# FACTORS AFFECTING THE PROFITABILITY OF OROMIA COOPERATIVE BANK

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### COLLEGE OF BUSINESS AND ECONOMIC

### DEPARTMENT OF ACCOUNTING AND FINANCE

**A RESEARCH PAPER SUBMITTED TO DEPARTMENT OF ACCOUNTING AND FINANCE FOR PARTIAL FULFILLMENT OF B.A DEGREE IN ACCOUNTING AND FINANCE**

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# DECLARATION

I here declare that this senior essay entitled Factors affecting the profitability of Oromia cooperative banks. Submitted in partial fulfillment of the requirement for bachelor degree in accounting and financing at Wolkite university through department of accounting and finance and all source of material used for this research has been duly acknowledged.

Advisor:

Name _____

Signature _____

Examiner:

Name _____

Signature _____

## Acknowledgement

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## List of acronyms

ROA- returns on assets
ROE-return on equity
LIQ - liquidity
SIZE- bank size
LOA-loan amount
DTA-deposit amount
GDP-gross domestic product
IR-inflation rates
OLS-ordinary least squares
CBO- cooperative bank of Oromia
NBE- National bank of Ethiopia

## Abstract

This study examines factors affecting the profitability of Oromia cooperative banks by using data of banks over the period of 2010-2021. The explanatory research design and quantitative research approach was applied in the study. Using multiple linear regression model and t-static analysis on yearly data collected from the annual reports of the Oromia cooperative banks.

Profitability is measured by return on assets (ROA). The bank-specific factors, which were incorporated into the models, were size of the bank, liquidity, deposit amount and external variables included in the model were inflation rate and GDP growth. It was found that liquidity and inflation were Negative insignificant relation with bank profitability and deposit amount, and GDP growth has statistically insignificant effect on banks' profitability in a positive relationship. On the other hand, variables like bank size, was found to have statistically significant relationship on bank profitability. As a result, the study recommended that Oromia cooperative banks should on focusing and reengineering the banks alongside the key internal and external drivers and this will enhance their performance and to improve their profitability

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# CHAPTER ONE

# 1. INTRODUCTION

## 1.1 Background of the study

It is widely believed that the financial system plays a vital role in the economic growth and development of a country. The importance of an efficient financial sector lies in the fact that it ensures domestic resources mobilization, generation of saving, and investments in productive sectors (ongore, 2013)

The main role of the financial system is to channel the fund from savers to borrowers. If this process is done efficiently, then the profitability should improve, the flow of funds should increase too and there should be better quality services for customers indeed financial intermediation determines, among others factors, the efficient allocation of saving, as well as the return on saving and investment, (Samuel Alemu,2015)

Good performance of the bank is usually measured as per its profitability levels and has been essential to shareholders, customers, and for banks' continued survival and expansion (Nkegbe and Yazidu, 2015). The banking sector's profitability is also central as the well-being of the industry is closely associated with the wellness of the whole economy in general (Alkhazaleh and Almsafir, 2014).

The profitability of banks is important since the soundness of an industry is closely connected to the soundness of the whole economy (Lipunga, 2014). The financial strength of a banking institution is unquestionably associated with its profitability. Thus, the most important need of any bank's management and leadership is to make profits on a continuous basis since this will guarantee the bank's continuous existence. The financial sector of Ethiopia, like most developing countries, is dominated by the banking industry. The Ethiopian banking industry is vital to the Ethiopian economy and plays a crucial financial intermediary function. Banking institutions in Ethiopia play a crucial role in national growth and such roles are growing day by day. The banking sector plays the function of financial intermediation between borrowers and savers that entails the mobilization of capital from individuals with surplus cash and channeling the funds to the deficit economic units.

In most literature, banking profitability was evaluated from two perspectives which are the microeconomic view (bank-specific determinants) and the macroeconomic view (industry-specific determinants). As for the profitability measures, Return on Asset (ROA) and Return on Equity (ROE) are the most common profitability indicators used by a large group of researchers. ROA is generally the best indicator of bank performance as it reflects how effective the bank management is in producing income from the management of its assets (Sharma & Ravichandran, 2013).

The objective of this study is to identify factors affecting the profitability of Oromia cooperative bank, for the period of 2010 to 2021. The dependent variable is ROA and the explanatory variables were: inflation rate, growth domestic product (GDP), liquidity, deposit amount, and size of bank Regression analysis, descriptive analysis, and correlation analysis will be used in the study.

## 1.2. Statement of the Problem

The banking industry serves as the most essential financial intermediary by conducting the primary functions in the global economy (Alper & Anbar, 2011). In most countries, banks are channeling the funds from depositors (surplus fund units) to the borrowers (deficit fund units) and offering various banking products to satisfy economic demands. The profitability of the banking industry is the major concern as it maintains the safety and robustness of the banks, preserves the financial system's stability as well as promotes economic growth in the country. Thus, it is critical to examine the bank profitability determinants for maintaining the stability of the economy and for the interest of bank management, stakeholders, government, and other policymakers (Jamal et al., 2012).

In Ethiopia, studies were made by Belayneh (2011), Semu (2010), and Amdemikael (2012) on the determinants of commercial banks' profitability. Moreover, studies on the profitability of private banks were made by Birhanu (2012) and Habtamu (2012) but they didn't include deposit amount. The deposit amount is the main source of income and is expected to have a positive impact on bank performance. Other things constant, the more deposits are transformed into loans, the higher the interest margin and profits. The researcher was examined the gap on the side of the Oromia cooperative banks.

So, the objective of this paper is to examine the external and internal factors that affect the profitability of Oromia cooperative banks. Profitability is the most appropriate indicator to

measure the performance of a bank and also profitability will be measured by Return on Asset (ROA), while the independent variables used in the study are liquidity, deposit amount, and size of the bank as an internal and inflation rate and GDP (Growth Domestic Product) rate as an external variable.

## 1.3 Objectives of the study

### 1.3.1 General Objectives of the Study

The general objective of the study is to examine factors affecting the profitability of Oromia cooperative bank for the period covering 2010 to 2021 by using the data from annual financial reports.

### 1.3.2 Specific Objectives of the Study

To investigate the relationship between the liquidity, and profitability of Oromia cooperative banks.

To investigate the relationship between the size of the bank, deposit amount and the profitability of Oromia cooperative banks.

To investigate the relationship between the Gross domestic product, inflation rate, and the profitability of Oromia cooperative banks.

