE failed to discriminate the best performing banks from the others in terms of sustainability of their results especially in the 2008 banking crises. Fourth, ROE is a short term indicator and must be interpreted as a snapshot of the current health of institutions. It does not take into account either institution's long term strategy or the long term damages caused by the crisis. Its weaknesses are even more obvious in times of stress, when there is a climate of uncertainty surrounding the medium term profitability of institutions. (ECB, 2010)

Flamini et al., (2009) has also argued that analysis of ROE disregards financial leverage and the risk associated with it. Hence, for the reasons stated above, ROA is considered as key proxy for bank profitability, instead of the alternative return on equity (ROE) & net interest margin (NIM). ROA measurement includes all of a business's assets including those which arise out of contribution by investors. Moreover, the inclusion of liabilities makes ROA even more valuable as an internal measurement tool, particularly in evaluating the performance of different departments or divisions of a company.

2.4 Financial Statements Analysis

Analysis of financial statements is the process of evaluating the relationship between component parts of financial statements to obtain a better understanding of the firm's position and performance. The focus of financial analysis is on key figures in the financial statements and the significant relationship that exists between them. The first task of the financial analyst is to select the information relevant to the decision under consideration from the total information contained in the financial statements .The second step is to arrange the information in a way to highlight significant relationships. The final step is interpretation and drawing of inferences and conclusions. In brief, financial analysis is the process of selection, relation and evaluation.(Khan, M Y, 2007).

Financial performance analysis is, therefore, the process of identifying the financial strengths and weakness of a firm by properly establishing relationship between the items of the balance sheet and the profit and loss account. Financial performance analysis involves careful selection of data from financial statements for the purpose of forecasting the financial health of the firm. This is accomplished by examining trends in key financial data, comparing financial data across firms, and analyzing key financial ratios. It also involves the assessment of firm's past, present and anticipated future financial condition.

2.4.1 Types of Financial Analysis

Financial analysis can be both internal and external.

Internal financial analysis:

Internal financial analysis (also known as managerial financial analysis) is necessary for meeting the own requirements of a company. It is aimed on determination of liquidity or results estimation of a last fiscal period. Usual output of internal analysis is a set of administrative decisions - combination of various measures intended for optimization of certain issue within the business. The internal analysis is typically performed inside a company by its financial department and constantly revised because of changes in macro- and microeconomic environment. Due to the nature of data sources using for the internal analysis (internal accounting books and reports), its results are always precise.

External financial analysis:

An external analyst does not have access to internal financial data and, hence, has to carry out so-called external financial analysis, when initiative does not belong to a company's management, but to a third party. The main goal and objectives of external analysis may differ from its managerial analogue. The defining a creditworthiness and investment possibilities by an investor, may serve purposes of an external financial analysis. In similar way, financial liquidity or solvency can be of interest for a bank. To make a better decision, potential business partners wish to know maximum available information about a firm and amount of risk involved in respect of investments profitability and possible gains and losses. External financial analysis is based on published accounting statements and aimed on prediction of a possible bankruptcy, assessment of business performance and financial sustainability of a company. Irrespective of type of the analysis, its methods are very similar in their determination and interpretation of various financial ratios, studying of changes over time and structural changes of articles. Correct application of financial analysis allows answering many questions concerning financial health of a business. (Pandey, 2006)

2.4.2 Basics of financial statements

Financial reporting system of a company utilizes its specially determined accounting statements and rules of their application. Regulation and use of financial reports is coordinated by national or (and) international accounting standards. There are four main financial statements:

- A balance sheet
- An income statement

- Cash flow statement and
- Statement of shareholders' equity

2.4.3 Common-size statements

Common size statement is a statement in which all items are expressed as a percentage of a base figure, useful for purposes of analyzing trends and changing relationship among financial statement items. These percentage figures bring out clearly the relative significance of each group of item in the aggregative position of the company.

Common size ratios are used to compare financial statements of different size companies or of the same company over different periods. By expressing the items in proportion to some size related measure, standardized financial statements can be created, revealing trends and providing insight into how the different companies compare. A common size analysis scales the financials into a percentage of sales for the income statement and a percentage of total assets on the balance sheet. The scaling effect highlights the most important expense areas and can reveal problem areas that may not have been noticed before.

It also provides a way to compare year-to-year variations in financials. The common size ratio for each line on the financial statement is calculated as follows:

$$Common\ size\ ratio\ = \frac{\text{item of interest}}{\text{item reference}}$$

The ratios often are expressed as percentages of the reference amount. Common size statements usually are prepared for the income statement and balance sheet, expressing information as follows:

- ❖ Income statement items- expressed as a percentage of total revenue
- ❖ Balance sheet items-expressed as a percentage of total assets Hettihewa, Samantala (1997).

CHAPTER THREE

METHODOLOGY

3.1 Data collection

Main data for our project are the annual financial reports of each concerned bank included in our studies. When we measurement the ratio analysis for any company, we must be used in annual financial report. We have also used four main financial statements for ratio analysis of selected private commercial banks such as balance sheets, an income statement, cash flow statement, statement of shareholder's equity.

3.2 Sample Size

The sample size consists of ten Ethiopian private commercial Banks listed on National Bank of Ethiopia. Annual Time Series data for both independent and dependent variables were extracted from the respective banks' annual audited financial statements from the period 2009-2015.

3.3 Data analysis

We used the model for performance evaluation of selected private commercial banks. In this work by using the data from financial report such as balance sheet, income statement and cash flow statement of the respected private banks, and using ratio analysis method we investigated the performance of private banks in Ethiopia.

3.4 Formula and Basic Concepts on Ratio analysis

Ratio analysis involves the methods of calculating and interpreting financial ratios to assess the firm's performance and status. It is a widely used tool of financial analysis. It can be used to compare the risk and return relationships of firms of different sizes. Ratio analysis is defined as the systematic use of ratio to interpret the financial statements so that the strengths and weaknesses of a firm as well as its historical performance and current financial condition can be determined.

Ratio analysis is not merely the application of a formula to financial data to calculate a given ratio. More important is the interpretation of the ratio value. To answer such questions as is it too high or too low? Is it good or bad? , a meaningful standard or basis for comparison is needed (Gitman, 2004).

Ratio analysis studies levels and changes of relative measurements of financial performance. This method is the most commonly used in the world practices of financial analysis because of its relative simplicity and availability of data sources. When using the ratio analysis one can tell how profitable a business is: to show if it has enough capital to meet its obligations and even suggest whether its shareholders satisfied by an increasing value of the company or not. Ratio analysis can also help to confirm whether a company is doing better this year than it was last year; and it can tell how a firm is performing comparing with similar firms in industry. The proper application of a ratio depends on correct economical and financial meaning of that ratio. To be useful, both the meaning and limitations of a chosen ratio have to be understood. Meaningful ratio analysis must conform to the following elements:

1. The viewpoint of the analysis taken;
2. The objectives of the analysis;
3. The potential standards of comparison.

The information contained in the main financial statements has major significance to various interested parties who regularly need to have relative measures of the company's business efficiency. Financial analysis conducted for the need of third parties is external by its nature and often called "analysis of financial statements". The analysis of financial statements is based on the use of ratios. The only data sources to ratio analysis are the firm's financial statements. (Gitman, 2004)

Frank J. Fabozzi and Pamela P. Peterson in their "Financial Management and Analysis" propose following classification of financial ratios according to the way they are constructed. They define four types of ratios:

- Coverage ratios: A coverage ratio is a measure of a firm's ability to "cover" certain financial obligations. The denominator is an obligation and the numerator is the amount of the funds available to satisfy that obligation.

- Return ratios: A return ratio indicates a net benefit gained from particular investment of resources or any other similar activity. The numerator is the net result of an operation and the denominator is the resources spent for that operation.
- Turnover ratios: A turnover ratio is a measure of how much a firm gets out of its assets. It compares the gross benefit from an activity with the resources employed in it.
- Component percentage: A component percentage is the ratio of one amount in a financial statement, such as sales, to the total of amounts in that financial statement.(Fabozzi, et al., 2003)

To make correct conclusions on ratio analysis, two types of ratio comparisons should be made: cross-sectional approach and trend-analyzing method.

Cross-Sectional Analysis: involves comparison of different firms' financial ratios over the same period in time. It usually concerns two or more companies in similar lines of business. The typical business is interested in how well it has performed in relation to other firms in its industry.

Trend Analysis (or Time-Series Analysis): In trend analysis, ratios are compared over periods, typically years. Year-to-year comparisons can highlight trends and point up possible need for action. Trend analysis works best with three to five years of ratios. The theory behind time-series analysis is that the company must be evaluated in relation to its past performance ,developing trends must be isolated ,and appropriate action must be taken to direct the firm towards immediate long term goals .Time-series analysis is often helpful in checking the reasonableness of a firm's projected financial statements. Certainly, the most informative approach to ratio analysis combines both cross-sectional and trend analyses. A combined view makes it possible to assess the trend in the behavior of the ratio in relation to the trend for the industry.

