

**FACTOR AFFECTING THE PROFITABILITY OF ETHIOPIAN
COMMERCIAL BANK OF ETHIOPIA (IN CASE OF NEWLY
ESTABLISHED COMMERCIAL BANKS)**

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Abstract

The purpose of this study is to examine the factor of bank-specific and macroeconomic factors of newly established commercial bank profitability in Ethiopian. The study used panel data of five new commercial banks from year 2010 to 2018. The study employed an explanatory type of research and secondary financial data were used. Fixed effect regression model was applied to investigate the factor of bank size, capital adequacy, liquidity ratio, management efficiency, loan to deposit ratio, capital structure, GDP and inflation rate on profitability. Return on assets (ROA) was used as a measure of profitability. The major findings of the study show that firm size and inflation have statistically significant and positive relationship with banks' profitability whereas the capital structure and GDP growth have statistically significant and relation with bank profitability bank profitability. Further, the results from the panel regression suggest that, liquidity ratio, capital adequacy are spastically insignificant relation to profitability whereas loan to deposit ratio and management efficiency have a and statistically insignificant relationship with banks' profitability.

Keywords: factor, External, Internal Factors, Profitability, newly established Commercial Bank

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Acronyms

CAMEL	Capital Adequacy, Asset Quality, Management Efficiency, Earnings	Ability
and	Liquidity	
RSA	rate of sensitive assets	
ALM	asset liability management	
SCA	statistical cost accounting	
RSL	rate- sensitive liabilities	
ROA	Return on Asset	
CLRM	classical linear regression model	
ME	Management efficiency	
CAS	capital structure	
IFN	Inflation rate	
LIR	Liquidity ratio	
LDR	Loan to deposit ratio	
CA	Capital adequacy	
GDP	Gross domestic product	

CHAPTER ONE

INTRODUCTION

1. BACKGROUND OF THE STUDY

Banks are financial institutions that play like an intermediary role in an economy through channeling financial resources from surplus economic units to deficit ones. In turn, banks facilitated the saving and capital formation in an economy. The financial intermediation role of the commercial banks hence becomes the basis of the two major functions of commercial banks, namely, deposit mobilization and credit extension. The banking institution has contributed significantly to the effectiveness of the entire financial system as they offer an efficient institutional mechanism through which resources can be mobilized and direct from less essential uses to more productive investments. A bank is commonly recognized as an institution which provides fundamental banking services such as accepting deposits and providing loans. It was observable that commercial banks play a vital role in the economic development of a country. Banks accumulated the idle savings of the people and make them available for investment that means banks serve as intimidation between saver and investor.

This may hamper financial intermediation because banks exercising strong market power might have offered lower returns on deposit but charge high interest rates on loans. Too low profitability, in turn, might discouraged private agents (depositors and shareholders) from conducting banking activities thus resulting in banks failing to attract enough capital to operate. Furthermore, these imply that only poorly capitalize banks intermediate savings with the corresponding costs for sustainable economic growth. Banks' profitability was most concern in modern economy. Banks are in a business to received deposits or liabilities and to issued debt securities on the one hand and created or invested in assets on the other hand (Fama, 1980). Commercial Banks incur costs for their liabilities and earned income from their assets. Thus, profitability of banks waas directly affected by management of their assets and liabilities. In addition, different market and macroeconomic factors also influence the ability of the banks to make profits (Athanasoglou et al, 2008).

Profitability for African banks can only be attained if bank managers and policy makers continue to pay serious attention to internal (bank specific) as well as external (macroeconomic) factors that have an effect on their profitability. Given the lower profitability from corner-to-corner commercial banks since recent period, it would be important to implement second generation reforms of the banking sector to bring about the desired growth performance of the industry.

The banking environment in Ethiopia has, for the past decades, undergone many regulatory and financial reforms like other African countries and the rest of developing world. These reforms have brought about many structural changes in the banking sector of the country and have also encouraged commercial banks to enter and expand their operations in the industry (Lelissa 2007). Despite these changes, currently, the banking industry in Ethiopia was characterized by operational inefficiency, little and insufficient competition and perhaps can be distinguished by its market concentration towards the big government owned commercial bank and having diversification ownership structure (Lelisa 2007). The existence of less efficiency and little & insufficient competition in the country's banking industry was a clear indicator of relatively poor performance of the sector compare to the developed world financial institutions. Thus, it was important to know the factor of banks profitability for an efficient management of banking operations aims at ensuring growth in profits and efficiency.

Banks in Ethiopia, newly established commercial banks, turn out to been profitable every year, have made good returns to their shareholders or investors. These have helped them to get more funds from the public and enhanced their capital buffers, and remain solvent but there are variations on newly established commercial banks financial performances. Therefore, banks' profitability would generally vary directly with the riskiness of their portfolios and operations, they need always to carefully identify, assess, monitor and control risks associated with credit, liquidity, market, operations, reputation, legality and the overall economic environment.

In general, bank profitability studies were unquestionably desired because, commercial banks not profitable means the entire economy may become unstable and would been adversely affected since banks play a prominent role in the economic development of a country.

This study covered variables both bank specific and macroeconomic factors and in-addition foreign exchange rate to examine the factor affecting. The profitability of newly established commercial banks Ethiopia. The objective of the study was investigating factors affecting bank financial profitability of newly established Commercial Banks in Ethiopia by using variables as positively.

1.2. STATEMENT OF THE PROBLEM

Commercial banks, mainly due to their intermediation function play a crucial role in the financial sector of any country in the world. In the past twenty years, the banking sectors worldwide have undergone significant changes in its operated environment, especially in terms of its structure and financial performance (Athanasoglou, Brissimis, & Delis, 2008). Despite the increasing trend toward bank disintermediation, the effective mobilization of funds from depositors to investors or productive projects was still a prime requirement for a country's economic development (Athanasoglou et al., 2008). Good financial performance of commercial banks, according to Ongore and Kusa (2013), contributes to a sound and profitable banking sector as well as a stronger financial system which was better able to endure negative shocks. Poor performance can lead to bank runs, bank crises and result in a major financial crisis.

Literature categorized these determinants into internal and external factors which influence banks profitability. According to Athanasoglou et al. (2008), the internal factors originated from a bank's financial statements and are thus referred to as bank-specific determinants of profitability, whereas external determinants are factors that are not directly linked to bank management.

A study by Lipunga (2014) aimed to evaluate the factor of profitability of listed commercial banks in developing countries, focusing on Malawi for the period 2009-2012. Return on Assets (ROA). The study applied correlation and multivariate regression analysis which revealed that bank size, liquidity and management efficiency have a statistically significant impact on ROA. In terms of Earnings Yield however, bank size, capital adequacy and management efficiency had a significant influence on bank profitability but not liquidity.

Ongore and Kusa (2013) used the CAMEL model to study the factor of financial performance of commercial banks in Kenya. Linear multiple regression model and Generalized Least Square on panel data were used to estimate the data collected from financial statements of the commercial banks and the profitability ratios of ROA were used as measures of financial performance.

In Ethiopia researcher had reviewed various researches that examined determinants of commercial bank profitability in Ethiopia. For instance, study conducted by Amdemichael (2012), Gemechu (2016), Birehanu (2012), Samuel and (2015) tried to examined the factor of Ethiopian commercial banks profitability by using the variable of capital adequacy, bank size, liquidity, management efficiency, loan and advances, market concentration, employs efficiency funding cost, operating efficiency, GDP, inflation and exchange rate as bank specific, industry specific and macroeconomic variables.