## 1.4 Research Hypothesis

According to the specific objectives, the following hypotheses are formulated based on the factors taken into consideration in this study. The hypothesis of the study stands on the theories related to a bank's profitability and related to the previous empirical studies done by different researchers. Thus, based on the objective, the study seeks to test the following hypotheses:

**Liquidity**

Liquidity considers a major concern in banks because without sufficient liquidity to meet the demands of their depositor's risk experiencing bank runs. Holding assets in a highly liquid form tends to reduce income as liquid assets are associated with lower rates of return. For instance, cash which is the most liquid of all assets is a non-earning asset. It would therefore be expected that higher liquidity would negatively correlate with profitability.

HP1: There is an insignificant negative relationship between liquidity and Oromia cooperative bank's profitability.

**Bank Size**

Bank size is measured by total assets. One of the most important questions in the literature is if there exists an optimal bank size in order to maximize bank profitability. It has been argued that growing bank size is positively related to bank profitability (Pasiouras and Kosmidou, 2007). If the bank becomes extremely large in size, a negative effect could be between size and bank profitability, because the bank is harder to be managed due to bureaucracy and other reasons. Therefore, the size-profitability relationship is expected to be non-linear (Eichengreen and Gibson, 2001). In order to emphasize this possible non-linear relationship, as a proxy use the logarithm of bans total assets.

HP2: There is a significant positive relationship between the bank size and Oromia cooperative bank's profitability.

**Deposit Amount**

Deposits are the main source of bank funding and hence it has an impact on the profitability of the banks. High growth rates might attract additional competitors and this may cause a decrease in their profits for all market participants. Thus, the sign of this variable is either positive or negative.

HP3: There is an insignificant positively relationship between the Deposit amount and Oromia cooperative bank's profitability.

**Gross Domestic Product**

GDP growth is expected to have a positive impact on bank profitability according to the literature on the association between economic growth and financial sector profitability (Athanasoglou et al., 2008). In addition, there is an expectation that a positive relationship between bank profitability and GDP development as the demand for lending increases or decreases.

HP4: There is an insignificant positive relationship between gross domestic product and the bank's profitability.

**Inflation Rate**

The effect of inflation on bank profitability depends on how inflation affects both salaries and other operating costs of the bank (Ponce 2012). Also suggested that the effects of inflation on bank performance depend on whether inflation is anticipated or unanticipated. In the anticipated case, the interest rates are adjusted properly, bringing a faster increase in revenues rather than

costs and therefore having a positive impact on bank profitability. Conversely, in the unanticipated case, banks may be slow in adjusting interest rates resulting in a faster increase of costs than revenues and therefore having a negative impact on bank profitability.

HP5: There is an insignificant Negative relationship between the inflation rate and the bank's profitability.

## 1.5 Significance of the Study

The study provides insight for bank owners and policymakers, on factors that determine bank performance. Thus, this study contributes to more understanding of the factors that have an impact on Oromia cooperative bank performance. Understanding factors that have a great impact on bank performance is essential for survival and also useful in sustaining profitability in a dynamic and competitive business. Furthermore, many parties would benefit from the results that will emerge from the results of the Study and these parties are Management: Administration interested in identifying indicators of success and failure to take the necessary actions to improve the performance of the company and choose the right decisions. Government: The government is interested in knowing which companies operate successfully or failed to take the necessary measures to avoid crises of bankruptcy in these companies. Investors: Investors interested in such studies in order to protect their investment, and direct it to the best investment. Customers: Customers interested in knowing the ability of the bank to deposit their Make deposits based on the indicators of the success of the companies.

## 1.6 Scope of the Study

The scope of the study is restricted to examine of the internal and external factors affecting the profitability of Oromia cooperative banks that have at least ten years of data i.e., 2010-2021

The scope of this study will be restricted to the relationship between Return on Asset with its determinants. Even if there are so many factors such as liquidity, bank size, loan amount, deposit amount, Gross domestic product, and inflation rates. In this study, ROA is used as a main performance measure. The reason for using ROA as the measurement of bank performance was because The ROA reflects the ability of a bank's management to generate profits from the bank's assets and also indicates how effectively the bank's assets are managed to generate revenues. Moreover, performance is best measured by ROA (Tan et al., 2012).

## 1.7 Organization of the Paper

This paper is structured into five main chapters as follows: Chapter one presents introductions of the study. Chapter two the literature review part of the study is presented. The review of the literature includes the theoretical review in its first section which is followed by the review of the previous studies related to the area and knowledge gap finally. Chapter three presents the research design and methodology, followed by the model specification. Chapter four Data analysis and discussions. Finally, Chapter five presents the funding, conclusions, and recommendations

# CHAPTER TWO

# 2. REVIEW LITERTURE

## 2.1. INTRODUCATION

A literature review is a written summary of journal articles, books, and other documents (both published and unpublished) that describes the past and current state of information, organizes the literature into topics, and documents a need for a proposed study. The chapter needs to review various studies that are relevant to different factors that would be determining the profitability of banks and involves a critical examination of important issues so as to determine the current facts. In order for a business entity (whether public or privately owned) to continue to prosper, there is a need for its earnings to be relatively stable for its expansion and growth over time. In addition to its level of earnings, its external environment must also be carefully understood and reliably anticipated. The business organization must ensure that the right technology is pursued so as to achieve organizational objectives (Aremu and Mejabi, 2013).

## 2.2. Theoretical Review

This section was built on concepts and definitions. In light of this purpose, this chapter is to review the literature related to bank profitability and its determinants. The theoretical framework shows the relationship that exists between dependent and independent variables.

## 2.3. Determinants of bank Profitability

A number of factors have influenced the profitability of Oromia cooperative banks ranging from those which are under the control of bank management and policy objectives (internal factors) to those factors which are beyond the bank management level (external factors). The internal determinants include management controllable factors such as liquidity, investment in securities, investment in subsidiaries, loans, non-performing loans, and overhead expenditure. Other determinants such as savings, current account deposits, fixed deposits, total capital and capital reserves, and money supply also play a major role in influencing profitability. Similarly, external determinants include those factors which are beyond the control of the management of these institutions such as interest rates, inflation rates, market growth, Gross Domestic Product (GDP), and market share. The internal factors reflect the management policies of the banks and decisions made about the sources of funds, expenses, and liquidity management (Onuonga, 2014). External determinants include those factors which are beyond the control of the management of these institutions such as inflation rates, and gross domestic product. In this study, all factors which

affect bank profitability are not included but are focused on the analysis of the relationship between ROA (dependent variable) and four variables as internal independent variables, and two variables as macroeconomic independent variables taken into consideration.