We can use Financial ratios to evaluate five aspects of operating performance and financial conditions:

- Return on investment
- Liquidity
- Profitability

- Activity
- Financial leverage

There are several ratios revealing each of the five aspects of firm's operating performance and financial condition and more details about it will follow in the next section.

3.4.1 Liquidity Ratios

The liquidity of a firm is measured by its ability to satisfy its short-term obligations as they come due (Gitman, 2004). Liquidity also stands for ability of a company to convert its assets into cash quickly and with lower costs as possible. Such liquid assets are necessary to cover any "financial emergencies" and play as a buffer in company's operations. Liquidity ratios reflect the short term financial strength/solvency of a company.

The liquidity of a business firm is usually of particular interest to its short-term creditors since the liquidity of the firm measures its ability to pay those creditors. Several financial ratios measure the liquidity of the firm. Those ratios are the current ratio, the quick ratio or acid test, cash ratio and net working capital.

Current Ratio: The current ratio, one of the most commonly cited financial ratios, measures the company's ability to meet its short-term obligations by using only current assets. The current assets consist of cash and assets that can easily be turned into cash and the current liabilities consist of payments that a company expects to make in the near future. Thus, the ratio of the current assets to the current liabilities measures the margin of liquidity. It is known as the current ratio. The current ratio is probably the best known and most often used of the liquidity ratios.

$$Current\ Ratio = \frac{\text{Current Asset}}{\text{Current Liabilities}}$$

A satisfactory current ratio would enable a company to meet its obligations even when the value of the current assets declines. The higher the current ratio, the larger is the amount of birr available per birr of current liability, the more is the company's ability to meet current obligations and the greater is the safety of funds of short-term creditors. Thus, current ratio, in a way, is a measure of margin of safety to the creditors.

It is important to note that a very high ratio of current assets to current liabilities may be indicative of slack management practices, as it might signal excessive inventories for the current requirements due to poor inventory management, excessive cash due to poor cash management and poor credit management in terms of overextended accounts receivable. At the same time, the company may not be making full use of its current borrowing capacity. Therefore, a company should have a reasonable current ratio (Khan, M Y, 2007).

The result of very high current ratio is to have an improved liquidity and greater safety of funds of short-term creditors thereby reduced risk to creditors but a sacrifice of profitability because current assets are less profitable than fixed assets. A very lower current ratio indicates opposite from the higher current ratio stated above.

Quick (Acid-Test) Ratio: Measures liquidity by considering only quick assets. Differences in structure of assets may require calculating the quick ratio. Some assets are more liquid than others are. For example, inventories have relatively low liquidity since selling of them may require lowering prices and a business has to find a buyer if it wants to liquidate the inventory, or turn it into cash. Finding a buyer is not always easy. On the other side, cash, short-term securities, and bills that customers have not yet paid, are more liquid.
The quick ratio provides, in a sense, a check on the liquidity of a company as shown by its current ratio. The quick ratio is a more rigorous and penetrating test of the liquidity position of a company.

$$Quick\ Ratio = \frac{Cash + Securities + (accounts\ and\ notes\ receivable)}{Current\ Liabilities}$$

Generally, a quick ratio of 1:1 is considered satisfactory as a company can easily meet all current claims. (Khan, M Y, 2007)

Cash Ratio (Absolute liquidity ratio): The most liquid assets of the company's are cash and financial instruments. These assets have an absolute liquidity and allow redeeming all obligations in no time. The recommended value of this ratio is 0.2 to 0.5.

$$Quick\ Ratio = \frac{Cash + Securities + (short\ term\ Securities)}{Current\ Liabilities}$$

Operating Cash Flow Ratio: is focused on the ability of a company's operations to generate the

resources needed to repay its current liabilities. Current maturities of long-term debts along with notes payable comprise of current debt obligations.

$$Operating\ Cash\ Flow\ Ratio\ =\ \frac{Cash\ Flow\ from\ Operations}{Current\ Liabilities}$$

These measures of liquidity are just indicators of a problem financial situation and aimed to attract attention of an involved party. They are no substitutes for a detailed financial plan ensuring that a company can pay its bills. Liquidity ratios also have a negative characteristic. Because of short-term assets and liabilities are easily changed, measures of liquidity can rapidly become outdated. (Khan, M Y, 2007).

3.4.2 Profitability ratios

Profitability is a relative term. It is hard to say what percentage of profits represents a profitable firm, as profits depend on such factors as the position of the company and its products on the competitive life cycle (for example profits will be lower in the initial years when investment is high), on competitive conditions in the industry, and on borrowing costs. For decision-making, it is concerned only with the present value of expected future profits. Past or current profits are important only as they help to identify likely future profits, by identifying historical and forecasted trends of profits and sales. Profitability ratios measure operating efficiency and ability to ensure adequate return to shareholders.

In other words, they are used to evaluate the overall management effectiveness and efficiency in generating profit on sales, total assets and owners' equity.

Profitability ratios help to measure how well a company is managing its expenses. These measurements allow evaluating the company's profits with respect to a given level of sales, a certain level of assets, or the owner's investment. It is related to the effectiveness with which management has employed both the total assets and the net assets as recorded on the balance sheet. These ratios are usually created by relating net profit, defined in a variety of ways, to the resources utilized in generating that profit. (Khan, M Y, 2007).

Gross Profit Margin: This ratio measures the percentage of sales money remaining after the firm has paid for its goods. The higher the gross profit margin, the better and the lower the relative cost of sales.

A company should have a reasonable gross margin to ensure adequate coverage for operating expenses of the company and sufficient return to the owners of the business, which is reflected in the net profit margin.

The gross profit margin ratio is calculated as follows:

$$\text{Gross profit margin} = \frac{\text{Sales} - \text{Cost of goods sold}}{\text{Sales}} = \frac{\text{Gross profit}}{\text{Sales}}$$

In general, a company's gross profit margin should be stable. It should not fluctuate much from one period to another, unless the industry it is in has been undergoing drastic changes, which will affect the costs of goods sold or pricing policies.

Operating Profit Margin: It measures the percentage of each monetary unit from sales remaining after all costs and expenses other than interest, taxes, and preferred stock dividends are deducted (Gitman, 2004).It represents the pure profit earned on each sales Birr. Operating profits are pure because they ignore any financial and government charges and measures only the profit earned on operations. If a company's margin is increasing, it is earning more per 1 monetary unit of sales. A high operating profit margin is preferred.

$$Operating\ Profit\ Margin = \frac{Operating\ Profits}{Sales}$$

Net Profit Margin: The net profit margin measures the percentage of each monetary unit from sales remaining after all costs and expenses, including interest, taxes, and preferred stock dividends, have been deducted.

Return on Assets (ROA): Measures the overall effectiveness of management in generating profits with its available assets. A company is efficient if it can generate an adequate return while using the minimum amount of assets. Efficiently working company does not require too much cash for everyday operations and can shift its excesses to investments in new spheres.

Consequently, the ROA is considered a critical ratio for determining a company's overall level of operating efficiency and it shows how much profit was earned on the total capital used to make that profit. Here, the profitability ratio is measured in terms of the relationship between net profits and assets. The ROA may also be called profit-to-asset ratio. The formula is as follows: (Khan, M Y, 2007).

$$Return\ on\ Assets = \frac{Net\ Profits}{Total\ Assets}$$

Return on Equity (ROE): The **return on equity ratio** or **ROE** is a profitability **ratio** that measures the ability of a firm to generate profits from its shareholders investments in the company. In other words, the **return on equity ratio** shows how much profit each rupees of common stockholders' **equity** generates.

The return on equity measures the return earned on the owners' capital (both preferred and common stockholders') as an indicator of management's performance.

High return on equity indicates effective management performance but low return on equity indicates ineffective management performance. (Khan, M Y, 2007).

$$Return\ on\ Equity = \frac{Net\ income}{Shareholders\ Equity}$$

Return on Capital Employed (ROCE): This ratio indicates the efficiency and profitability of a company's capital investments. This ratio provides sufficient insight into how efficiently the long-term funds of owners and lenders are being used. The higher the ratio, the more efficient is the use of capital employed. (Khan, M Y, 2007).

$$Return\ on\ Capital\ Employed = \frac{EBIT}{Total\ Asset - Current\ Liabilities}$$

3.4.3 Activity (Utilization) Ratios

This is another set of ratios to estimate how efficiently a company uses its working capital. Efficiency (or activity) ratios measure the speed with which various accounts are converted into sales or cash – inflows or outflows. Asset management ratios usually compare the level of sales or cost of goods sold with the level of investment in various asset accounts. They measure how

efficiently or intensively a company uses its assets to generate sales. Are assets efficiently managed? How well a company's funds are utilized?