Efficient composition of assets and liabilities of commercial banks was crucial for their sound financial performance. In fact, economic theory suggested that banks attempt to produce to maximize profits while minimizing cost. This means most profitable banks have become efficient banks maximized profits (Goldberg and Rai 1996, Berger 1993). As banking firms may attempt to maximize profit by many ways assets and liability management activities are the most probable methods. In developed countries, a variety of sources and use of funds are available for banks allowed them to diversify asset and liability portfolios. But in developing economy, banks are constrained with low breadth and depth of financial market and as such their asset and liability base are narrower than those of their counterparts in developed countries. For example, banks in developed countries, such as USA and Australia, can invest their excess cash reserve in short-term trading and investment securities unlike Ethiopia where there are no short-term trading securities but limited existence short-term investment securities, such as government bills and bonds. Constraint by the lack of vibrant money market, Ethiopia's commercial banks have not been able to invest their excess cash reserve for adequate return. Due to the competition in the financial markets, banks seek out greater efficiency in the management of their assets and liabilities.

Accurately evaluating and measuring the performance of newly established commercial banks is not an easy task. Banks differ in their sizes and this could have an effect on responsibilities of management, liquidity, debt level and profitability. A bank's assets and liabilities can affect its valuation in the market, its ability to acquire other banks or to be acquiring at a good price.

Therefore, A complete picture of the bank, in the form of its financial position, i.e. its balance sheet, should be study and evaluate to be able to acceptably prediction of its future performance. The main source of profits generated by a bank is the balance sheet portfolio: the assets, liabilities and capital which are considered as important components to determine profits.

In Ethiopia, commercial banks are the major player of the country financial sector. Commercial banks recently indicate a rapid growth in terms of geographical coverage and number of financial products offered. There are eighteen commercial banks in Ethiopia as per National Bank of Ethiopia annual report of (2013). Although the banking sector has been growing faster in the country after liberalization of financial institutions, but still most of the population in the country, especially in rural areas are not served with formal banking services hence use informal banking services.

The information fact gives a clue to the newly established Ethiopian commercial banks growth in profits is due to under developing nature of the sector. Therefore, this growth may not continue when the finance sector becomes highly develop and the competition become tough, so investigation of the impact of asset and liability management on profitability of banks is vital. According to the access capital review of 2010 commercial banks surely be challenge by the entry of seven new banks namely, Bunna International Bank,Zemen Bank, Abay Bank, Birhan International Bank,Addis International Bank, Enat Bank, Dehub Global Bank, But none of these developments represent a serious blow to the prospects of the existing banks in their view. Moreover, still there is a huge and still largely unmentionable financial intermediation needs in Ethiopia. Therefore, investigation of factors affecting banks profitability using SCA model essential for the new entrants and for the existing banks.

From the above lot of researcher work had so far taken place concerned the issue of factors affecting bank's profitability and; most of researcher conducted in the banking system was focused on the specific factor of banking profitability.This study seeks to fill the gap by providing full information about the internal and external factors that affects profitability by examining the untouched one, and replicating the existing in the Ethiopian context by using newly established commercial banks operating in the country. To address this gap of information on Ethiopian newly established commercial banking sector.

Thus, the intent of this study was to examine factors affecting banks profitability using statistical cost accounting model together with external and internal variables such as asset quality, size, capital structure, liquidity, capital adequacy, foreign exchange, management efficiency, GDP and inflation rate affect the profitability of commercial banks in Ethiopia.

1.3. HYPOTHESES OF THE STUDY

Hypotheses of the study stands on the theories relate to a bank's profitability that develop over the years by banking area researcher's and past empirical studies relate to a bank's profitability. Based on the objective, the present study seeks to test the following ten hypotheses:

- H1:** Firm size has a positive significant effect on profitability.
- H2:** capital structure has positive significance effect on profitability.
- H3:** liquidity ratio has negative significant effect on profitability
- H4:** Management efficacy has positive significant effect on profitability.
- H5:** Deposit ratio has positive significant effect on profitability.
- H6:** Capital adequacy has positive significant effect on profitability.
- H7:** Gross domestic product has positive significant effect on profitability.
- H8:** Inflation has negative significant effect on profitability.

1.4. OBJECTIVES OF THE STUDY

1.4.1. GENERAL OBJECTIVE OF THE STUDY

The general objective of the study was examined factors affecting bank financial profitability of newly established Commercial Banks in Ethiopia.

1.4.2. SPECIFIC OBJECTIVE OF THE STUDY

Specifically, this study addresses the following objectives;

- ❖ To examine the effect of firm specific factors on the profitability of newly established commercial banks.
- ❖ To examine the effect of macroeconomic factors on the profitability of newly established commercial banks.

1.5. SIGNIFICANCE OF THE STUDY

The significance of this research includes the following:

- ❖ First, it contributed to the management of commercial Banks in Ethiopia to take measures to protect their banks from different risks, and maintain a sound and healthy financial system through an efficient and effective balance sheet management by controlling (minimize) negative factor of the bank on their profitability and improve (use) positively affecting as an opportunity to maximize profitability of the bank and also It gives signal to the management of the banks to implement the strategy and policy makers to take remedial action.
- ❖ Second, it helps to other researchers as a source of reference for those who want make further study on the area afterwards by reading this research use as framework to how to done the research more efficiently and effectively.
- ❖ Finally, it was given all stakeholders in the area the opportunity to gain deep knowledge about the relationship of balance sheet, external factors and internal factor profitability. The stake holder gate new updated information to increase profit and production.

1.6. LIMITATION OF THE STUDY

During the study, the researcher faced some uncontrollable (external) variables that affected the smooth implementation of the research although the researcher tried his best to design the research as properly as possible. For instance; lack of resource and relevant and up to date published literatures mainly in the context of Ethiopia and absence of full information displayed on websites were the major constraints during the study. Finally, the all-State owned banks are not considered. Therefore, the study does not reflect the overall picture of profitability of the banking industry in Ethiopia.

1.7. SCOPE OF THE STUDY

The scope of the study was restricted to the factors affecting financial profitability of newly establish commercial banks in Ethiopia register by the NBE that have nine years data i.e.,2010-2018. As a result, it includes the five leading newly established commercial banks in the country in Terms of both branch network and market share namely Bunna Bank, Zemen Bank, United Bank, Birhan International Bank and Oromia international bank.

1.7 ORGANIZATION OF THE STUDY

The research paper was organized as follows: Chapter one presents introduction and the general back ground of the study. Chapter two contained the theoretical and the empirical review of the literature. The research designed and methodology was presented in chapter three. Chapter four presents data presentation, analysis and interpretation of the results. Finally, chapter five presented conclusions and recommendations were discussed

CHAPTER TWO

LITERATURE REVIEW

2.1. INTRODUCTION

Traditional financial system in Ethiopia has long history and paramount contribution to economic betterment and social wellbeing of the society. Traditional institutions organized with a sense of cooperation and risk sharing has enabled Ethiopians to experience saving and financial management within its cultural context. Eqqub and Edirare some of the informal financial institutions that shaped the social bond and interaction (GebeyawAychile 2008).

Modern banking in Ethiopia was introduced after the agreement that was reached in 1905 between Emperor Minilik II and Mr.MaGillivray, representative of the British owned National Bank of Egypt. Following the agreement, the first bank called Bank of Abyssinia was inaugurated in Feb.16, 1906 by the Emperor. Within the first fifteen years of its operation, Bank of Abyssinia opened branches in different areas of the country in Harar (Eastern Ethiopia), Dire Dawa, Dessie and Djibouti. By 1931 Bank of Abyssinia legally replaced by Bank of Ethiopia shortly after Emperor Haile Selassie came to power.

The new Bank, Bank of Ethiopia, was a purely Ethiopian institution, was the first indigenous bank in Africa, and established by an official decree on August 29, 1931 with capital of £750,000. In 1941, another foreign bank, Barclays Bank, came to Ethiopia with the British troops and organized banking services in Addis Ababa, until its withdrawal in 1943. Then on 15 April 1943, the State Bank of Ethiopia commenced full operation after 8 months of preparatory activities. In 1945 and 1949, the Bank was granted the sole right of issuing currency and deal in foreign currency. The Bank also functioned as the principal commercial bank in the country and engaged in all commercial banking activities. The National Bank of Ethiopia with more power and duties started its operation in January 1964. Following the incorporation as a share company on December 16, 1963 as per proclamation No.207/1955 of October 1963, Commercial Bank of Ethiopia took over the commercial banking activities of the former State Bank of Ethiopia.