### 2.3.1 Liquidity

Liquidity is defined as the bank's ability to meet its obligations, mainly those of depositors of funds to the bank (Ongore & Kusa, 2014). The availability of liquidity influences profitability since it enhances the capacity of the bank to acquire cash, in order to fulfill present and essential needs. For the banks to gain public assurance, they should have sufficient liquidity to meet the demands of loan holders and depositors' needs (Chinoda, 2014). 20 Small liquidity level serves as the ground reality of the failure of a bank. Liquidity problems also lead to issues in generating funds and failure to fulfill current and unanticipated variations in the sources of financing (Tariq et al., 2014). The loan-to-assets ratio is normally used to calculate the liquidity position of a bank and the ratio indicates the percentage of total assets used to provide loans. Liquidity measures the ability of banks to meet short-term obligations or commitments when they fall due. Traditionally, banks take deposits from customers and give out loans. For this reason, the ratio of the bank's advances to customer deposits is used as a proxy for liquidity. Liquidity is a prime concern for banks and the shortage of liquidity can trigger bank failure.

### 2.3.2 Bank Size

Bank's size specifies that the size of a bank influence performance such that larger banks perform well compared to small-sized bank through harnessing the economies of scale in their transactions such that big banks will enjoy high profits (Sehrish, Irshad& Khalid, 2010). Large banks are assumed to have more advantages as compared to their smaller rivals and have a stronger bargaining capability and making it easier for them to get benefits from specialization and from economies of scale and scope (Alkhazaleh&Almsafir, 2014). In addition, empirical evidence indicates that the size of a bank directly affects profitability by reducing the cost of raising capital for big banks (Tariq et al., 2014). Size captures the economies or diseconomies of scale of an institution and normally the natural logarithm of a bank's assets is normally used as a proxy of size (Cull et al., 2007).

### 2.3.3 Bank loans

The loan is the main source of income and is expected to have a positive impact on bank performance. Other things constant, the more deposits are transformed into loans, the higher the interest margin and profits. However, if a bank needs to increase the risk to have a higher loan-

to-asset ratio, then profits may decrease. In addition, as bank loans are the principal source of income, we expect that noninterest-bearing assets impact negatively profits. Bank loans which are explained by total loans divided by total assets provide a measure of income source and measure the liquidity of bank assets tied to loans. Total Loan/Total Asst is included in the study of profitability as an independent variable to determine the impact of loans on banks' profitability. This variable is obtained through the ratio of bank loans to total assets. Loan =loans to total assets One of the most important roles of banks is to offer loans to borrowers and loans serve as the main source of earnings for Oromia cooperative banks. In different words, loans are the highest-yielding asset on a bank's balance sheet. According to Abreu and Mendes (2002) the more the banks offer loans the more they do generate revenue and the more profit they make. Therefore, loans should positively affect profitability as the bank is working vigilantly and not taking excessive risks.

### 2.3.4 Bank deposits

The deposits to assets ratio is another indicator of measuring the profitability of Oromia cooperative banks. DPTA is considered a liability of banks. Customers make current, fixed, or saving deposits in banks. These deposits are considered Bank liabilities because they must be repaid to the depositors. Banks invest these deposits in other projects and generate profits from them. Therefore, these deposits are considered the main sources of banks' funding and hence they influence the profitability of banks. This ratio can be calculated by dividing total deposits by total assets. Mathematically: DPTA= Total Deposits/Total Assets. Deposits are the main source of bank funding and hence it has an impact on the profitability of the banks. Even though, the contribution of an increasing amount of deposits to the profitability depends upon a number of factors. Firstly, it depends on the capability of the bank to convert deposit liabilities into earnings. Increasing those means that a bank has more funds available to use in different profitable ways and that should increase ROA (Holden and El-Bannany, 2006). But on the other hand, high growth rates might attract additional competitors and this may cause a decrease in the profits for all market participants. Thus, the sign of this variable is either positive or negative. Deposits are the ratio of total deposits to total assets which is another liquidity indicator but is considered a liability. Deposits are the main source of bank funding and hence it has an impact on the profitability of the banks. The deposits to total assets ratio is included as an independent variable in this study.

### 2.3.5 GDP Growth Rate

Poor economic conditions can worsen the quality of the loan portfolio, generating credit losses and increasing the provisions that banks need to hold, thereby reducing bank profitability. In contrast, an improvement in economic conditions, in addition to improving the solvency of borrowers, increases demand for credit by households and firms with positive effects on the profitability of banks (Athanasoglou et al. 2008).GDP growth is expected to have a positive impact on bank profitability according to the literature on the association between economic growth and financial sector profitability (Bikker and Hu, 2002; Athanasoglou et al., 2008). In addition, there is the expectation that has a positive relationship between bank profitability and GDP development as the demand for lending increases or decreases in cyclical upswings or downswings.

### 2.3.6 Inflation Rate

Inflation is a supported build in the normal cost of all merchandise and administrations processed in an economy. Money loses buying force throughout inflationary periods since every unit of money purchases dynamically fewer merchandise. Swelling is an ascent in the general value level. Ponce (2012) stated that the effect of inflation on bank profitability depends on how inflation affects both salaries and other operating costs of the bank. Inflation affects companies' pricing behavior. For instance, if companies expect general inflation to be higher in the future, they may believe that they can increase their prices without suffering a drop in demand for their output (Driver and Windram 2007, 2009). Moreover, Staikouras and Wood (2003) revealed that an increase in the price of labor and its indirect effects bring changes in interest rates and asset prices on the profitability of banks.

## 2.4 Empirical Study

Abdullah, Parvez, and Ayreen (2014) probed the macroeconomic determinants of 26 commercial banks' profitability in Bangladesh from 2008 to 2011. They found that there is a positive relationship between profitability, capital adequacy, and bank size. Jabbar (2014) examined banks' profitability in 31 commercial banks from 2009-2012. He found that capital and bank size are positively related to profitability. His results also showed that the effect of loan loss provision, deposit growth, and interest expense on profitability is statistically insignificant. Schiniotakis (2012) analyzed the factors that affect the profitability of commercial and cooperative banks in Greece. The results showed that profit is greatly influenced by the type of bank and return on assets is positively related to bank capitalization. Ani, Ugwunta, Ezeudu and

Ugwuanyi, (2012) studied determinants of bank profitability in Nigeria by taking a sample of 15 banks for the period of 2001 to 2010. Using Pooled Ordinary Least Square the results showed that it is not necessary that higher total assets result in higher profitability because of diseconomies of scale. Equity to total assets, debts to total assets, and deposits to total assets ratios contribute to profitability. As these ratios increase or decrease profitability will also increase or decrease.