During the analysis of financial statements, it is important to look beyond measures of liquidity and to evaluate the efficiency of specific current accounts. The greater is the rate of turnover or conversion, the more efficient is the utilization of assets, other things being equal. Asset management, also called asset utilization, ratios tells companies how well their assets are working to generate sales. Cash is always the best asset but it doesn't generate any revenue. The other assets on the balance do generate sales revenue.

Those other assets are accounts receivable, inventory, and fixed assets. You may also have some other assets on your balance sheet but these are the main ones we use to calculate how efficiently your assets are working for you. Several ratios are available from the real analysis practices for measuring the performance of the most important elements of a company.

Activity ratios include inventory turnover ratio, accounts receivable turnover ratio, average collection period, fixed assets turnover ratio, total assets turnover ratio and accounts payable turnover ratio. (Khan, M Y, 2007).

Inventory Turnover: The inventory turnover ratio is one of the most important financial ratios. Of all the asset management ratios, it gives the company some of the most important financial information.
This ratio indicates the number of times inventory is replaced during the year.

It is calculated as follows:

$$Inventory\ Turnover = \frac{Cost\ of\ Goods\ sold}{Average\ Inventory}$$

In general, a high inventory turnover ratio is better than a low ratio. A high ratio implies good inventory management. Yet, a very high ratio calls for a careful analysis. It may be indicative of underinvestment in, or very low level of inventory. A very low level of inventory has serious implications. It will adversely affect the ability to meet customer demand as it may not cope with its requirements. That is, there is a danger of the company being out of stock and incurring high stock out cost. It is also likely that the company may be following a policy of replenishing its

stock in too many small sizes. Apart from being costly, this policy may retard the production process as sufficient stock of materials maybe available.

Similarly, a very low inventory turnover ratio is dangerous. It signifies excessive inventory or overinvestment in inventory. Carrying excessive inventory involves cost in terms of interest on funds locked up, rental of space, possible deterioration and so on. A low ratio may be the result of inferior quality goods, overvaluation of closing inventory, stock of un saleable/obsolete goods and deliberate excessive purchases in anticipation of future increase in their prices and so on. Thus, a company should have neither too high nor too low inventory turnover (Khan, M Y, 2007).

Average Collection Period (ACP): The ACP, or age of accounts receivable, is useful in evaluating credit and collection policies. This ratio represents the approximate amount of time that it takes a company to receive payments owed, in terms of receivables, from its customers and clients. It shows how quickly receivables or debtors are converted into cash. In other words, the average collection period of accounts receivable is the average number of days required to convert receivables into cash. In order to calculate average collection period, the number for accounts receivable comes off the company's balance sheet. Sales come off the income statement and are adjusted for credit sales. Sales are then divided by the number of days in a year to come up with average daily credit sales. The final result is a number of days, which is the average collection period.

In order to interpret the average collection period, you have to have comparative data. If you compare the average collection period to past years and it is increasing, that means your accounts receivables aren't as liquid or aren't being converted to cash as quickly. If the average collection period is decreasing, the opposite is true.

You also have to look at the company's credit policy. The average collection period should be compared with the firm's credit policy to see how well the firm is doing. If the average collection period, for example, is 45 days, but the firm's credit policy is to collect its receivables in 30 days, then the management needs to fix the company's collection efforts.

$$Average\ Collection\ Period = \frac{Average\ Accounts\ Receivable}{Average\ Sales\ per\ Day}$$

The shorter the average collection period, the better is the trade credit management and the better is the liquidity of debtors, as short collection period implies prompt payment on the part of debtors. On the other hand, long collection period reflect delayed payments by debtors. In general, short collection period is preferable. It is not; however, very prudent for a company to have either a very short collection period or a very long one. The average collection period is meaningful only in relation to the company's credit terms. Lawrence D.Schall and Charles W.Haley. (1991).

Total Assets Turnover: The total assets turnover ratio measures the ability of a company to use its assets to generate sales. This ratio indicates how much Birr in sales the company squeezes out of Birr it has invested in assets. It considers all assets including fixed assets, like plant and equipment, as well as inventory and accounts receivable.

It measures a company's efficiency at using its assets in generating sales or revenue - the higher the total assets turnover ratio, the more efficient is the management and utilization of the assets while low total assets turnover ratios are indicative of underutilization of available resources and presence of idle capacity. The lower the total asset turnover ratio, as compared to historical data for the firm and industry data, the more sluggish the firm's sales. Gitman, (2004). This may indicate a problem with one or more of the asset categories composing total assets - inventory, receivables, or fixed assets. The company should analyze the various asset classes to determine where the problem lies.

It also indicates pricing strategy: companies with low profit margins tend to have high asset turnover, while those with high profit margins have low asset turnover.

$$Total\ Asset\ Turnover = \frac{Sales}{Total\ Asset}$$

Fixed Assets turnover: The fixed assets turnover ratio measures the company's effectiveness in generating sales from its investments in plant, property, and equipment. It is especially important

for a manufacturing firm that uses a lot of plant and equipment in its operations to calculate its fixed asset turnover ratio.

$$Fixed\ Asset\ Turnover = \frac{Sales}{Fixed\ Assets}$$

If the fixed asset turnover ratio is low as compared to the industry or past years of data for the firm, it means that sales are low or the investment in plant and equipment is too much. This may not be a serious problem if the company has just made an investment in fixed asset to modernize. (Lawrence D.Schall and Charles W.Haley. (1991))

Accounts Payable Turnover: The ratio that shows to potential investors how many times per period a company pays its average payable amount. Lawrence D.Schall and Charles W.Haley. (1991)

$$Account\ Payable\ turnover = \frac{Cost\ of\ Goods\ Sold}{Average\ Account\ Payable}$$

Accounts Receivable Turnover: This ratio represents the number of times the amount of accounts receivable is collected throughout the year. It indicates how many times, on average, accounts receivables are collected during a year. The accounts receivable turnover ratio works with the average collection period ratio to determine the quality of a firm's receivables and the efficiency of the firm's collection and credit policies.

A high turnover ratio is generally a good thing since it means that customers are paying their bills on time. If the turnover ratio is too high as compared to the industry the company is in, it may mean, however, that the company is too restrictive in its credit and collection policies and not extending credit to enough customers.

A ratio substantially low may suggest that a company has: More liberal credit policy (i.e., longer credit period), poor credit selection, and inadequate collection effort or policy which could lead to accounts receivable to be high and higher bad debt or uncollectible receivable, more restricted cash discount that could make sales to be too low. As a result of the above factors the company could have poor liquidity and profitability position. The company’s funds would be tied up in receivables as payments by customers are delayed. The outcomes of the higher accounts receivable turnover could be:

- Avoidance of the risk of bad debts
- Increase the company's liquidity and profitability position
- Small funds tied-up in accounts receivable
- The company's volume of sales may adversely affected
- Customers pay quickly

The formula is as follows:

$$Accounts\ Receivable\ Turnover = \frac{Sales}{\boldsymbol{Average}\ Accounts\ Receivable}$$

The sales figure is taken off the firm's income statement and the accounts receivable figure is taken off the firm's balance sheet. The result, number of times, is the number of times, each year, the firm's accounts receivables are collected or "cleaned up."

In "Business Analysis and Valuation", one can find a supplementary way to evaluate the efficiency of a company's working capital management. There are three following ratios: Days in Receivables, Days in Inventory, and Days in Payables. (Palepu, 2006)

Days in Receivables: The Days in Receivables ratio provides an estimate of the number of days, on average, what it takes for customers to pay their account (if for a company, how many days are needed to collect their revenues). Lawrence D.Schall and Charles W.Haley. (1991)

$$Days\ in\ receivable = \frac{Average\ account\ receivable}{Average\ Sales} * 365$$

The Inventory Holding Period: shows the average age of inventory or the length of time (in days or months) takes to sell inventory.

$$Inventory\ holding\ period = \frac{Days\ in\ a\ year}{Inventory\ \ Turnover\ ratio}$$

Inventory holding period is the average number of days a company held an inventory before a sale. A low number of inventory days are desirable.

A high number of days imply that management is unable to sell existing inventory stocks. The Days in Inventory gives an idea of how long it takes a company to turn their inventory into sales while production process. Lawrence D.Schall and Charles W.Haley. (1991)

The Days in Payables: shows a company's average payable period. It is the indicator of how long a company is taking to pay its trade creditors.

$$Days\ in\ Payable = \frac{Average\ accounts\ Payable}{Avrage\ cost\ of\ sales} * 365$$

3.4.4 Leverage ratios

Financial leverage ratios are also called debt ratios. You may also find them called long-term solvency ratios. They measure the ability of the company to meet its long term debt obligations, such as interest payments on debt, the final principal payment on debt, and any other fixed obligations like lease payments.

These debt ratios allow the management of the company to determine how well the business can meet its long-term debt obligations. These ratios are worth nothing, or very little, in isolation. You have to be able to do trend and industry analysis in order to be able to determine how well you are managing your debt position.