It started operation on January 1, 1964 with a capital of Ethiopian Birr 20 million. In the new Commercial Bank of Ethiopia, in contrast with the former State Bank of Ethiopia, all employees were Ethiopians. There were two other banks in operation namely Banco di Roma S. and Banco di Napoli S.C. that later reapplied for license according to the new proclamation each having a paid-up capital of Eth. Birr 2 million. The first privately owned bank, Addis Ababa Bank Share Company, was established on Ethiopians initiative and started operation in 1964 with a capital of 2 million in association with National and Grindlay Bank, London which had 40 percent of the total share. In 1968, the original capital of the Bank rose to 5.0 million and until it ceased operation, it had 300 staff at 26 branches.

Following the declaration of socialism in 1974, the government extended its control over the whole economy and nationalized all large corporations. Organizational setups were taken in order to create stronger institutions by merging those that perform similar functions. Accordingly, the three private owned banks, Addis Ababa Bank, Banco di Roma and Banco di Napoli Merged in 1976 to form the second largest Bank in Ethiopia called Addis Bank with a capital of Eth. birr 20 million and had a staff of 480 and 34 branches. Then Addis Bank and Commercial Bank of Ethiopia S.C were merged by proclamation No.184 of August 2, 1980 to form the sole commercial bank in the country until the establishment of private commercial banks in 1994.

The financial sector that the socialist oriented government left behind constituted only three banks and each enjoying monopoly in its respective market, the following was the structure of the sector at the end of the era: National Bank of Ethiopia (NBE), the Commercial Bank of Ethiopia, and Agricultural and Industrial Development Bank.

Following the demise of the Dergue regime in 1991 that ruled the country for 17 years under the rule of command economy, the Ethiopian People's Revolutionary Democratic Front declared a liberal economy system. In line with this, Monetary and Banking proclamation of 1994 established the national bank of Ethiopia as a judicial entity separated from the government and outlined its main function. Monetary and Banking Proclamation No.83/1994 and the Licensing and Supervision of Banking Business No.84/1994 laid down the legal basis for investment in the banking sector.

The next section (section 2.2) presents theoretical review. Section 2.3 covers the assets. And liability management concept. Section 2.4 covers banking risk. Section 2.5 review of empirical

studies related to factors affecting bank profitability using statistical cost accounting model. Finally, conclusions on literature review are presented section 2.6.

2.2. Theoretical review

This section reviews the basic theoretical issues related to banks and bank profitability and its determinants. Hence, section 2.2.1 presents the role of banks in the economy. Then, section 2.2.2 presents the theories related to bank profitability.

2.2.1. THE ROLE OF BANKS

This paragraph discusses the role of banks in the economy and examines the question why banks exist. At first sight, the answer to this question is very intuitive and simple; banks act as an intermediary between those who are in need for money and those who have excess of money. Looking more closely to this question there could be a more detailed explanation. Namely, in a perfect capital market of Modigliani-Miller (1958), financial institutions are superfluous (Santos 2001); namely, entities can borrow and save directly through the capital market. In reality, such perfect market does not exist; transaction costs and monitoring costs distort capital markets. Furthermore, capital markets suffer from the information asymmetry and the agency problem. The agency problem refers to the dissimilar incentives of borrowers and savers, in a broader context it refers to the dissimilar incentives of principles and agents (Jensen &Meckling 1976). In a case of financial distress, borrowers are limited liable; implying that they have incentives to alter their behavior by taking on more risk than savers are willing to accept. Monitoring the borrowers' behavior is time consuming, complex and expensive for individuals. In general, in inefficient markets, financial intermediation is beneficial since banks have lower monitoring and transaction costs than individuals, due to economies of scale and scope.

Another important aspect of banking is the function of maturity transformation. Banks receive short-term savings from depositors and transform those savings into long-term loans to borrowers. By holding a part of the short-term savings in liquid assets and cash, banks could withstand daily withdrawals from depositors. Banks offer a unique service; lending long term while guaranteeing the liquidity of their liabilities to depositors, which can withdraw their money at any time without a decline in nominal value (Schooner &Talyor 2010 cited in van Ommeren 2011). Capital markets

Cannot achieve maturity transformation with the same benefits as banks can. Individual investors face liquidity, price and credit risk, which they cannot diversify to the extent banks can. As savers do not withdraw their deposits at the same time, banks hold only a minor part of the savings in liquid cash. Thus, banks diversify liquidity risks over a large pool of savers. Individual savers can also diversify their investments in terms of credit and price risks but it remains unlikely that they could withdraw the investments at any time without facing liquidity issues.

Nowadays, bank activities are more diverse than ever. In the past decades, competition has increased and new activities have emerged. The traditional form of banking, receiving deposits and extending credits, has become less important. Ever since the complexity of balance sheet has increased as did balance sheet and risk management (Greening & Bra Tanovic 2009 cited in van Ommeren 2011). Besides the incorporations of liquidity, price and credit risks in banking activities, banks increasingly face market risks (e.g., interest rate risk and currency risk). One may assume that banks' risk managers properly diversify these risks and closely monitor borrowers' behavior to avoid bank failure or financial distress. Nevertheless, monitoring bank behavior is required to safeguard the continuity and stability of the banking sector due to moral hazard issues.

2.2.2. THEORIES OF BANK PROFITABILITY

Studies on the performance of banks started in the late 1970s/early 1980s with the application of two industrial organizations models: The Market Power and Efficiency Structure theories (Athanasoglou et al. 2006). The balanced portfolio theory has also added greater insight into the study of bank profitability (Nzongang & Atemnkeng 2006). Thus, each of the aforementioned theories and others related to bank profitability and its determinants are discussed in detail in this particular section as follows.

The market power theories

As noted in Tregenna (2009) applied in banking the market power hypothesis posits that the performance of bank is influenced by the market structure of the industry. There are two distinct approaches within the market power theory; the Structure-Conduct-Performance (SCP) and the Relative Market Power (RMP) hypotheses. According to the SCP approach, the level of concentration in the banking market gives rise to potential market power by banks, which may raise their profitability.

Banks in more concentrated markets are most likely to make „abnormal profits“ by their ability to lower deposits rates and to charge higher loan rates as a result of collusive (explicit or tacit) or monopolistic reasons, than firms operating in less concentrated markets, irrespective of their efficiency (Tregenna 2009). Unlike the SCP, the RMP hypothesis posits that bank profitability is influenced by market share. It assumes that only large banks with differentiated products can influence prices and increase profits. They are able to exercise market power and earn noncompetitive profits (Tregenna 2009).

The efficiency theory

The efficiency hypothesis, on the other hand posits that banks earn high profits because they are more efficient than others. There are also two distinct approaches within the efficiency; the X-efficiency and Scale–efficiency hypothesis. According to the X-efficiency approach, more efficient firms are more profitable because of their lower costs. Such firms tend to gain larger market shares, which may manifest in higher levels on market concentration, but without any causal relationship from concentration to profitability (Athanasoglou et al. 2006). The scale approach emphasizes economies of scale rather than differences in management or production technology. Larger firms can obtain lower unit cost and higher profits through economies of scale. This enables large firms to acquire market shares, which may manifest in higher concentration and then profitability (Athanasoglou et al. 2006).