Obamuyi (2013) examined profitability elements for 20 Nigerian commercial banks from 2006-2012.The results showed that high capital; interest income as well as favorable economic conditions contribute positively to banks' performance. Whilst size of the bank has a significant negative effect on profitability. Riaz (2013) studied the profitability determinants of 32 commercial banks in Pakistan during 2006-2010. The results showed that bank size is significantly related to return on asset and has a significant impact on profitability

Lipunga (2014) evaluated the determinants of profitability of listed banks in Malawi for a period of 5 years from 2009 and 2012 using external (market) and internal measures of profitability. The study employed multivariate regression and correlation analysis where Earning Yield and return on assets (ROA) was used to determine the internal and external determinants of profitability. Regression analysis results established that the size of the bank, management efficiency, and liquidity had a statistically significant effect on return on assets whereas capital adequacy had an insignificant impact. Additionally, the research established that earnings yield significantly influences by the size of the banks, management office, agency, and capital adequacy while liquidity had an insignificant impact on earnings yield.

## 2.5 Studies in Ethiopia

Research studies conducted in Ethiopian commercial banks also revealed a positive relationship between banks' capital and profitability (Habtamu, 2012; Belayneh, 2011). A higher capital level brings higher profitability for Ethiopian commercial banks since by having more capital; a bank can easily adhere to regulatory capital standards and the excess capital also can be provided as loans. Abebe (2014) assessed the internal and external determinants of the financial performance of Ethiopia's banks using panel data of banks for a period between the year 2002 and the year 2013. The study employed the fixed effect regression model. The regression results established that capital structure, income diversification, and operating cost had a significant negative relationship with performance while bank size had a positive significant relationship with profitability measured by using ROA. The main objective of the study made by Birhanu (2012) is to examine the effect of bank-specific, industry-specific, and macroeconomic determinants of Ethiopian commercial banking industry profitability from the period 2000 – 2011 by using the OLS estimation method to measure the effects of internal and external determinants on profitability in terms of average return on asset and net interest margin. The result reveals that all bank-specific determinants, with the exception of bank size, and expense management, affect bank profitability significantly and positively in the anticipated way. However, bank size and expense management affect commercial banks' profitability significantly and negatively. In addition to this, no evidence is found in support of the presence of market concentration. Finally, from macroeconomic determinants GDP has a positive and significant effect on both assets return and interest margin of the bank. But interest rate policy has a significant and positive effect only on interest margin. Damena (2011) examined the determinants of Ethiopian commercial banks' profitability. The study applied the balanced panel data of seven Ethiopian commercial banks that covers the period 2001- 2010. The paper used Ordinary Least Square (OLS) technique to investigate the impact of some internal as well as external variables on major profitability indicators i.e., ROA. The estimation results showed that all bank-specific determinants, with the exception of saving deposits, significantly affect commercial banks' profitability in Ethiopia. 27 Market concentrations was also a significant determining factor of profitability. Finally, with regard to macroeconomic variables, only economic growth exhibits a significant relationship with banks' profitability. The study made by Amdemikael (2012) examined the determinants of Ethiopian commercial banks' profitability. The study applied the

balanced panel data of eight Ethiopian commercial banks that covers the period 2001- 2011. The study adopts a mixed methods research approach by combining documentary analysis and in-depth interviews to investigate the impact of some internal as well as external variables on major profitability that are measured by ROA. The findings of the study show that capital strength, income diversification, bank size, and gross domestic product have statistically significant and positive relationships with banks' profitability. On the other hand, variables like operational efficiency and asset quality have a negative and statistically significant relationship with a bank's profitability. However, the relationship between liquidity risk, concentration, and inflation is found to be statistically insignificant. Alemu (2015) examined the determinants of commercial banks' profitability of eight banks in Ethiopia for 10 years from 2002 - 2013. The study used multiple linear regressions and the fixed effect regression model to analyze data. The study established that size of banks; capital adequacy and gross domestic product have a positive and statistically significant relationship with the profitability of banks. The findings of the study also revealed that liquidity risk, operational efficiency, funding cost, and banking sector development have a negative and statistically significant relationship with the profitability of banks.

## 2.6 Summary and Knowledge Gap

This chapter focused on the various authors' opinions researched and the general treatise on the area of study highlighting factors influencing the profitability of Oromia cooperative banks. Those factors discussed include bank size, liquidity, bank loan, and bank deposit as internal and gross domestic product and inflation rate as external variables. The relationship of the variables is discussed in the conceptual framework as dependent and independent variables.

Due to the variation of the environment and data include in the analysis the results of various studies differ significantly. However, several researchers identified that there are some common factors that influence the profitability of a bank. Summarizing the results from numerous studies, larger bank size, good asset quality, a higher proportion of equity capital to an asset, and greater GDP growth have generally been associated with greater profitability. Various measures of costs are usually negatively correlated with profits. Greater provisions for loan losses, higher liquidity, and more reliance on debt have been lower indicative of lower bank profit.

To summarize in the context of Ethiopia studies were made by Belayneh (2011), Semu (2010), and Amdemikael (2012) on the determinants of commercial banks' profitability. Moreover, studies on the profitability of private banks were made by Birhanu (2012) and Habtamu (2012)

but they didn't include deposit amount, the deposit amount is the main source of income and is expected to have a positive impact on bank performance. Other things constant, the more deposits are transformed into loans, the higher the interest margin and profits. So, the researcher was interested to examine the gap on the side of the Oromia cooperative banks.

## 2.7 Conceptual Frameworks

A conceptual framework depicts a relation that exists between the study variables (dependent and independent).

Figure.1 Return on assets and Independent variables

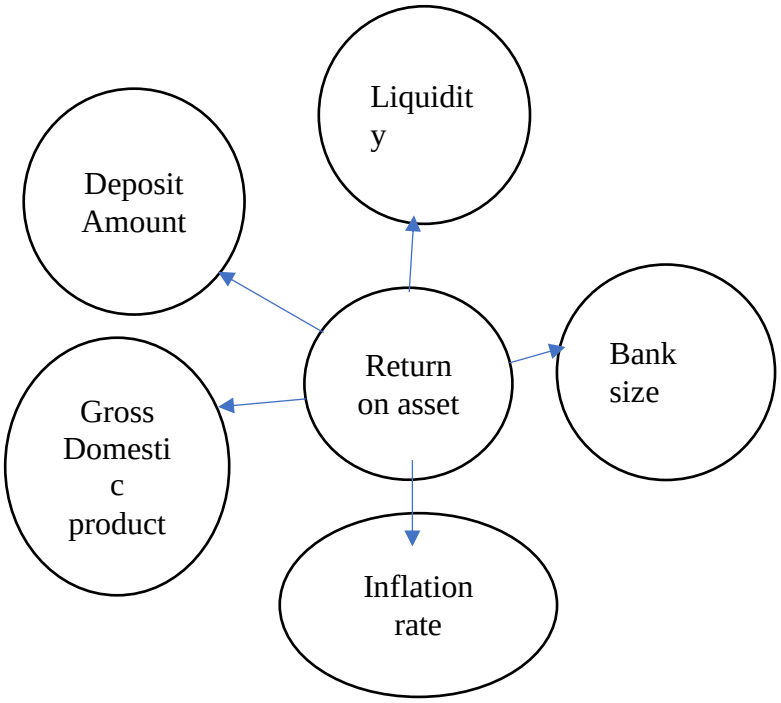


Figure.1 shows all of the variables include in this study. Return on Assets is the dependent variable, while independent variables comprise of the deposit amount, Liquidity, Bank size, Inflation rate, and gross domestic product.