"When a company borrows money, it agrees to make a series of fixed payments in the future. Because their shareholders get only what is left after the debt holders have been paid, the debt is said to create financial leverage. In extreme cases, if crisis times come, a company may be unable to pay its debts" (Brealey, 2003). Financial leverage enables a company to have an asset base larger than its equity. A company can finance its assets with equity or with debt. Usual practice is expanding the equity through borrowings and the creation of other liabilities like accounts payable, accrued liabilities, and deferred taxes. Financial leverage increases the company's ROE as long as the cost of the liabilities is less than the return from investing these funds. "While a company's shareholders can potentially benefit from financial leverage, it can also increase their risk" (Palepu, 2006).

Debt ratios show the extent to which a firm is relying on debt to finance its investments and operations, and how well it can manage the debt obligation, i.e. repayment of principal and

periodic interest. If the company is unable to pay its debt, it will be forced into bankruptcy. On the positive side, use of debt is beneficial as it provides tax benefits to the firm, and allows it to exploit business opportunities and grow.

Total debt includes short-term debt (bank advances + the current portion of long-term debt) and long-term debt (bonds, leases, notes payable).

Contrasting with equity, liabilities have predefined payment terms, and the company may face risk of financial distress if it fails to meet these obligations. There are some ratios to evaluate the degree of risk coming from a financial leverage (Palepu, 2006). There are two types of financial leverage ratios:

- Component percentages
- Coverage ratios.

Component percentages compare a company's debt with either its total capital (debt plus equity) or its equity capital. Coverage ratios reflect an ability to satisfy fixed financial obligations, such as interest, principal repayment, or lease payments (Fabozzi, 2003). Leverage ratios include debtratio, debt-equity ratio, times-interest earned ratio, and fixed-payment coverage ratio.

Total Debt to Assets Ratio: This component ratio is also-called "Debt Ratio" and measures the proportion of total assets financed by company's creditors. This ratio reflects the relative claims of creditors and shareholders against the assets of the company. Alternatively, this ratio indicates the relative proportions of debt and equity in financing the assets of the company. The Debt Ratio tells the percent of funds provided by creditors and to what extent the company's assets protect creditors.

The ratio is calculated as follows:

$$Debt\ ratio\ = \frac{Total\ Liabilities}{Total\ Assets}$$

Creditors prefer moderate or low debt asset ratio because the lower the ratio the greater the caution of liquidation. That is, low or moderate debt asset ratio provides creditors more protection in case a company experiences financial problems.

The higher Total Debt to Assets Ratio, the greater degree of indebtedness and the more financial leverage a company has. A low Debt Ratio would indicate that the company has sufficient assets to cover the debt load. Creditors and management favor a low Debt Ratio. Lawrence D.Schall and Charles W.Haley. (1991)

Debt to Equity Ratio: Another component ratio that is able to reveal how a company finances its operations with debt relative to the book value of its shareholders equity. Debt to Equity is the ratio of total debt to total equity. This ratio indicates the relationship between the long-term funds provided by creditors and those provided by the company's owners. It compares the funds provided by creditors to the funds provided by shareholders. As more debt is used, the debt to equity ratio will increase. Since the company incur more fixed interest obligations with debt, risk increases.

On the other hand, the use of debt can help improve earnings since the company get to deduct interest expense on the tax return. So the company wants to balance the use of debt and equity such that it maximizes profits, but at the same time manage the risk.

$$Debt\ to\ equity\ ratio = \frac{Average\ Liabilities}{Average\ book\ value\ of\ shareholder's\ equity}$$

In general, the lower the ratio, the more conservative (and probably safer) the company is. However, if a company is not using debt, it may be foregoing investment and growth opportunities. A frequently cited rule of thumb for manufacturing and other non-financial industries is that companies should not finance more than 50% of their capital through external debt

Times-Interest Earned Ratio: The times interest earned ratio is another debt ratio that measures the long-term solvency of a business. It measures how well a company can meet its interest expense obligations.

The first coverage ratio, which provides the information about how well a company can cover or meet the interest payments associated with its debt. The ratio compares the funds available to pay interest (EBIT) with the interest expense. The number of times indicates how well the firm meets its interest obligations. The higher the number, the better the firm can pay its interest expense on debt.

Usually, if the debt to assets ratio is high, you will find that the times interest owned ratio is low since the business has a lot of debt.

$$Time\ interest - covered\ ratio = \frac{EBIT}{Interest\ expense}$$

This shows the firm's ability to cover fixed interest charges (on both short-term and long-term debt) with current earnings. The margin of safety that is acceptable varies within and across industries, and also depends on the earnings history of a firm (especially the consistency of earnings from period to period and year to year).

As a rule the times interest earned ratio of at least 3 times and preferably closed to 5 times be suggested. The greater the interest coverage ratio, the better is ability to pay interest expense. A high ratio suggests that the company has sufficient margin of safety to cover its interest charges and the company's earnings could decline without jeopardizing the company's ability to make interest payments.

A low ratio suggests, other things remain constant;

- Creditors are more at risk in relation interest due
- Failure to meet interest can bring legal action by creditor possibly resulting in bankruptcy
- The company may face difficulty in raising additional financing through debt as it is more risky than similar companies.

Long-term Debt to Total Assets: The ratio measures a share of company's total assets, which is financed by long-term sources. The higher this value is better. The formula is the following:

$$Long - term\ debt\ to\ total\ assets = \frac{Average\ long - term\ liabilities}{Average\ total\ assets}$$

Long-term Debt to Fixed Assets: This ratio shows which part of the fixed asset is created by long-term financing.

$$Long - term\ debt\ to\ fixed\ assets = \frac{Average\ long - term\ liabilities}{Average\ fixed\ assets}$$

Fixed-Payment Coverage Ratio: The fixed-payment coverage ratio measures the company's ability to meet all fixed payment obligations, such as loan interest, principal, lease payments and preferred stock dividends. Like the times-interest earned ratio, the higher this value the better.

$$Fixed - payment\ coverage\ ratio = \frac{EBIT + Lease\ payment}{Interest + Lease\ payment + [(principal\ payment) \times (1/1 - T)]}$$

Where, T is the corporate tax rate applicable to the company's income. The term 1/(1-T) is included to adjust the after tax principal and preferred stock dividend payments back to a before tax value of all other terms. Fixed payment coverage ratio measures risk. If the ratio is lower, creditors and preferred stockholders view the company as more risky and the company may be unable to meet its fixed shares of earnings decline and may be forced into bankruptcy. A high ratio suggests a larger cushion of protection in the events of worsening financial position. (Pandey, 2006)

3.4.5 Limitations on using financial ratios

Financial ratios have certain limitations in their use and are not meant to be applied as definitive answers. They are usually used to provide additional details in the determination of the results of financial and managerial decisions. They can provide clues to the company's performance or financial situation.

However, on their own, they cannot explain whether performance is good or bad. As for the external financial analysis, ratios also play a role of basic indicators, showing just an overview of studying business entity. Ratios have to be interpreted carefully. Some of the limitations about using ratios in financial analysis are:

- Ratios with large deviations from the norm only indicate symptoms of a problem. It is essential always to carry out additional analysis based on internal data to isolate the causes of the problem. Ratio analysis just directs attention to potential weak spots. It does not provide conclusive evidence and only shows the existence of a problem;
- There is considerable subjectivity involved, as there is no "correct" number for the various ratios. Further, it is hard to reach a definite conclusion when some of the ratios are favorable and some are unfavorable;

- Ratios may not be strictly comparable for different firms due to a variety of factors such as different accounting practices or different fiscal year periods. Furthermore, if a firm is engaged in diverse product lines, it may be difficult to identify the industry category to which the firm belongs. Also, just because a specific ratio is better than the average does not necessarily mean that the company is doing well; it is quite possible rest of the industry is doing very poorly;
- Ratios are based on financial statements that reflect the past and not the future Furthermore, financial statements such as the balance sheet indicate the picture at "one point" in time, and thus may not be representative of longer periods;
- Financial statements provide an assessment of the costs and not value.
- Financial statements do not include all items.
- Results can be distorted by inflation, which can cause the book values of inventory and depreciable assets to differ greatly from their true (replacement) values. Additionally, inventory costs and depreciation write-offs can differ from their true values, thereby distorting profits. Without adjustment, inflation tends to cause older firms (older assets) to appear more efficient and profitable than newer firms (newer assets);
- Difficulty to decide the proper basis of comparison. It is also impossible to compile an industry wide averages or ratios that serve as a useful standard to measure all firms;
- The standard of comparison do not consider the different technological, social, market, etc.

CHAPTER FOUR
RESULTS AND ANALYSIS

In this chapter we present the result from our data analysis. This part is separate into five categories. At first, we briefly examined the performance of liquidity position of selected private banks. Second, we present the asset management condition of those companies. Third, we demonstrate the performance of profitably those companies, Forth we discussion the debt management position and finally we represent the market value of those companies. Financial Highlights of the company's followed by the ratios analysis.