The balanced portfolio theory

The portfolio theory approach is the most relevant and plays an important role in bank performance studies (Nzongang & Atemnkeng 2006). According to the Portfolio balance model of asset diversification, the optimum holding of each asset in a wealth holders portfolio is a function of policy decisions determined by a number of factors such as the vector of rates of return on all assets held in the portfolio, a vector of risks associated with the ownership of each financial assets and the size of the portfolio. It implies portfolio diversification and the desired portfolio composition of commercial banks are results of decisions taken by the bank management. Further, the ability to obtain maximum profits depend on the feasible set of assets and liabilities determined by the management and the unit costs incurred by the bank for producing each component of assets (Nzongang& Atemnkeng 2006).

Risk-return trade off theory, the signaling and bankruptcy cost hypotheses

The balance sheet structure could also influence banks' profitability; in this context, the equity-to-asset ratio is an important balance sheet ratio that received much attention. For this ratio, theoretical explanations assume different signs of the relationship with profitability. According to the Modigliani & Miller theorem there exists no relationship between the capital structure (debt or equity financing) and the market value of a bank (Modigliani & Miller 1958). In this context, there is no relationship that exists between the equity-to-asset ratio and funding costs or profitability. Nevertheless, as this chapter already mentioned the agency problem, information asymmetry and transaction costs distort Modigliani & Miller's perfect market. Thus, when the perfect market does not hold there could be a possible explanation for a negative relationship. Financing theory suggest that increasing risks, by increasing leverage and thus lowering the equity-to-asset ratio (increasing leverage), leads to a higher expected return as entities will only take on more risks when expected returns will increase; otherwise, increasing risks have no benefits. This theoretical explanation is known as the risk-return trade off (van Ommeren 2011).

2.2.3. CURRENT ASSET MANAGEMENT AND PROFITABILITY

Most of the researcher's studies regarding the relationship between current asset management and financial performance support the traditional belief that reducing current assets proportion in total assets in order to reduce current asset investment, would positively affect the profitability of the firm. Also, efficient current asset management is very important to create the value for shareholders. However, divergent to traditional belief, more investment in current asset (conservative policy) might also increase profitability. When high inventory is maintained, it reduces the cost of interruptions in the production process, decrease in supply cost, protection against price fluctuation and loss of business due to scarcity of products (Blinder & Maccini, 1991). Czyzewski and Hicks (1992) conclude that firms with the highest return on assets hold higher cash balances but they did not consider liquidity management beyond static cash and assets ratio. Soenen (1993) employs return on total assets as an index of financial profitability. Although return on equity might be of greater interest to investors, return on total assets was not influenced by the financial leverage of the firm.

The implication of efficient current asset management for value creation of shareholders was highlighted by Shin and Soenen (1998). It actually resulted from time lag between expense on raw material purchase and collection of cash against sale of finished goods. The way current asset is managed has a significant impact on profitability and liquidity. Another important contribution with reference to current asset management was by Deloof (2003), who emphasized that most firms had a large amount of cash invested in current asset. It can therefore, be expected that the way current asset was managed, had a significant impact on the profitability of firms. He investigated the relationship between current asset management and corporate profitability for a balanced panel set of 1,009 Belgian firms over the 1991–1996 periods.

2.2.4. THE ASSET LIABILITY MANAGEMENT CONCEPT

Baum, G. (1996) defined Asset Liability Management as the practice of managing a business so that decisions and actions taken with respect to assets and liabilities are coordinated in order to ensure effective utilization of a company's resources to increase its profitability. ALM can be defined as the ongoing process of formulating, implementing, monitoring and revising strategies

related to assets and profitability to achieve an organization's financial objectives given the organization's risk tolerance and other constraints. According to Dynamic Business Analysts, it is the coordination, or large-scale simulation of an entire company to manage its assets and liability to enable financial company to operate in a more soundly and profitable environment and this enables financial institutions to define strategic asset allocation and to identify financial opportunities and uncertainty in order to improve its financial resources. Asset Liability management is relevant to, and critical for, the sound management of the finances of any organization that invests to meet its future cash flow needs and capital requirements.

Fabozzi et al. (1998) identified three requirements for a successful implementation of ALM. A thorough understanding of the ALM concept is the first among these requirements. It refers to a comprehensive recognition of the banking risk. Besides serving as a venue for understanding the scope of risk, ALM allows for the quantifiable assessment and effective management of various risk categories. Even in the absence of a formal ALM program, the understanding of these concepts provides a picture of the risk/reward tradeoff in which the financial institutions are engaged.

The second step or requirement for the implementation of ALM is the development of an information system. Risk management involves gathering and monitoring relevant data. The set of data alone is likely to provide valuable information about the degree of financial risk affecting the institution. The third step involves a design and implementation of the ALM decision making process.

2.2.4.1. ASSET LIABILITY MANAGEMENT AND PROFITABILITY

Banks' profitability is of utmost concern in modern economy. Banks are in a business to receive deposits or liabilities and to issue debt securities on one hand and create or invest in assets on the other hand (Fama 1980). Commercial Banks incur costs for their liabilities and earn income from their assets. Thus, profitability of banks is directly affected by management of their assets and liabilities. In addition, different market and macroeconomic factors also influence the ability of the banks to make profits (Short 1979, Molyneux, and Thornton 1992, Athanasoglou et al. 2008).

Different studies are done explaining the influence of composition of assets and liabilities on banks' profitability. Hester & Zoellner (1966); Kwast & Rose, (1982); Vasiliou, (1996); Kosmidou et al. (2004); and Asiri, (2007) can be mentioned. Hester & Zoellner (1966) employed statistical cost accounting (SCA) method on US banks and found statistically significant coefficients for most of the categories of assets and liabilities and rejected the null hypothesis that there is no relationship between them. Vasiliou (1996), by employing SCA method, suggests that asset management rather than liability management play more prominent role in explaining inter-bank differences in profitability. However, these findings contrast with the findings of Kosmidou et al. (2004) who find that liability management contributes more in creating the profitability differences among the banks. These authors did not incorporate the variables relating to macro-economic and market structure in their model. With this view, Kwast & Rose (1982) expanded the traditional SCA model by including market structure and macroeconomic variables. Nonetheless, their model found no evidence that differential returns and costs on different categories of assets and liabilities exist between high and low profit banks. In a recent study, Asiri (2007) has applied SCA method and finds that assets are positively and liabilities are negatively related to the profitability of the Kuwaiti banks.

Muhammad & Mohammad (2009), in their application of SCA to assess ALM impact on profitability they recognized that Private BCBs are better than public banks in terms of asset management, but they do not have any superiority over public banks in terms of liability management. This does not provide them a conclusive support that ALM in private banks is superior to ALM in public banks. Thus, study could not explain the profitability differences between these two sets of banks through analyzing ALM. Their study considered the market concentration index and GDP growth rate, unlike the previous ones.

2.2.5. OBJECTIVES OF ASSET LIABILITY MANAGEMENT

According to Dynamic Business Analyst, (2011) a vital issue in strategic bank planning is asset and liability management, which is the assessment and management of endogenous financial, operational, business and exogenous risks. The objective of ALM is to maximize profit through efficient fund allocation given an acceptable risk structure. ALM is a multidimensional process, requiring simultaneous interactions among different dimensions. If the simultaneous nature of loan

Management is discarded; the decreasing risk in one dimension may result in unexpected increases in other risks.

New information-based activities and financial innovation increased types of endogenous and exogenous risks as well as the correlation between these. Consequently, the structure of balance sheet instruments has become more complex and the volatility in the banking system has increased. These developments necessitate the use of quantitative skills to manage risks more objectively and improve performance.

2.2.6. Banking Risk

Banking risk is an integral part of financial activities, and the management of risk is central to the bank's financial management. The recognition of various classes of risk is the first fundamental requirement for an effective asset/liability management (Fabozzi, Konishi, 1998). Therefore, this section demonstrates an overview of various risk categories encountered by banking institutions, along with approaches to bank risk management. It elaborates the banking risk structure and presents the main risk measurement and management techniques.