# CHAPTER THREE

# 3. RESEARCH METHODOLOGY

A research methodology guides the researcher in collecting, analyzing, and interpreting observed facts (Creswell, 2009). This chapter introduces the logical framework to be followed in the process of conducting the study. It is divided into Research approach and design, Target Population, Data sources, data collection method, Data analysis methods, and Model specifications.

## 3.1. Research Approach and Design

Research design is a plan for selecting subjects, research sites, and data collection procedures to answer the research hypothesis. The plan is the overall scheme or program of the research. The purpose of this study is to identify the factors that affect the profitability of Oromia cooperative bank for the period of the year 2010to 2021. The study adopted an explanatory research design that uses a quantitative research approach through the use of secondary data. Schindler and cooper (2001) discussed that explanatory studies unlike descriptive studies, go beyond observing and describing the condition and try to explain the reasons for the phenomenon. According to Grover (2003), explanatory research is devoted to finding causal relationships between dependent and independent variables. The quantitative data gathering methods are useful especially when a study needs to measure the cause-and-effect relationships evident between pre-selected and discrete variables.

## 3.2 Target Population

The target population is a population in which the results of the study can be generalized. The purpose of this study is to identify factors affecting the profitability of Oromia cooperative banks. Because of the Time is insufficient The Researcher's was focused on factors affecting the profitability of Oromia cooperative bank, and for this study, twelve years of data from 2010-2021 are used from annual financial reports.

## 3.3. Data Source and Collection Method

Secondary data is the sources that are take in this study. It comprised of return on assets as the dependent variable for this research since the ROA is selected to measure profit, different ratios that affect profitability computed from the financial statements of the Oromia cooperative banks for the period of a year from 2010 to 2021.Besides this, the ratios for computing liquidity, bank size, and deposit amounts are computed from the financial statements of Oromia cooperative banks for the period under study, gross domestic product, and inflation rates from the national bank annual report. This secondary data that are collected mainly from the record held by NBE and the banks themselves through structural document reviews.

## 3.4. Data Analysis

According to Bryman and Bell (2003), data analysis refers to a technique used to make inferences from data collected by means of systematic and objective identification of specific characteristics. To comply with the broad objective the study is primarily based on panel data, which is collected through a structured document review. As noted in Baltagi (2005) the advantage of using data is that it controls for individual heterogeneity, less collinearity among variables, and tracks trends in the data something which simple time-series and cross-sectional data cannot provide. Thus, the collected panel data are analyzed using descriptive statistics, correlations, and multiple linear regression analysis. Mean values and standard deviations are used to analyze the general trends of the data from 2010 to 2021.Are used to examine the relationship between the dependent variable and explanatory variables.

A multiple linear regression model is used to determine the relative importance of each independent variable in influencing profitability (ROA). As noted in Brooks (2008) there are basic assumptions required to show that the estimation technique, had a number of desirable properties, and also hypothesis tests regarding the coefficient estimates were validly conducted. If these Classical Linear Regression Model (CLRM) assumptions hold, then the estimators determined by have a number of desirable properties and are known as the best unbiased linear estimators. Therefore, for the purpose of this study, diagnostic tests were performed to ensure whether the assumptions of the CLRM are violated or not in the model.

## 3.5 Model specification

Profitability measured by return on Asset is taken as the dependent variable, and its relation with the independent variables is expressed in the multi-linear regression as follows;

$Y = \beta o + \beta 1 LIQ + \beta 2 SIZE + + \beta 3 DTA + \beta 4 GDP + \beta 5 IR + \varepsilon$

Where: Y= represents ROA and it is a profitability measurement method. The ROA is a functional indicator of a bank's profitability. It is calculated by dividing net income by total assets. The ROA shows the profit earned per dollar of assets which reflects the bank's management ability to utilize the bank's financial and real investment resources to generate profits.

**Liquidity (LIQ)**: Liquidity is used as a measurement of profitability and calculated as Loan /Customer deposits. Liquidity is the amount of short-term responsibilities that could be met with the number of liquid assets.

**Size (SIZ)**; is used to capture the fact that larger banks are better placed than smaller banks in harnessing economies of scale in transactions to the plain effect that they will tend to enjoy a higher level of profits. Consequently, a positive relationship is expected between size and profits. Bikker. H (2002) and Goddard et al. (2004) find size has positively related to profitability. The size of the bank is also included as an independent variable to account for size-related economies and diseconomies of scale. In most of the finance literature, natural logarithms of the total assets of the banks are used as a proxy for bank size. So natural logarithm of the total asset was used as a proxy.

**Total Loans to Total Assets (LOA)**: Asset composition (TL/TA), which is explained by total loans divided by total assets, provides a measure of income source and measures the liquidity of bank assets tied to loans. TL/TA is included in the study of profitability as an independent variable to determine the impact of loans on banks' profitability.

**Total Deposits to Total Assets (DTA)**: The ratio of deposits to total assets is another liquidity indicator but is considered a liability. Deposits are the main source of bank funding and hence it has an impact on the profitability of the banks. The deposits to total assets ratio are included as an independent variable in this study.

**GDP (gross domestic product)** is the natural logarithm of gross domestic product.

**IR (inflation rate)** is a situation in which the economy's overall price level is rising. It represents a sustained and pervasive increment in the aggregate price of goods and services resulting decline in purchasing power of money.

$\boldsymbol{\varepsilon}$= error term

# CHAPTER FOUR

# DATA ANALYSIS AND DISCUSSION

## 4. 1INTRODUCTION

This chapter is divided into four sections. The first section provides tests of the classical linear regression assumptions, the second section presents about descriptive analysis of the data and variables of the study, and the third section discusses the regression analysis between dependent and independent variables and followed by testing the hypothesis in the fourth section.