4.1 Liquidity Ratio

The liquidity ratios measure the capability of bank to meet its short-term obligations. Generally, the higher value of this ratio indicates that firm has larger margin safety to cover its short-term obligations. Among the various liquidity measures, the study uses the following three liquidity ratios.

4.1.1 Loan to Deposit Ratio (LTD):

The **loan-to-deposit ratio** is a commonly used statistic for assessing a bank's liquidity by dividing the bank's total **loans** by its total **deposits**. This number is expressed as a percentage.

A higher loan deposit ratio indicates that a bank takes more financial stress by making excessive loan. Therefore, lower loan deposit ratio is always favorable to higher loan deposit ratio. This low value of loan deposit ratio also indicates effectiveness of mediation function of bank.

From the Table 4.1 we confer that mean of LTD for NIB is the highest and OIB is the lowest.

4.1.2 Cash Deposit Ratio (CDR):

Cash in a bank vault is the most liquid asset of a bank. Therefore, a higher CDR indicates that a bank is relatively more liquid than a bank, which has lower CDR. Cash Deposit Ratio is defined as the ratio of *cash in hand* and balances with NBE to deposits.

CDR is calculated as under: $$CDR = \frac{Total\ Cash}{Deposit}$$

Table 4.2 show the CDR of the ten private commercial banks in Ethiopia.

Table 4.1: Loan to Deposit Ratio of 10 private commercial banks in Ethiopia.

Bank	2009	2010	2011	2012	2013	2014	2015	mean
AIB	54.67%	51.52%	51.48%	59.80%	61.46%	61.01%	67.40%	58.19%
DB	56.17%	49.77%	52.51%	57.76%	55.91%	53.33%	58.18%	54.80%
BOA	60.28%	61.36%	54.58%	57.56%	55.34%	55.64%	53.11%	56.84%
WB	56.66%	63.06%	48.85%	61.92%	62.12%	54.92%	61.51%	58.43%
UB	59.52%	55.32%	54.02%	60.46%	58.42%	56.93%	58.11%	57.54%
CBO	75.57%	52.61%	40.49%	49.45%	47.39%	66.86%	89.12%	60.21%
NIB	67.36%	61.69%	53.64%	63.53%	68.26%	68.25%	70.53%	64.75%

LIB	66.82%	57.39%	52.13%	55.89%	62.59%	57.36%	63.51%	59.38%
OIB	61.41%	44.95%	43.36%	48.16%	53.15%	50.59%	64.56%	52.31%
ZB	67.93%	55.80%	55.50%	56.48%	54.67%	47.18%	56.41%	56.28%
Average	62.64%	55.35%	50.66%	57.10%	57.93%	57.21%	64.24%	57.88%

Source: researcher's own computation from financial statements

Table 4.2: Cash Deposit Ratio of 10 private commercial banks in Ethiopia.

Bank	2009	2010	2011	2012	2013	2014	2015	mean
AIB	64.22%	53.10%	52.28%	31.89%	27.27%	33.65%	20.96%	40.48%
DB	59.34%	51.80%	52.58%	41.05%	38.24%	37.00%	27.91%	43.99%
BOA	60.00%	57.64%	47.67%	37.26%	23.20%	30.19%	25.95%	40.27%
WB	78.20%	72.29%	69.51%	45.18%	33.98%	21.34%	24.79%	49.33%
UB	68.74%	69.31%	58.68%	42.36%	25.57%	38.00%	23.07%	46.53%
CBO	45.87%	62.07%	61.46%	38.83%	69.95%	33.90%	33.08%	49.31%
NIB	70.82%	62.24%	66.79%	46.77%	31.63%	24.18%	18.39%	45.83%
LIB	62.92%	72.77%	70.35%	59.83%	42.43%	42.05%	34.45%	54.97%
OIB	94.02%	76.58%	55.68%	41.69%	32.52%	37.26%	22.97%	51.53%
ZB	79.68%	88.83%	60.82%	46.03%	36.67%	49.28%	30.19%	55.93%
Average	68.38%	66.66%	59.58%	43.09%	36.15%	34.69%	26.18%	47.82%

Source: researcher's own computation from financial statements

4.1.3 Loan to Asset Ratio (LAR):

The loans to assets ratio measure the total loans outstanding as a percentage of total assets. The higher this ratio indicates a bank is loaned up and its liquidity is low. The higher the ratio, the more risky a bank may be to higher defaults.

This figure is determined as follows: $$LAR = \frac{Loans}{Total\ \ Assets}$$

Table 4.3, Loan to Asset Ratio of 10 private commercial banks in Ethiopia.

Bank	2009	2010	2011	2012	2013	2014	2015	mean
AIB	42.24%	39.59%	39.41%	46.12%	51.89%	45.82%	52.29%	45.34%
DB	45.74%	40.87%	42.41%	46.37%	44.88%	42.94%	46.55%	44.25%
BOA	49.46%	50.21%	45.56%	47.30%	46.42%	44.88%	43.21%	46.72%
WB	41.27%	43.08%	36.10%	42.72%	45.12%	40.96%	44.28%	41.93%
UB	46.27%	44.33%	42.42%	46.49%	47.21%	42.69%	47.77%	45.31%
CBO	58.27%	40.82%	32.07%	37.69%	32.36%	49.57%	57.28%	44.01%
NIB	46.19%	42.65%	38.90%	44.82%	49.68%	50.32%	52.01%	46.37%
LIB	49.36%	42.83%	37.41%	39.41%	44.80%	42.65%	48.31%	43.54%
OIB	35.20%	32.99%	33.73%	36.58%	41.45%	41.15%	49.36%	38.64%
ZB	40.80%	36.37%	39.99%	42.30%	42.16%	36.43%	44.25%	40.33%
Average	45.48%	41.37%	38.80%	42.98%	44.60%	43.74%	48.53%	43.64%

Source: researcher's own computation from financial statements

4.2 Profitability Ratio

We have seen that liquidity ratios tell us about a firm's ability to meet its immediate obligations. Now we extend our analysis skills by to profitability ratios, which help us gauge how well a firm is managing its expenses.

To determine the profitability of banks, simply looking at the earnings per share isn't quite enough. It's also important to know how efficiently a bank is using its assets and equity to generate profits. For this reason, we have seen four key profitability ratios to look at when evaluating a bank performance.

4.2.1 Return on Assets (ROA)

To calculate the banks return on assets, first, we find the net income, which can be found on the bank's income statement. Next, determine the bank's assets (loans, securities, cash, etc.), which can be found on the bank's balance sheet. We calculate the Return on Asset as,

$$ROA = \frac{Net\ Income}{Total\ Assets} \times 100.$$

Return on Assets reflects the efficiency with which banks deploy their assets. The higher the ROA, the most profitable is the bank.

We have shown the Return on Asset of the ten private banks in Ethiopia in Table 4.4.

Table 4.4, Return on Asset of 10 private commercial banks in Ethiopia

Bank	2009	2010	2011	2012	2013	2014	2015	mean
AIB	2.23%	3.12%	3.57%	3.30%	3.42%	3.09%	2.70%	3.06%
DB	2.57%	2.62%	3.07%	3.72%	3.07%	3.24%	2.94%	3.04%
BOA	3.53%	3.89%	4.01%	4.03%	3.30%	2.71%	2.57%	3.43%
WB	3.53%	3.89%	4.01%	4.03%	3.30%	2.71%	2.57%	3.43%
UB	2.01%	2.96%	3.00%	3.39%	2.14%	1.67%	1.96%	2.45%
CBO	0.23%	1.42%	1.89%	2.78%	3.13%	4.67%	2.73%	2.41%
NIB	3.20%	3.36%	3.47%	3.46%	3.27%	2.77%	2.54%	3.15%
LIB	0.28%	2.93%	2.42%	3.06%	3.79%	2.67%	2.57%	2.53%
OIB	-0.97%	1.72%	2.27%	1.78%	1.71%	2.50%	2.26%	1.61%
ZB	-1.98%	4.83%	5.25%	3.61%	2.90%	4.69%	3.14%	3.21%
average	1.46%	3.07%	3.30%	3.32%	3.00%	3.07%	2.60%	2.83%

4.2.2 Return on Equity (ROE)

This ratio indicates how bank can generate profit with the money shareholders have invested. The higher value of this ratio shows higher financial performance. Like ROA, this ratio is also indicator for managerial efficiency. An average of 5 to 10 years of ROE ratios will give investors a better picture of the growth of the company.