2.2.6. 1. Banking Risk Classification

A useful definition of banking risk is provided by Saunders (1997). According to his view, banking risk is a probability that the actual return on banking investment will differ from its expected return due to internal and/or external factors. The literature divides banking risk into six distinctively different categories: Balance sheet risk, Regulatory risk, Technological risk, Operational risk, Strategic risk, and Affiliation risk (Sinkey, 1998). Only the balance sheet risk is scrutinized in this paper. The balance sheet risk incorporates various types of portfolio risk recognition and assessment, which is particularly important to bank's asset and liability management. The balance sheet risk (portfolio risk) in banking can be further classified into:

- **Interest rate risk:** - a risk resulting from changes in the level of interest rates incurred by financial institution when the maturity of its assets and liabilities are mismatched.
- **Credit risk:** - a potential delinquency or default by borrower.

- **Liquidity risk:** - inability to meet withdrawals and/or finance loans.
- **Foreign exchange risk:** - a risk that unexpected exchange rate changes can negatively affect the value of assets and liabilities.
- **Insolvency risk:** - a risk that a bank may not have enough capital to offset a sudden decline in the value of its assets relative to its liabilities.
- **Costs of fund risk:** - an unanticipated change in the costs of funds.

All these diverse types of portfolio risk require application of different tools and techniques for its measurement and management. They are examined in the next section.

2.2.6.2. Balance Sheet Risk Measurement and Management

Hedging and minimizing the risk are the main functions of risk management. In general terms, risk management techniques can be grouped into three categories (Saunders, 1997):

- On-balance sheet matching of assets and liabilities in terms of reprising. For those techniques such tools like GAP analysis and duration analysis are in use.
- Off-balance sheet hedging of one or more risk categories. Among main tools here are derivatives, financial futures, etc.
- Securitization of assets. This technique takes the risk out of balance sheet by exchanging the assets into securities and selling them to investors.

All those risk management and measurement techniques are described in the next sections with reference to particular types of risk.

Interest rate risk

Among the main tools used for interest rate risk measurement are GAP analysis, duration analysis, and the combination of the two. GAP measures the difference between rate sensitive assets (RSA) and rate-sensitive liabilities (RSL) over a particular time horizon. It provides a proxy measure of the bank interest income.

Credit risk

Credit risk is the uncertainty associated with a borrower's loan repayment. If the expected probability of default is d , then the expected probability of receiving payment is $(1-d)$ (Sinkey, 1998). Banks must protect their interests by monitoring closely potential and existing borrowers. In order to diminish the probability of default, banks must screen out the good credit risks from the bad ones. According to katarzynazawalińska (1999), specialization in lending, long term customer relationships and loan commitment are mentioned as techniques of credit risk management.

Liquidity risk

From the point view of Anthony M. Santomero (1997) liquidity risk, can be described as the risk of a funding crisis. While some would include the need to plan for growth and unexpected expansion of credit, the risk here is seen more correctly as the potential for a funding crisis. Such a situation would inevitably be associated with an unexpected event, such as a large charge off, loss of confidence, or a crisis of national proportion such as a currency crisis. Saunders (1997) and Sinkey (1998) figured out that net liquidity position.

2.7. BANK PERFORMANCE INDICATORS

Profit is the ultimate goal of commercial banks. All the strategies designed and activities performed thereof are meant to realize this grand objective. However, this does not mean that commercial banks have no other goals. Commercial banks could also have additional social and economic goals. However, the intention of this study is related to the first objective, profitability. To measure the profitability of commercial banks there are variety of ratios used of which Return on Asset and Net Interest Margin are the major ones (Murthy and Sree, 2003; Alexandru et al., 2008).

Return on Asset (ROA) is also another major ratio that indicates the profitability of a bank. It is a ratio of Income to its total asset (Khrawish, 2011). It measures the ability of the bank management to generate income by utilizing company assets at their disposal. In other words, it shows how efficiently the resources of the company are used to generate the income. It further indicates the efficiency of the management of a company in generating net income from all the resources of the institution (Khrawish, 2011). Wen (2010), state that a higher ROA shows that the company is more efficient in using its resources.

These factors are basically influenced by internal decisions of management and the board. The external factors are sector-wide or country-wide factors which are beyond the control of the company and affect the profitability of banks. The overall financial performance of banks in Kenya in the last two decades has been improving. However, this doesn't mean that all banks are profitable, there are banks declaring losses (Oloo, 2010). Studies have shown that bank specific and macroeconomic factors affect the performance of commercial banks (Flamini et al. 2009). In this regard, the study of Olweny and Shiphoo (2011) in Kenya focused on sector-specific factors that affect the performance of commercial banks. Yet, the effect of macroeconomic variables was not included.

2.2.7.1. BANK SPECIFIC FACTORS/INTERNAL FACTORS

As explained above, the internal factors are bank specific variables which influence the profitability of specific bank. These factors are within the scope of the bank to manipulate them and that they differ from bank to bank. These include capital size, size of deposit liabilities, size and composition of credit portfolio, interest rate policy, labor productivity, and state of information technology, risk level, management quality, bank size, ownership and the like. CAMEL framework often used by scholars to proxy the bank specific factors (Dang, 2011). CAMEL stands for Capital Adequacy, Asset Quality, Management Efficiency, Earnings Ability and Liquidity. Each of these indicators are further discussed below.

Capital Adequacy

Capital is one of the bank specific factors that influence the level of bank profitability. Capital is the amount of own fund available to support the bank's business and act as a buffer in case of adverse situation (Athanasoglou et al. 2005). Banks capital creates liquidity for the bank due to the fact that deposits are most fragile and prone to bank runs. Moreover, greater bank capital reduces the chance of distress (Diamond, 2000). According to Dang (2011), the adequacy of capital is judged on the basis of capital adequacy ratio (CAR). Capital adequacy ratio shows the internal strength of the bank to withstand losses during crisis. Capital adequacy ratio is directly proportional to the resilience of the bank to crisis situations. It has also a direct effect on the profitability of banks by determining its expansion to risky but profitable ventures or areas (Sangmi and Nazir, 2010)

Management Efficiency

Management Efficiency is one of the key internal factors that determine the bank profitability. It is represented by different financial ratios like total asset growth, loan growth rate and earnings growth rate. The capability of the management to deploy its resources efficiently, income maximization, reducing operating costs can be measured by financial ratios. One of these ratios used to measure management quality is operating profit to income ratio (Rahman et al. in Ilhomovich, 2009; Sangmi and Nazir, 2010). The higher the operating profits to total income (revenue) the more the efficient management is in terms of operational efficiency and income generation. The other important ratio is that proxy management quality is expense to asset ratio. The ratio of operating expenses to total asset is expected to be negatively associated with profitability. Management quality in this regard, determines the level of operating expenses and in turn affects profitability (Athanasoglou et al. 2005).

Liquidity ratio

Liquidity is another factor that determines the level of bank performance. Liquidity refers to the ability of the bank to fulfill its obligations, mainly of depositors. According to Dang (2011) adequate level of liquidity is positively related with bank profitability. The most common financial ratios that reflect the liquidity position of a bank according to the above author are customer deposit to total asset and total loan to customer deposits. Other scholars use different financial ratio to measure liquidity. For instance, Ilhomovich (2009) used cash to deposit ratio to measure the liquidity level of banks in Malaysia. However, the study conducted in China and Malaysia found that liquidity level of banks has no relationship with the performances of banks (Said and Tumin, 2011).

Deposit ratio

The more the deposits a bank collects, the more the loan opportunities it would be able to provide to customers and then it will be able to generate further profits. It could be expected that higher upward deposits would develop the business of the bank and consequently produce more profits. Lee and Hsieh (2013) underlined this matter by concluding that additional deposits can be advantageous to banks in generating more profits while low deposits may impact negatively on their profitability. It is generally supposed that customer deposits affect banking performance

positively if there is a satisfactory demand for loans in the market. Increasing deposits (the ratio of total deposits to total assets) implies the growth of the funds available to different profitable uses (e.g., lending activities and investments), which should upsurge bank's return on assets when other factors are constant. Therefore, customer deposits are positively related to bank profitability but more deposits may dampen earnings, since loan demand is little and not too profitable. Bank's incapacity in releasing money through loans may reduce its profitability level because of the interests paid to depositors. Hence, the impact on profitability that originates from a growth in deposits depends on several factors.