## 4.2 Diagnostic Tests of CLRM Assumptions

In this study as mentioned in chapter three diagnostic tests were carried out to ensure that the data fits the basic assumptions of classical linear regression model. The results of the model must satisfy the assumptions of linear regression model and the properties of the coefficients. Consequently, the results for model misspecification tests are presented as follows:

### 4.2.1 Normality of Data

Before running to regression analysis, it should be noted that there are four classic assumptions in undertaking the regression analysis and one of them is normality of data. Therefore, normality test becomes relevant. in order to conduct hypothesis test about the model parameter, the normality assumption must be fulfilled. It measures the extent to which a distribution is not symmetric about its mean value and kurtosis measures how far the tails of the distribution are. According to jerque bera test if p>ch2 is normally distributed if p> Ch is greater than 5% level of significance in these case all variable are greater than 5% level of significance and the overall p value is 30.11% this means we accept the null hypothesis that is the data are normally distributed so we conclude that there is normally distribute between the variables.

Table 4.1 normality

```
. sktest residual
```

Skewness/Kurtosis tests for Normality

| Variable | Obs | Pr(Skewness) | Pr(Kurtosis) | joint adj chi2(2) | joint Prob>chi2 |
|---|---|---|---|---|---|
| residual | 12 | 0.8380 | 0.1574 | 2.40 | 0.3011 |

### 4.2.2 Test for Hetroscedasticity

It is a sequence of random variables, if the random variables have different variance. In this study as shown in table 4.2 the statistic result shows that there is no evidence for the presence of hetroscedasticity, since the p-values were 0.3636 and it is in excess of 0.05 there is no evidence for the presence of hetroscedasticity problem, the result shows that there is no heteroscedasticity problem and null hypothesis is accepted.

Table 4.2 heteroscedasticity

```
White's test for Ho: homoskedasticity
         against Ha: unrestricted heteroskedasticity

         chi2(11)     =     12.00
         Prob > chi2  =    0.3636

Cameron & Trivedi's decomposition of IM-test
```

| Source | chi2 | df | p |
|---|---|---|---|
| Heteroskedasticity | 12.00 | 11 | 0.3636 |
| Skewness | 6.99 | 5 | 0.2211 |
| Kurtosis | 0.19 | 1 | 0.6625 |
| Total | 19.18 | 17 | 0.3181 |

### 4.2.3 Test for Autocorrelation

This is an assumption that the errors are linearly independent of one another (uncorrelated with one another). The test of bgodfrey test indicates that there is no serial correlation that can be seen from tables thus, 0.4946 is greater than the 0.05 at the 5 % significance level.

Table 4.3 autocorrelation

```
. estat bgodfrey

Breusch-Godfrey LM test for autocorrelation
```

| lags(*p*) | chi2 | df | Prob > chi2 |
|---|---|---|---|
| 1 | 0.467 | 1 | 0.4946 |

H0: no serial correlation

### 4.2.4 Test for Multicolinearity

Multicollinearity is used to ensure a linear relationship between two explanatory variables. According to Brook (2008), if an independent variable is an exact linear combination of the other independent variables, then we can infer that the model suffers from perfect co linearity, and it cannot be estimated. Researchers also indicated that multicollinearity condition also exists where there is high, but not perfect, correlation between two or more explanatory variables.

Multicollinearity test conduct using vif test that which is 2.33 less than 10 the result show that there no multicollinearity problem and null hypothesis is accepted which states there is no multicollinearity

## Table4.4 multicollinearity

```
. vif
```

| Variable | VIF | 1/VIF |
|---|---|---|
| Banksize | 3.74 | 0.267186 |
| Depositamo~t | 2.68 | 0.373258 |
| Liquidity | 2.52 | 0.397109 |
| Inflationr~e | 1.43 | 0.700794 |
| Grossdomes~t | 1.30 | 0.767462 |
| Mean VIF | 2.33 | |

## 4.3 Descriptive Statistics

The table depicted below shows information about the descriptive statistics of the dependent and independent variables. The table presents some of the selected descriptive statistics of the mean, standard deviations, minimum and maximum values of study variables for the study period. The research has employed five independent variables and one dependent variable for analysis purpose.The mean and standard deviation for the profitability of Oromia Cooperative banks that measured by ROA are 3.567&1.111374respectively.This revealed that Oromia Cooperativebanks were able to generate an average positive return of 356.7% on their assets for the last twelve years. The minimum recorded return on asset was as low as 180% while the maximum was about 500%That means, the most profitable bank of the earned 500cents of net profit from a single birr of asset investment and least profitable bank earned 180 cents of net profit from a unit of each birr asset invested.

The standard deviation statistics for ROA 111.374%was which indicates that the profitability variation between was very small. The result implies that these banks are optimizing their return from the use of their assets.

Table 4.5 descriptive statistics

| variable | Obs | mean | St.dev | min | Max |
|---|---|---|---|---|---|
| ROA | 12 | 3.566667 | 1.111374 | 1.8 | 5 |
| LIQ | 12 | 6.271667 | 14.39759 | 40 | 91 |
| BS | 12 | 9.391667 | 1.225085 | 7.5 | 1.13 |
| DOA | 12 | 7.890083 | 7.441323 | 6.43 | 8.75 |
| GDP | 12 | 2835695 | 5026681 | 828213 | 1.87e+07 |
| INF | 12 | 1.554167 | 9.422069 | 7.3 | 38 |

From the above table DPTA (Deposit to total asset) have the mean of 789% for the study period. Minimum value of the deposit amount is 643% and 875% is the maximum value of the given data set. The data set has showed the standard deviation equal to744.1323 % which indicates that the variation between was very high compared to ROA.

LIQ (loan mount to customer deposit) ratio has average value of 627.16% and minimum and maximum value of40 and 91 respectively. Liquidity (loan to deposit) has a standard deviation of14.39759 which shows high variation from mean followed to the size of bank compared to other variables. Bank size which is measured by natural log of total asset had the standard deviation 122.5% Size has an average value of 939%with a minimum and maximum value of 75% and 113% respectively.

The annual inflation rate of the country has an average value of 1.55 and minimum and maximum value of 7.3% and 38% respectively. Inflation has a standard deviation of 9.42206 which shows high variation from mean. Gross Domestic Product (GDP) growth had standard deviation of 5026681 its average value was 2835695 and 828213and 1.87e+07 is a minimum and maximum value respectively.