ROE is expressed as a percentage and calculated as:

Return on Equity = Net Income/Shareholder's Equity

Table 4.5, Return on Equity of 10 private commercial banks in Ethiopia

Bank	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**mean**
AIB	**19.07%**	**26.33%**	**27.57%**	**24.49%**	**25.24%**	**24.47%**	**20.88%**	**24.01%**
DB	**27.50%**	**28.85%**	**32.27%**	**35.67%**	**29.66%**	**27.43%**	**24.94%**	**29.47%**
BOA	**19.35%**	**24.01%**	**27.38%**	**23.86%**	**19.53%**	**29.26%**	**16.11%**	**22.79%**

WB	**21.60%**	**21.24%**	**24.17%**	**20.96%**	**18.76%**	**14.22%**	**14.60%**	**19.36%**
UB	**18.00%**	**27.36%**	**25.72%**	**27.04%**	**17.79%**	**12.59%**	**16.68%**	**20.74%**
CBO	**1.51%**	**13.28%**	**19.23%**	**24.45%**	**29.38%**	**31.47%**	**22.14%**	**20.21%**
NIB	**21.08%**	**21.92%**	**21.05%**	**18.73%**	**17.97%**	**15.14%**	**15.48%**	**18.77%**
LIB	**1.37%**	**16.53%**	**12.40%**	**17.07%**	**20.56%**	**15.38%**	**18.32%**	**14.52%**
OIB	**-2.87%**	**9.07%**	**15.02%**	**11.31%**	**12.22%**	**20.56%**	**21.88%**	**12.46%**
ZB	**-10.10%**	**32.15%**	**35.19%**	**30.78%**	**19.08%**	**28.01%**	**20.05%**	**22.17%**
average	11.65%	22.07%	24.00%	23.44%	21.02%	21.85%	19.11%	20.45%

4.2.3 Profit Expense Ratio (PER)

This ratio indicates profitability of the firm with regard to its total expenses. A high value of this ratio indicates that bank could make high profit with a given expenses. PER is calculated as under: $PER = \frac{Profit\ before\ tax}{Operating\ Expenses}$

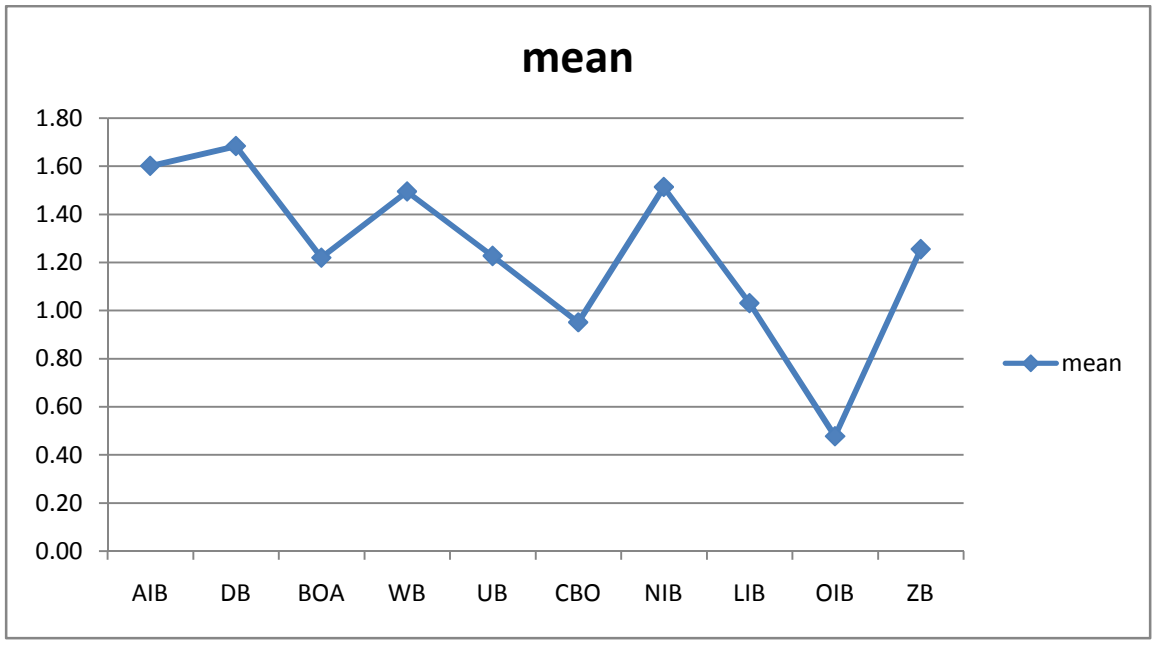

Figure Mean profit expense ratio of selected banks in the year 2009-2015

The above figure show DB has the highest mean PER and OIB is the least mean PER in the study period.

4.2.4 Net Interest Margin (NIM)

Net Interest Margin (NIM) measures the amount of operating income to earning asset. Higher the NIM ratio, higher is the quality of the management decision. NIM is calculated as under:

$$Net\ Interest\ Margin\ = \frac{Interest\ Income\ -\ Interest\ Expense}{Total\ Asset}$$

Table 4.6, Net Interest Margin of 10 private commercial banks in Ethiopia

Bank	2009	2010	2011	2012	2013	2014	2015	mean
AIB	2.43%	1.87%	1.83%	3.21%	3.55%	3.06%	3.45%	2.77%
DB	2.42%	1.90%	1.90%	2.78%	2.69%	2.58%	3.02%	2.47%
BOA	2.99%	2.14%	2.86%	3.51%	2.85%	3.71%	3.53%	3.09%
WB	2.93%	2.99%	2.66%	3.62%	3.97%	3.82%	4.10%	3.44%
UB	2.63%	2.49%	2.51%	3.64%	3.55%	3.69%	3.92%	3.20%
CBO	3.22%	2.69%	2.08%	3.07%	2.62%	4.37%	4.92%	3.28%
NIB	3.71%	2.96%	3.00%	3.40%	4.22%	3.59%	4.43%	3.62%
LIB	2.24%	2.68%	2.69%	3.07%	3.85%	3.74%	3.76%	3.15%
OIB	0.25%	1.35%	1.50%	2.40%	3.38%	3.66%	3.78%	2.33%
ZB	0.36%	0.80%	1.21%	1.53%	1.53%	2.32%	2.58%	1.48%
average	2.32%	2.19%	2.23%	3.02%	3.22%	3.45%	3.75%	2.88%

Source researchers own calculation.

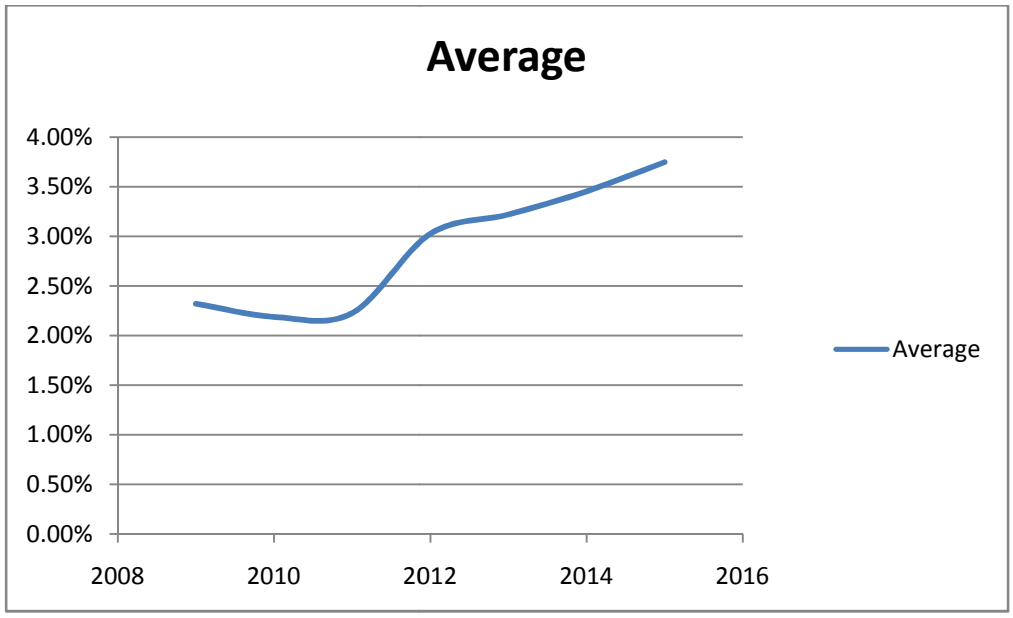

Figure 4.1 The average NIM of selected Private banks in the year 2009-2015

The figure show continuous growth of private banks average NIM from 2010 to 2015.