Firm Size

In previous studies by Alp et al. (2010), Bikker and Hu (2002) and Dogan (2013), a significant positive correlation between size and profitability was identified. Also, Camilleri (2005), Athanasoglou et al. (2008), Pasiouras and Kosmidou (2007), Gul et al. (2011) and Saeed (2014) found that size positively influences the profitability of the banks they have investigated. Mainly, prior studies on the effect of size on bank profitability joined with the idea that large banks can benefit from economies of scale enable cost reduction (Molyneux and Thornton, 1992; Bikker and Hu, 2002; Goddard et al., 2004a). Based on this efficiency hypothesis, larger banks are more profitable than smaller ones because economies of scale lead to the increase of operational efficiency. Large banks might also benefit from scope economies (reduced risks and product diversification), by accessing markets in which small banks cannot enter.

Capital ratio

Capital ratio is comprised in the regression model to inspect the relationship between profitability and bank capitalization. The equity to total assets ratio (capital ratio) is considered a basic measure of capital strength (Golin, 2001) and is widely used to analyze the status of a bank's financial power. The capital ratio is a valued tool for assessing capital adequacy as it represents the strength of capital structure to bear losses and to dismiss the risk of insolvency during crisis times. Researchers extensively theorize that banks with higher capital are more protected from insolvency. For instance, some empirical evidences by Pasiouras and Kosmidou (2007), Garcia-Herrero et al. (2009), KosmidouMenicucci and Paolucci(2008), Obamuyi (2013) and Dietrich and Wanzenrid (2009) demonstrated that the best performing banks are those who preserve a high level of equity relative to their assets.

2.2.7.2. Macroeconomic variable

Among others, Aburime (2008) use several macroeconomic control variables that probably affect banks profitability. The macroeconomic control variables are external for banks managers and uncontrollable. The growth of real gross domestic product and the inflation rate are selected as possible macroeconomic variables that can affect bank profitability in this study.

Real GDP growth:

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).

Inflation

In this regard, Revell (1979 cited in Ponce 2012) introduces the issue of the relationship between bank profitability and inflation, stating that the effect of inflation on bank profitability depends on how inflation affects both salaries and the other operating costs of the bank. In this context, Staikouras& Wood (2003) point out that as inflation may have direct effects, that is, increase in the price of labor, and indirect effects, that is, changes in interest rates and asset prices, on the profitability of banks. Perry (1992) also suggests that as the effects of inflation on bank performance depend on whether the inflation is anticipated or unanticipated. In the anticipated case, the interest rates are adjusted accordingly, resulting in revenues to increase faster than costs and subsequently, having positive impact on bank profitability.

2.3. EMPIRICAL REVIEW

Yalemselam (2019) investigated factors affecting the profitability of private commercial banks in Ethiopia, covering ten years' period from 2008 to 2017. panel data from fourteen Ethiopian private commercial banks. In this study, survey was used as a method of a research design, which allows collecting quantitative data that was analyzed quantitatively using STATA 13 software. The variables covered under this study were both bank specific factors (capital adequacy, bank size, liquidity risk, credit risk, and operation efficiency) and macroeconomic factors (real GDP growth rate, inflation, foreign exchange rate, and lending interest rate). The bank specific explanatory variables incorporated in this study bank size and capital adequacy was found to have a positive significant effect on Ethiopian private commercial banks profitability. Whereas, operation efficiency has a negative statistically significant effect on Ethiopian private commercial banks profitability (2013) investigated the bank specific factors significantly affect the performance of commercial banks in Kenya, except for liquidity variable. This explanatory study is based on secondary data obtained from published statements of accounts of all commercial banks in Kenya, CBK, IMF and World Bank V publications for ten years from 2001 to 2010. The moderating role of ownership identity on the financial performance of commercial banks was insignificant. Thus, it can be concluded that the financial performance of commercial banks in Kenya is driven mainly by board and management decisions, while macroeconomic factors have insignificant contribution. The major dependent performance indicators used were Return on Asset (ROA), Return on Equity (ROE). The major determinants (independent variables) were capital adequacy, asset quality, management efficiency and liquidity status which shall be peroxide by selected ratios.

Tadesse (2019) examined the factors that affect bank profitability of nine commercial banks in Ethiopia, during the period of 2010-2018. The study adopts a quantitative method of research approach and 5 sample commercial banks were purposefully selected from 18 banks operating in Ethiopia. Random effect regression model was run to analyze the raw data collected through audited financial statements. The study found that both internal and external factors are the major determinants of the profitability of commercial banks in Ethiopian. Leverage, capital adequacy, liquidity have a direct and significant effect on banks profitability in Ethiopia.

On the other hand, operating efficiency, GDP, inflation, interest rate, annual inflation rate and interest rate spread are significant and negatively affect the profitability of the banks. Lastly, bank size and number of branches are factors that have insignificant effect on the profitability of Ethiopian banks.

DrAkshaya (2017) to investigate factor affecting profitability banks profitability in Ethiopia by using time series data of CBE from year 1983 to 2012. The study used quantitative research approach and secondary financial data are analyzed by using multiple linear regression models for the bank profitability measures: Return on Asset (ROA). OLS method was applied to investigate the impact of bank size, managerial efficiency, liquidity, credit risk, real GDP growth rate, and annual inflation rate on major bank profitability measure i.e., (ROA) separately. The empirical results show that bank specific factors; bank size, managerial efficiency, credit risk and macroeconomic factors; level of GDP and annual inflation rate have a strong influence on the profitability of banks and it affects profitability negatively and statistically significant. Credit risk is insignificant key drivers of profitability of commercial bank of Ethiopia. And it affects profitability negatively and statistically insignificant. Total loan to total asset is statistically insignificant in explaining the profitability of Commercial Bank of Ethiopia even and it has a negative relationship with return on asset of the bank.

2.4. KNOWLEDGE GAP AND CONCLUSION

Commercial Banks play an important role in economic development and they are the base of financial systems in all countries. Hence to achieve this healthy and sustainable profitability is essential issue. As the review of literature discussed in this chapter reveals efficient composition of assets and liabilities of commercial banks is crucial for their sound financial performance. A lot of research work had so far taken place concerning the issue of factors affecting bank's profitability. However, in Ethiopia, most studies conducted in the banking system were focused on the overall determinants of banking profitability.

The review of literature discussed in this research reveals the existence of many gaps of knowledge in measuring factors affecting bank profitability using statistical cost accounting model on profitability of newly established Commercial Banks in Ethiopia. As far as the knowledge of the researcher no studies were carried out on the issue of factors affecting bank profitability of newly established commercial banks in Ethiopia using statistical cost accounting model.

This study, therefore, is an attempt to address this gap of information on Ethiopian newly established commercial banking sector. Thus, the intent of this study was to examine factors affecting banks profitability using statistical cost accounting model together with external and internal variables such firm size, capital structure, liquidity, capital adequacy, management efficiency, GDP and inflation rate affect the profitability of commercial banks in Ethiopia. A lot of research work had not concerning net interest margin to measure the profitability of banks. This study seeks to fill the gap by providing full information about the internal and external factors that affects profitability by examining the untouched one, and replicating the existing in the Ethiopian context by using newly established commercial banks operated in the country that had 9 years' data.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3. 1. INTRODUCTION

The preceding chapters present the review of the existing evidence on factors affecting profitability of newly established commercial banks and identified the knowledge gap. The results from a review of the literature are used to establish expectations for the relationship of the different factors. The purpose of this chapter is to describe the underlying principles of research methodology and the choice of the appropriate research method for the research. The chapters were organized as follows. The first section 3.1 presents the research hypotheses along with the broad research objective. Section, 3.2 discussed the research approaches while section 3.3 presented the method adopt in the study and finally 3.4 presented model specification and data properties.