## 4.4 Results of Regression Analysis

### 4.4.1 Overall Fit of The Model

According to Brooks (2008) it is desirable to have an answer to the question ‘how well does the model containing the explanatory variables that were proposed actually explain variations in the dependent variable?’ Goodness of fit statistics is used to test how well the sample regression function fits the data. The most common goodness of fit statistics is known as R square which is defined as the square of the Regression coefficient between the values of the dependent variable and the corresponding fitted values from the model. A modification of R square, adjusted R square is also used which takes into account the loss of degree of freedom associated with adding

extra variables.The output below demonstrates the model summary which constitutes R, R square& adjusted R square. It illustrates the strength of the relationship between the profitability of Oromia cooperative banks measure by (ROA) and explanatory variables. The value of R square is 0.9404 which indicated that the explanatory variables in this study can account for 94.04% of the variation in profitability in terms of ROA. However, the remaining 5.96% of the variation in the profitability of banks in terms of ROA are caused by other factors that are not included in this model. Thus these variables collectively, are good explanatory variables of the profitability of Oromia cooperative bank.

### 4.4.2 Regression Analysis between Dependent and Independent Variables

This section presents the empirical results of the regression analysis shows the results of the regressions for the financial performance (ROA) equation discussed in the methodology part where ROA is taken as dependent variable. As presented in the third chapter the empirical model used in the study in order to examine the effect of liquidity on the profitability of Oromia Cooperative banks was provided as follows:

Y= $\beta o$+ $\beta$1LIQ+ $\beta$2BS+$\beta$3DOA+ $\beta$4GDP+ $\beta$5INF +£

Based on the regression results in Table below the multiple regression equation of this study can be written as the following:

Y=-5.056886-0.0025366LIQ+0.7870841BS+0.188829DOA+2.090GDP-0.0101998INF

Table 4.6 Model summary

| Source | Sum of square | df | MS | No of obs | 12 |
|---|---|---|---|---|---|
| Model | 12.7766727 | 6 | 1.98936796 | F(6, 5) | 18.93 |
| Residual | 0.809993967 | 5 | 1.43675845 | Prob> F | 0.0013 |
| Total | 13.586667 | 11 | 1.73818182 | R-squared | 0.9404 |
| | | | | AdjR-squared | 0.8907 |
| | | | | Root MSE | 0.36742 |

Table 4.7 REGRATION OUTPUT

| Model | Coef. | Std. Err | t | P>\|t\| |
|---|---|---|---|---|
| LIQ | -0.0025366 | 0.122102 | -0.21 | 0.842 |
| BS | 0.7870841 | 0.1749428 | 4.50 | 0.004 |
| DOA | 0.188829 | 0.243677 | 0.77 | 0.468 |
| GDP | 2.0090 | 2.5208 | 0.83 | 0.438 |
| INF | -0.0101998 | 0.14045 | -0.73 | 0.495 |
| Cons | -5.056886 | 1.427299 | -3.54 | 0.012 |

As table shows above, size of the bank, deposit amount, and GDP with coefficient of 4.5, 0.77, and 0.83 respectively had a positive relationship with ROA, other variables like liquidity, and inflation rate had negative. relationship with profitability as far as their respective coefficients were negative. Ingeneral as per the regression results provided in table among the regressors used in this study, one of them had significant and the other four were insignificant.

## 4.5 Hypothesis Test

### 4.5.1 Liquidity with Profitability (ROA)

Liquidity were variable that was examined in this study is measure of liquidity, i.e., current ratio, insignificantly and negatively related in the model with the return on assets on t value of -0.21 and p-value of 0.842. This implies that as liquidity increase by one unit the return on assets was decrease by 0.21and vice versa.

### 4.5.2 Bank Size with Profitability (ROA)

The study found that bank size and profitability of Oromia cooperative Banks has positive beta coefficient of 4.5 and significant level of 0.004. Because of the significant level is less than 0.05 there is significant relationship between size and profitability of Oromia cooperative banks. This implies that as Size of the bank increase by one unit the return on assets was increase by 4.5 and vice versa.

### 4.5.3 Deposit Amount with Profitability (ROA)

The study result examined the relationship between deposit amount and profitability of Oromia Cooperative banks. Based on regression result, deposit amount has insignificant positive relationship with profit, with t coefficient of 0.77 and significant level of P (0.468).

Because of this deposit amount has strong insignificant relationship with profit of Oromia cooperative banks. This implies that as deposit amount increase by one unit the return on assets was increase by 0.77 and vice versa.

### 4.5.4 Gross Domestic Product Growth with Profitability (ROA)

The study found that GDP growth influences the profitability positively though the effect is insignificance with the coefficient of 0.83 and significant value of 0.438. This result shows that GDP has not significant impact on profitability of Oromia cooperative bank. This implies that as GDP increase by one unit the return on assets was increase by 0.438 and vice versa.

### 4.5.5 Inflation with Profitability (ROA)

The effects of inflation can be substantial and undermines the stability of the financial system and the ability of the regulator to control the solvency of financial intermediaries. Revell (1979) noted that variations in bank profitability can be strongly explained by the level of inflation.

Demirgüç-Kunt and Huizinga (1999) notice that, banks in developing countries tend to be less profitable in inflationary environments, particularly when they have a high capital ratio. But this study found that inflation influences the profitability positively though the effect is insignificance with the coefficient of -0.73 and significant value of 0.495. This result shows that inflation rate has not significant impact on profitability of Oromia cooperative bank. In this study, the data shows indirect relationship between inflation rate and ROA.

# CHAPTER FIVE

# FINDING, CONCLUSSIONS AND RECOMMENDATIONS

This chapter deals with the conclusions and recommendations based on the findings of the study. Accordingly this chapter is organized into three sub-sections. Section 5.1 is about findings, Section 5.2 presents the conclusions and section 5.3 is about the recommendations.

## 5.1 Findings

As stated in chapter one the broad objective of this study was to identify factors that affect the of profitability Oromia cooperative bank. Further, as noted in the previous chapters (chapter 1), in order to achieve this broad objective, the study was developed five hypotheses.

Based on the result of the study the hypothesis result is stated in the following table.

The result in table 5.1 shows the effect of all determinants to the return on assets respectively. This summarization shows that Bank size has significant relation with return on assets, while deposit amount, liquidity, GDP and inflation have insignificant relation with return on assets.

Based on the result of the study, the hypothesis result is stated in the following table 5.1 and the hypothesis results show that the effect of all determinants to the return on assets respectively with their coefficient.