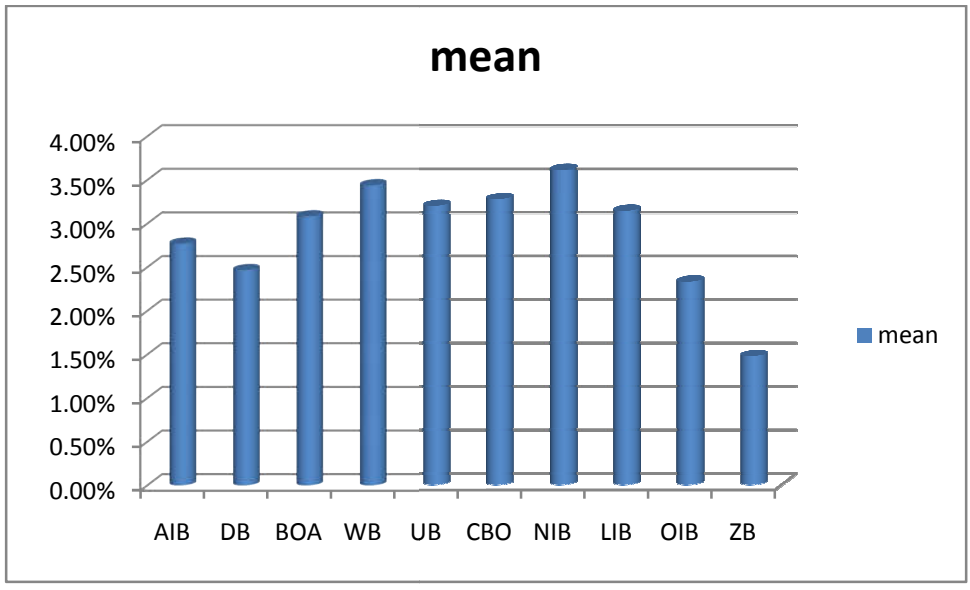

Figure 4.2 Banks mean NIM in the year 2009-2015.

From the figure 4.2 NIB the highest NIM, WB the second highest and CBO is the third highest performer in this specific parameter. ZB would be the bottom.

4.3 Risk and Solvency Ratios

The risk and solvency ratios measure the extent to which a firm relies on debt financing rather than equity financing. The **solvency ratio** indicates whether a company's cash flow is sufficient to meet its short-term and long-term liabilities. Lower a company's **solvency ratio**, the greater the probability that it will default on its debt obligations. The Equity Multiplier ratios measure for risk and solvency were used for our study.

4.3.1 Equity Multiplier (EM)

This ratio shows how many dollars of assets must be supported by each dollars of equity capital. The higher value of this ratio indicates signal for risk failure. EM is calculated as under:

EM =Total Asset / Total Shareholders' Equity.

Table 4.7, Equity Multiplier of 10 private commercial banks in Ethiopia

Bank	2009	2010	2011	2012	2013	2014	2015	mean	Rank
AIB	8.56	8.45	7.73	7.41	7.39	7.93	7.72	7.89	5
DB	10.71	11.00	10.50	9.58	9.65	8.45	8.47	9.77	1
BOA	10.55	10.73	11.01	9.09	9.15	7.38	7.55	9.35	2
WB	6.12	5.46	6.03	5.20	5.68	5.24	5.68	5.63	10
UB	8.95	9.25	8.57	7.98	8.31	7.54	8.52	8.44	4
CBO	6.54	9.36	10.17	8.80	9.39	6.74	8.12	8.45	3
NIB	6.59	6.51	6.07	5.42	5.49	5.47	6.09	5.95	9
LIB	4.97	5.64	5.12	5.58	5.43	5.76	7.13	5.66	6
OIB	2.97	5.28	6.63	6.37	7.14	8.22	9.68	6.61	7
ZB	5.11	6.66	6.70	8.53	6.58	5.98	6.38	6.56	8
average	7.11	7.83	7.85	7.40	7.42	6.87	7.53	7.43	

Source Researchers own competition from balance sheet and income statement of each banks.

As exhibited above, DB, BOA and CBO held from 1st to 3rd with an average ratio of 9.77, 9.35, and 8.45 respectively in this particular parameter. To the contrary, WB is seen to be at the bottom of the rank with an average ratio of 5.63.

4.4 Efficiency Ratios

These ratios measure how effectively and efficiently the firm is managing and controlling its assets. A firm is technically efficient if it produces a given set of outputs using the smallest possible amount of inputs (Falkena et al, 2004). Ratios used to measure efficiency of the selected private commercial banks are Income to Expense Ratio (IER), and Operating efficiency (OE).

4.4.1 Income to Expense Ratio (IER)

Income to expense is the ratio that measures amount of income earned per dollar of operating expense. This is the most commonly and widely used ratio in the banking sector to assess the managerial efficiency in generating total income vis-à-vis controlling its operating expenses. IER is calculated as under:

IER = Total income / Total Operating Expenses.

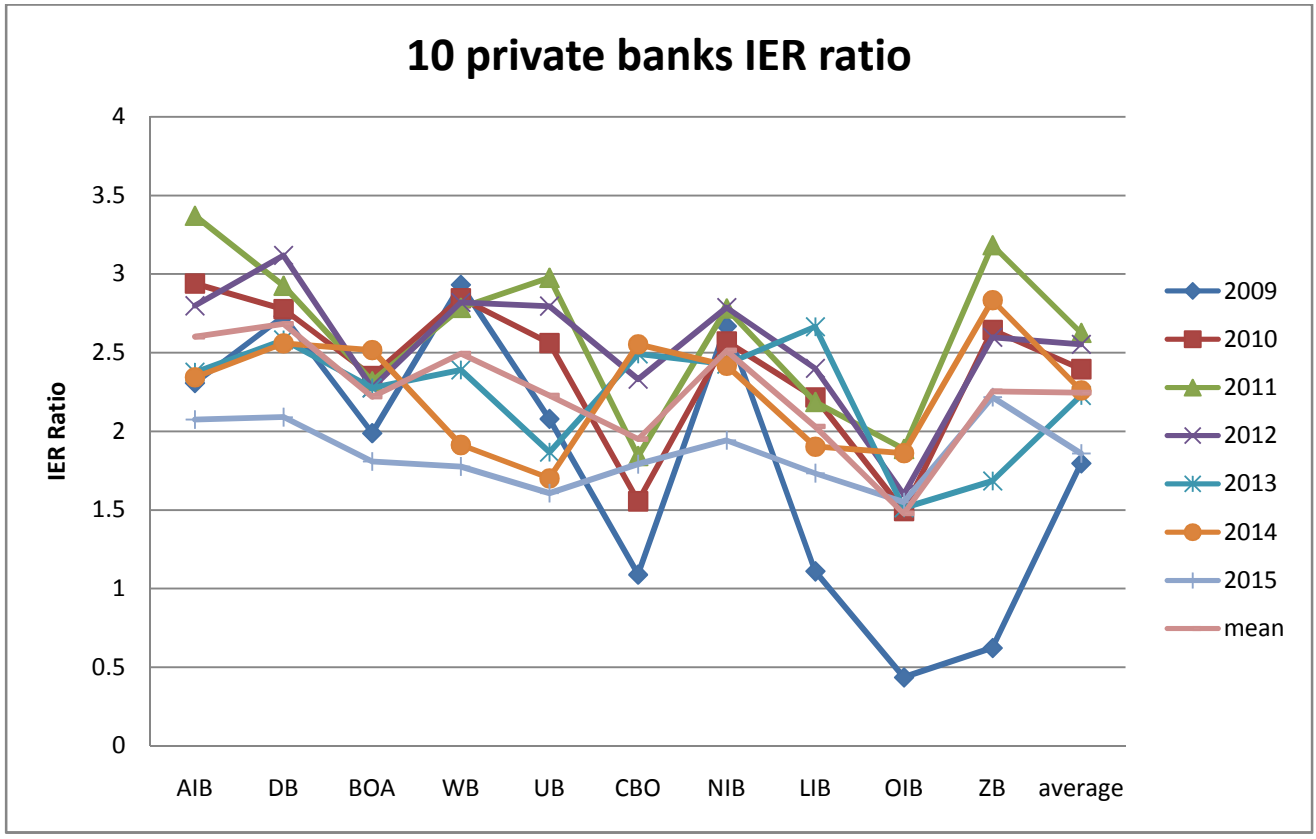

Figure 4.1 IER of the 10 private banks in year 2009-2015

The IER of ZB is the highest in the study period in 2011 and OIB is the least performing in the year 2009. In general the mean of the study period of each bank is in between 1.47 and 2.68, which imply all the banks perform almost uniformly based on this measure.

4.4.3 Operating Efficiency (OE)

Operating efficiency is the ratio that measures the amount of operating expense per dollar of operating revenue. It measures managerial efficiency in generating operating revenues and controlling its operating expenses. OE is calculated as under:

OE=Total Operating Expenses / Total Operating Revenue.