3.2. RESEARCH DESIGN

This study was employed explanatory type of research design to establish causal relationship between variables. The research used panel data (both time series and cross-sectional data) of seven newly established commercial banks operating in Ethiopia depend on their year of establishment at least nine-year experience. The choice of research design depends on objectives that the researches want to achieve (John, 2007). Since this study was designed to examine the relationship between financial profitability and its impact, a logical reasoning either deductive or inductive was required. Deductive reasoning starts from laws or principles and generalizes to particular instance where as inductive reasoning starts from observed data and develops a generalization from facts to theory. Besides, deductive reasoning is applicable for quantitative research whereas inductive reasoning was for qualitative research.

Thus, due to quantitative nature of data, this research used deductive reasoning to examine the cause and effect of relationships between financial profitability, variable and its impact in this study. As noted by Kothari (2004), explanatory research design examines the cause-and-effect relationships between dependent and independent variables. Therefore, since this study was examined the cause-and-effect relationships between financial profitability and its impact; it is an explanatory research design. To examine the factor of independent variables (firm size, deposit ratio, liquidity ratio, capital adequacy, management efficiency, capital structure, inflation and GDP) over the dependent variable Return on Asset (ROA) for the period 2010-2018.

3.3. POPULATION

The target population of this study included seven newly established commercial banks registered by NBE and operating in Ethiopia. This study employed non-probability purposive sampling technique based on the age and accessibility of complete audited financial statements. The rationale behind selecting purposive sampling techniques than others, it considers more appropriate when the universe happens to be small and a known characteristic of it was to study intensively.

3.4. Data source and collection methods

In order to achieve the research objectives, mentioned in section 1.4, the study used audited financial statements. The data set used to cover a period of ten years starting from 2008 to 2018, involving seven newly established commercial banks in Ethiopia (Bunna International Bank (BIB), Zemen Bank (ZIB), United Bank (UB), Birhan International Bank (BIB), Oromia International Bank (OIB), for 9 consecutive years. This study employed secondary data. The secondary data would be collected from annual reports and audited financial statements of the selected sample newly established banks from newly established commercial banks in Ethiopia. Regarding macroeconomic data mainly gathered from the records held by NBE through structured document review.

3.5. METHODS OF DATA ANALYSIS

The collected panel data was analyzed by using descriptive statistics, correlations, and multiple linear regression analysis. Basically, descriptive statistical tools were used to analyze the mean, standard deviation, minimum and maximum values of the study. The study used multiple regression models and to be tested on the Normality, Linearity, Multicollinearity, and Homoscedasticity tests to analyze the relationship between bank profitability and independent variable and then to see the impact of bank factor on financial profitability by using secondary data which would be collected from the Bank's audited financial statements. This method was chosen due to the nature of the data which comprise of time-series elements reflected by the period of study 2010 to 2018.

3.6 DEFINITION OF VARIABLES AND CONSTRUCTION OF HYPOTHESES

3.6.1 Dependent variable

This research was employed different Bank profitability proxy measures to determine the factors affecting profitability newly established commercial banks. For instance, we look the authors and their measure of profitability that employ includes: return on assets (Flamini et al,2009; Kosmidou,2008, Samuel, 2015), return on equity (Hoffmann, 2011); return on assets and return on equity (Athanasoglou et al., 2006; Abel& Roux, 2016, Aminu, 2013,Alper Anbar, 2011), return on assets and net interest margins (Gemechu, 2016; Naceur 2003, Birehanu, 2012); return on assets, return on equity and net interest margins (Sufian,& Habibullah,2009; Naceur&Omran, 2011). In this study, bank profitability, typically measure by the return on assets (ROA) with a function of internal and external factors.

Return on Asset (ROA)

Return on Assets (ROA) is a type of return on investment (ROI) metric that measures the profitability of a business in relation to its total assets. This ratio indicates how well a company is performing by comparing the profit (net income) it's generating to the capital it's invested in assets. Return on asset is one of the major proxies of the profitability of banks that indicates how capable the management of the bank has been in converting Assets into net earnings

Return on Assets (ROA) = $\frac{\text{Net Income}}{\text{Average Total Assets}}$

Average Total Assets

3.6.2 INDEPENDENT VARIABLES

Firm Size

Bank size is usually used to explain for potential economies or dis economies of scale in the banking sector. Furthermore, bank size is associated with diversification which may impact favorably on risk and product portfolio. Size is calculated as the natural logarithm of total assets.

Capital Adequacy

Capital Adequacy Ratio (CAR) is the ratio of a bank's capital in relation to its risk weighted assets and current liabilities. It is decided by central banks and bank regulators to prevent commercial banks from taking excess leverage and becoming insolvent in the process. The Capital Adequacy Ratio set standards for banks by looking at a bank's ability to pay liabilities respond to credit risks, and operational risks.

Capital structure

The concept of capital structure in finance explains the way a firm finances its assets/operations by the use of a blend of debt and equity. The blend of debt and equity would make banks more profitable bearing in mind the adverse effect of the extreme of each form of financing.

Liquidity ratio

Liquidity is the amount of short-term responsibilities that could be met with the amount of liquid assets. It measures the ability of banks to meet short-term obligation or commitments when they fall due.

Management efficiency

It is one of the influential factors that determine the bank profitability. Efficiency signifies a level of performance that describes using the least amount of input to achieve the highest amount of output. Efficiency requires reducing the number of unnecessary resources used to produce a given output including personal time and energy.

Gross domestic product

This variable is one of the best measurements to determine the total economic activities of a country. Changes in GDP reflect the changes in consumption, investment, government spending and net export, consequently changes in GDP is expected to affect supply and demand for loans and deposits.

Inflation

Inflation is the rate at which the general level of prices for goods and services is rising in economy overtime. It is the constant rise in the general level of prices where a unit of currency buys less than it did in prior periods. Often expressed as a percentage, inflation indicates a decrease in the purchasing power of a nation's currency.

3.7. MODEL SPECIFICATION

From the research methodology, the model was containing Return on asset (ROA) indicators of commercial banks profitability as the dependent variables; the explanatory variables include firm size (FS), capital structure(CS), liquidity ratio (LIR), management efficiency (ME), loan to deposit Ratio (LDR), capital adequacy (CA), gross domestic product (GDP), inflation rate (INR) were the independent variables. Hence, based on the relationship among the above stated bank profitability indicators and bank-specific as well as macroeconomic determinants, the following functional forms serve as the basis for the investing.

$$Y_{it} = \alpha + \beta X_{it} + \mu_{it}$$

Where:

Y = is the dependent variable.

α = is the intercept (constant variable)

β = is the coefficient of independent variable.

X = is the independent variable. μ = are the error terms.

i = is the number of firms.

t = is the number of time periods.

The subscripts are representing the cross-sectional dimension and denote the time-series dimension.

$$ROA_{it} = \alpha + \beta_1 (FS)_{it} + \beta_2 (CAS)_{it} + \beta_3 (LIR)_{it} + \beta_4 (ME)_{it} + \beta_5 (LDR)_{it} + \beta_6 (CA)_{it} + \beta_7 (GDP)_{it} + \beta_8 (INR)_{it} + \mu_{it}$$

Where, “i” denote the studied newly established banks and

“t” represents the time period.

β = is the coefficient of independent variable.