### Table 5.1 Results for the Hypothesis

| Hypothesis | Coefficients | Conclusion |
|---|---|---|
| Liquidity with ROA | Negative | Insignificant |
| Bank size with ROA | Positive | Significant |
| Deposit amount with ROA | Positive | Insignificant |
| GDP with ROA | Positive | Insignificant |
| INF with ROA | Negative | Insignificant |

## 5.2 Conclusion

Oromia cooperative banks have a crucial role for the allocation of economic resource in one country. Their main contribution is in the economic growth of the country through making available the funds for investors to borrow as well as financial deepening in the country. According to previous studies made on banks profitability determinant, profitability is affected by both internal and external factors. Internal factors are factors that are mainly influenced by a bank's management and also called bank specific factors. External factors are those factors which are beyond the control of management of these institutions such as interest rates, inflation rates, market growth, and GDP growth rate and market share. The main purpose of this study was to find out the most important internal and external factors that affecting the profitability of the Oromia cooperative banks.

To comply with the objective of this research, the paper is based on quantitative research method. The quantitative data are obtained from annual reports of NBE. So, for testing the research hypothesis, this study employed a data for a period over 2010 to 2021 of the Oromia cooperative banks. The empirical findings on the impact on banks profitability reaches in the following conclusions:

Liquidity measured by loan amount to deposit has negative and insignificant impact on profitability. This implies that high figures for this variable mean low profitability. Since high Figures for this variable denotes low liquidity, lower liquidity is associated with lower Profitability.

The positive and insignificant impact of deposit amount on return on asset shows that increasing Deposit amount increase profitability of bank. This Implies that the high costs generated by deposits lead to weigh positively on the performance of Banks. According to positive relationship between the amount of deposits and Oromia cooperative banks profitability, since in this study the ratio of deposits to total assets have been used to measure this variable, It seems that absorbing of long term deposits and the more absorption of short term and current deposits caused the Increase in profitability of Oromia cooperative bank's assets.

Size of the bank has positive and significant impact on profitability of Oromia cooperative Banks. This result revealed that bank size which is measured by natural logarithm of total asset has significant impact on Oromia cooperative banks Return on assets.

All external factors included in the study were not significant to explain bank profitability in this study. Generally, one hypothesis of the bank specific variables was significantly impact bank profitability. On the other hand, all external variables were insignificant in the hypotheses.

Therefore, the study concluded that most of bank profitability drivers are explained by bank specific determinants rather than external determinants.

## 5.3 Recommendations

The recommendations of the research were premised on the summary of and conclusions from the results and discussion.

In order to improve Oromia cooperative banks performance, efficient management of bank operations can alleviate the high operational cost that erodes bank profits. Managerial cost and other expenses should be at optimal level and consistent with profit maximization objectives of shareholders. Therefore, the researcher recommends the following points based on the study findings, bank size are significant key drivers of profitability of Oromia Cooperative banks. Indeed, focusing and reengineering the institutions alongside these indicators could enhance the profitability as well as the performance of the banks. Since the management of the bank has control over the bank specific factors, it's possible to improve the performance of the bank by giving more attention on those identified bank specific factors that have significant impact on the profitability.

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# APPENDIXES

## Appendix I

TEST FOR NORMALITY OF THE DATA

```
. sktest residual
```

Skewness/Kurtosis tests for Normality

| Variable | Obs | Pr(Skewness) | Pr(Kurtosis) | joint adj chi2(2) | joint Prob>chi2 |
|---|---|---|---|---|---|
| residual | 12 | 0.8380 | 0.1574 | 2.40 | 0.3011 |

TEST OF HETROSCEDASTICITY

```
White's test for Ho: homoskedasticity
         against Ha: unrestricted heteroskedasticity

         chi2(11)     =     12.00
         Prob > chi2  =    0.3636

Cameron & Trivedi's decomposition of IM-test
```

| Source | chi2 | df | p |
|---|---|---|---|
| Heteroskedasticity | 12.00 | 11 | 0.3636 |
| Skewness | 6.99 | 5 | 0.2211 |
| Kurtosis | 0.19 | 1 | 0.6625 |
| Total | 19.18 | 17 | 0.3181 |

TEST FOR AUTOCORRELATION

```
. estat bgodfrey

Breusch-Godfrey LM test for autocorrelation
```

| lags(*p*) | chi2 | df | Prob > chi2 |
|---|---|---|---|
| 1 | 0.467 | 1 | 0.4946 |

H0: no serial correlation

TEST OF MULTICOLLINARITY

```
. vif
```

| Variable | VIF | 1/VIF |
|---|---|---|
| Banksize | 3.74 | 0.267186 |
| Depositamo~t | 2.68 | 0.373258 |
| Liquidity | 2.52 | 0.397109 |
| Inflationr~e | 1.43 | 0.700794 |
| Grossdomes~t | 1.30 | 0.767462 |
| Mean VIF | 2.33 | |

APPENDIXES

## Appendix II

Table of descriptive statistics

| variable | Obs | mean | St.dev | min | Max |
|---|---|---|---|---|---|
| ROA | 12 | 3.5666 | 1.111374 | 1.8 | 5 |
| LIQ | 12 | 62.7166 | 14.3975 | 40 | 91 |
| BS | 12 | 9.3916 | 1.22508 | 7.5 | 11.3 |
| DOA | 12 | 78.9 | 7.441323 | 64.3 | 87.5 |
| GDP | 12 | 28..35 | 5.026681 | 8.28 | 18 |
| INF | 12 | 15.54 | 9.422 | 7.3 | 38 |

APPENDIXES

## Appendix III

Model summary

| Source | Sum of square | df | Mean square | No of obs | 12 |
|---|---|---|---|---|---|
| Model | 12.7766727 | 6 | 1.98936796 | F(6, 5) | 18.93 |
| Residual | 0.809993967 | 5 | 1.43675845 | Prob> F | 0.0013 |
| Total | 13.586667 | 11 | 1.73818182 | R-squared | 0.9404 |
| | | | | AdjR-squared | 0.8907 |
| | | | | Root MSE | 0.36742 |

a. Dependent Variable: ROA

b. Predictors: (Constant), GDP, INF, DPTA, SIZ, LIQ

REGRATION OUT PUT

| Model | Coef. | Std. Err | t | P>\|t\| |
|---|---|---|---|---|
| LIQ | -0.0025366 | 0.122102 | -0.21 | 0.842 |
| BS | 0.7870841 | 0.1749428 | 4.50 | 0.004 |
| DOA | 0.188829 | 0.243677 | 0.77 | 0.468 |
| GDP | 2.0090 | 2.5208 | 0.83 | 0.438 |
| INF | -0.0101998 | 0.14045 | -0.73 | 0.495 |
| Cons | -5.056886 | 1.427299 | -3.54 | 0.012 |

a. Dependent Variable: ROA

b. Predictors: (Constant), GDP, INF, DPTA, SIZ, LIQ