Table 4.7, Operating Efficiency of 10 private commercial banks in Ethiopia

Bank	2009	2010	2011	2012	2013	2014	2015	mean
AIB	76.53%	51.58%	42.17%	55.63%	72.71%	74.47%	93.00%	66.58%
DB	57.77%	56.28%	51.92%	47.23%	63.22%	64.15%	91.74%	61.76%
BOA	101.21%	74.01%	75.84%	78.33%	78.33%	65.95%	123.62%	85.33%
WB	51.79%	54.19%	56.01%	55.00%	71.94%	109.44%	128.71%	75.30%
UB	92.65%	64.07%	50.59%	55.70%	115.34%	142.56%	164.65%	97.94%
CBO	1119.90%	179.95%	118.67%	75.10%	67.01%	64.43%	126.33%	250.20%
NIB	59.96%	63.65%	56.14%	55.98%	70.10%	70.54%	106.05%	68.92%
LIB	905.19%	82.29%	84.25%	71.41%	60.08%	110.78%	136.17%	207.17%
OIB	-177.42%	202.34%	112.68%	166.93%	194.54%	116.12%	181.59%	113.83%
ZB	-265.12%	60.82%	45.80%	62.59%	145.96%	54.56%	82.17%	26.68%
average	202.25%	88.92%	69.41%	72.39%	93.92%	87.30%	123.40%	105.37%

From Table 4.7 we understand that CBO has higher average OE than other banks, the second highest OE has gone to LIB and OIB is third in the rank based on OE. Based on OE ZB is the least performing bank in the country.

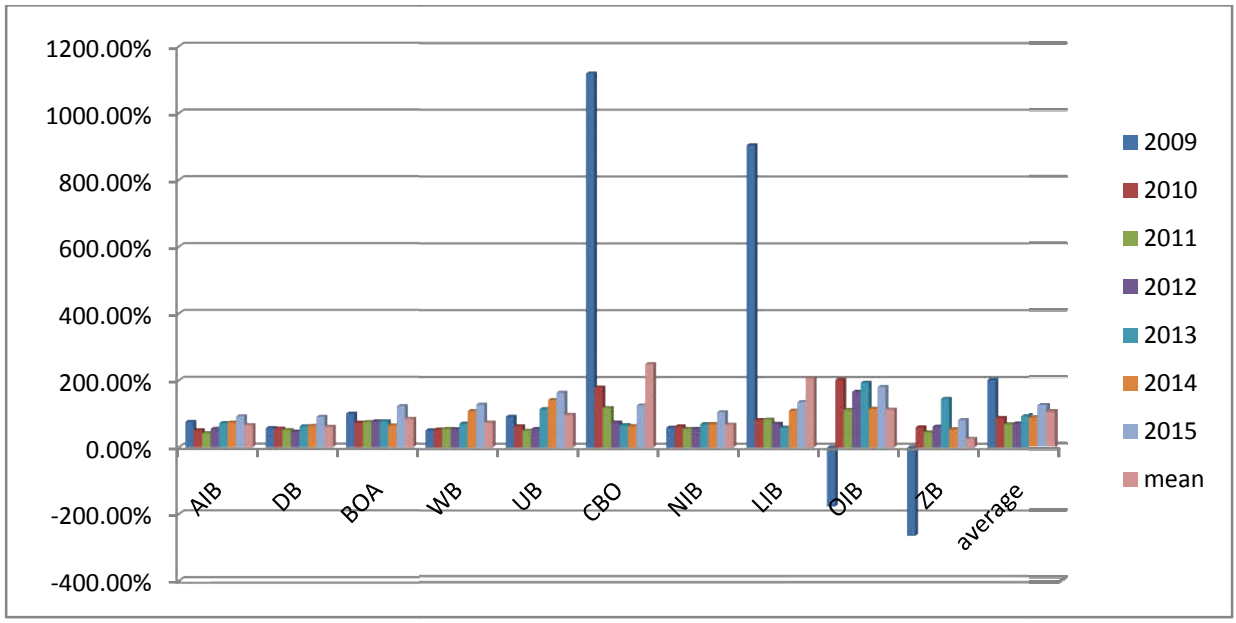

Figure 4.2 Graphical Representation of OE value in year 2009-2015

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATION

In chapter four, the actual performance of the company has evaluated. Here are the researcher conclusions and recommendations based on the analysis of the previous chapter.

5.1. CONCLUSIONS

A sound financial system is indispensable for a healthy and vibrant economy. The performance of any economy is to largest extent dependent on the performance of the banking sector. Banks play a key role in improving economic efficiency by channeling funds from resource surplus unit to those with better productive investment opportunities. In the Ethiopian context, the financial system is also dominated by banking industry. However, the banking sector in Ethiopia is still small, relatively under developed, closed, and characterized by a large share of state ownership.

At this point, the financial analysis has been made in attempting to draw some rough conclusions on the performance of private commercial banks in Ethiopia. One of the main points to understand about the financial analysis is that all the information that would be conclusive judgment about what is going on in the companies are found in the financial statements. From the brief explanation and illustrations of seven years, financial statements of selected private commercial banks have been used to analyze the financial performance and their trend for the years under study (2009-2015).

Examination of the ratio analysis makes it possible for the researcher to shed some light on his findings and draw some conclusions. Some of the findings of the study include the following:

- From the common size analysis of Income Statement, Operating income before Tax in 2007 was very high comparing to the other years. This was because of low Interest Expense, Salaries and benefits, and general and administrative expenses in this year.
- From the common size analysis of Balance Sheet, except in 2009, Total Loans, andϖ Advances of the bank had covered largest portion of total assets in all the years under the study despite the percentage showed a downward trend in the later years (in 2008 and 2009). On the other hand, Total Deposit had covered largest portion of total liabilities in all the years under the study.
- The researcher analysis of liquidity measures indicates that AIB is less liquid thanϖ industry average in all liquidity measurements. Findings also show that while Loan to Deposit Ratio (LDR) of the industry average is increasing from 52.47% in 2003 to 53.38% in 2009, LDR of AIB is decreasing from 68.73%in 2003 to 54.66% in 2009. This decreasing trend is due to increase in its deposits base, which can be considered a positive, and a good sign for the AIB in that it is making inroads into the society.

Moreover, this shows that level of trust and confidence of the people is increasing in AIB with the passage of time. However, on average AIB was exposed to higher liquidity risk than the industry average over the years under the study.

- Examination of all profitability measures, Return on assets (ROA), Return on Equity (ROE), Profit Expense Ratio (PER), Return on Deposit (ROD), and Net Interest Margin (NIM) indicates that AIB is less profitable than industry average during the period under the study except year 2007 in which AIB profitability ratios exceeded CBs. Overall, the trend of all profitability ratios are found rising for AIB during 2003-2007. Since 2007, the profitability ratios of AIB are consistently on decreasing trend over the years under the study.
- Having found AIB to be less profitable than industry average, what we expect when it comes to risk and solvency measures is according to the basic rule of finance "the higher the expected return the higher the risk". Our findings of profitability and risk & solvency perfectly fit in this risk-return profile and allow us to conclude that AIB is less profitable, also less risky, and more solvent than industry average. Analysis of the results of all the risk and solvency measures, Debt Equity Ratio (DER), Debt to Total Assets ratio (DTAR), Equity Multiplier (EM), and Non Performing Loans to Total Loan Ratio (NPTL) indicates AIB to be less risky and more solvent than industry average.
- Like in profitability, and risk & solvency measures, AIB is found to be less efficient in terms of generating income or Income Expense Ratio (IER) and managing their expenses or Operating Efficiency (OE) as compared to industry average. In contrast, AIB is more efficient in terms of utilization of their assets or Asset Utilization (AU) ratio. Although, Income Expense Ratio (IER), and Operating Efficiency (OE) suggest that AIB is significantly less efficient but increasingly converging towards that of industry average, during 2003-2009. This gives us some insight regarding AIB's improvement in generating income, utilization of assets, and effective management in controlling expenses.

5.2. RECOMMENDATIONS

The following recommendations, based on the above research findings, are forwarded below in order to enhance the financial performance of commercial banks:

Loan to deposit ratio of AIB decreased from 68.73%in 2003 to 54.66% in 2009. This overall declining trend in LDR of AIB indicates the tendency of comparatively more increase in deposits than loans. This may indicate that AIB has conservative lending policy over the period under the study. This may be solved by revising the lending policy of the bank, such as maximizing the approval limit of branches and districts, appointing trained managers and loan officers.

Since 2007, Loans and advances of AIB decreased because the National Bank of Ethiopia set a maximum outstanding loan limit to all banks in the country to control inflation. If this continues, the bank may become more liquid and be obliged to discourage deposit to decrease their interest expenses and this will adversely affect the overall economy. The regulatory body has to think over it and take a corrective action.

Overall, all results of profitability measures results indicate that AIB is less profitable compared with industry average, therefore the bank should work on it and move towards good return because this is the means to assure its survival in the market.

The number of commercial banks has been increasing from time to time. The intensive and continuous increasing competition in the financial service market creates a need for an access to information that would allow evaluating commercial banks operating in this market. In Ethiopia there is no adequately compiled data and bench marks to evaluate the performance of commercial banks. The regulatory body (National Bank of Ethiopia) or other concerned bodies have to take the responsibility.

Finally, the financial performance indicators, i.e. financial ratios, independently are not enough to measure the performance of commercial banks. Thus, alternative financial measures such as Data Envelopment Analysis (DEA) shall be considered by further researchers.

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