FS = firm size

CAS =capital structure

LIR=liquidity ratio

ME =management efficiency

LDR =loan to deposit ratio

CA=capital adequacy

IFN=inflation rate

GDP=gross domestic product

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 INTRODUCTION

Preceding chapters, the review of relevant literature helped this study to understand the problem and design an appropriate research approach to deal with. The previous chapter also discussed the research design employed to achieve the objectives of the study and to test the research hypotheses there on. In this chapter, the study analyses the collected data using various statistical tools and presents the results and discussion accordingly. This chapter is organized in two sections. The first sub section presents the result which includes descriptive statistics, CLRM Assumptions and Diagnostic tests, correlation analysis, the regression results and interview result. The second section is dedicated to the discussion of results

4.2. DESCRIPTIVE ANALYSIS

This section essentially present descriptive statistics of dependent and explanatory variables included in this study. The dependent variable of this study ROA and firm size, capital structure, management efficiency, capital adequacy, loan to deposit ratio, liquidity ratio, GDP and inflation these are independent variable. The total observation for each dependent and independent variable was 45 (data for five newly established bank of Ethiopia for the period from the year 2010 to 2018). The descriptive statistics include mean, median, maximum, minimum and standard deviation of all study variable (see table 4.1)

Table 4.1. *Descriptive statistic table Source*

	ROA	FIRM_SIZE	CAS	LIR	ME	LDR	CA	IFN	GDP_GROWTH
Mean	0.0294	3.6709	0.60581	0.3307	9.5669	0.5943	0.4940	0.1371	896099.3
Median	0.0296	3.77057	0.73534	0.30307	1.65853	0.58421	0.1758	0.0880	626977.4
Maximum	0.0671	4.44763	0.83741	0.5789	359.660	0.80020	1.0002	0.3804	1719491.
Minimum	-0.0316	2.5792	0.10537	0.1756	-2.07211	0.43355	0.1022	0.0732	419217.8
Std. Dev.	0.0151	0.46761	0.26997	0.12243	53.3809	0.0845	0.41776	0.0968	504963.9
Observations	45	45	45	45	45	45	45	45	45

Output of E-views8

As shown in the Table 4.1 above, the descriptive statistics of the study composed of 45 observations collected from five newly established commercial banks in Ethiopia over the period of 2010 to 2018. The mean of return on asset (ROA) was around 2.94% for the sampled of newly established commercial banks in Ethiopia with a minimum of -3.16% and a maximum of 6.71%. This indicates, the most profitable bank among the sampled banks earned 6.71% of profit after tax for every one birr invested in the company's assets. Whereas the least profitable bank of the sampled banks earned -3.16% cents of loss after tax for every one birr invested in the company's assets. The standard deviation statistics for ROA was (1.51), which confirms that there was variation between banks' during the study period undertaken.

The natural logarithm values firm size (FIRM SIZE) was proxy to their total assets of sampled banks. The mean value of this variable was 367.09% birr during the study period undertaken and have a standard deviation of 0.47 birr. This depict that, there was reasonable dispersion among banks in terms of total assets when their natural logarithms values have taken. The minimum and maximum values were 257.92% and 444.76 birr respectively. The capital structure (CAS), has mean value of 60.58% with standard deviation of 26.99% minimum value and the maximum value is 10.53% and 83.74% respectively.

On the other hand, the outputs of liquidity ratio of the descriptive statistics indicate that, the ratio of liquid assets to total assets was 33.07%, on average, with a minimum of 17.56% and a maximum of 57.89%. The management efficiency (ME) has meant value of 956.69% with standard deviation of 5338.09%.management efficiency of the current capital of the newly established the minimum value and the maximum value is -207.21% and 35966.0% respectively.

Loan to deposit ratio (LDR) ratio with the minimum and maximum value of 43.35% and 80.020% respectively, with an average value of 33.07%: which indicated that a relatively large deviation from the mean by 0.10 among the bank specific independent variables. On the other hand, the standard deviation was recorded in funding cost which was 0.0845 and shows the existence variations among the banks in the sample under the study period.

The ratio of equity to total assets (CA) was a proxy measure of bank capital adequacy with a mean value of 49.40%. This implies that, the sampled banks in this particular study 49.40% of their fund needs satisfied through equity capital. The standard deviation ratio was 41.78% with 10.22% and 80.02% as minimum and maximum values respectively. On the macroeconomic variables, the average growth rate of real GDP of Ethiopia for the last consecutive nine years was approximately 896099.3% with a minimum economic growth of 419217.8% and a maximum growth of reaching 171949.1%. The standard deviation registered in the period was 504963.9%; it means that economic growth in Ethiopia during the period of 2010 to 2018 relatively stable.

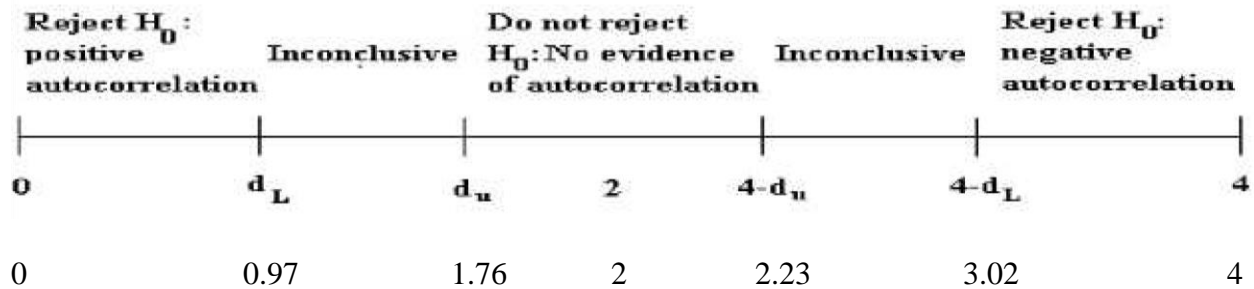
Inflation mean is 13.71%, with maximum rise in price recorded 38.04% and minimum 7.32%. Standard deviation was 0.0968. The positive values imply that the variables under the model are significant in determining the financial performance of the newly established commercial banks Ethiopia Exchange rate.

4.3. CLRM ASSUMPTION AND MODEL TEST

4.3.1. TEST FOR AUTOCORRELATION

This assumption states that the covariance between the errors term overtime or cross-sectional is zero or simply errors are uncorrelated with one another. But if the errors are not uncorrelated with one another, they are said to be auto correlated or that they are “serially correlated”. (Brooks 2008)To test the presence of autocorrelation, the Durbin-Watson test is used. As noted in Brooks (2008), Durbin Watson is a test for first order autocorrelation (it is a test for a relationship between an error and its immediate previous value). The null hypothesis for the DW test is no autocorrelation between the error term and its lag. According to Brooks (2008), DW has two critical values: an upper critical value (d_U) and a lower critical value (d_L), and there is also an intermediate region where the null hypothesis of no autocorrelation cannot be rejected. The rejection, non-rejection, and inconclusive regions are shown on the number line in figure 4.1 bellow.

Figure 4.1 Rejection and Non-Rejection Regions for DW Test



The study used the dL and dU values for 45 observations. As per the Durbin-Watson test (DW) table for 45 observations with 8 explanatory variables at 1% level of significance, the dL and dU values are 0.974 and 1.768, respectively. The DW values for model and for 45 observations were 0.974. The relevant critical values for the test are $dL = 0.974$, $dU = 1.768$, and $4 - dU = 4 - 1.768 = 2.232$; $4 - dL = 4 - 0.974 = 3.026$. Accordingly, Durbin-Watson test value is not clearly between 0.974 and 2.232 which is 1.258 and the DW value is lies in the rejection region, where as the null hypothesis do reject. The Durbin Watson test is an indication of problem in the model.

4.3.2. NORMALITY TEST

The Other tests were carried out on the model which includes test of Normality. In order to conduct the normality assumption required a single or joint hypothesis test about the model parameters. The popular Bera–Jarque test would be employed to check normality According to Brooks (2008, p.210) a normal distribution is defined to have a coefficient of kurtosis 3. In the same token, if the residuals are normally distributed, the Bera-Jarque statistic would not be significant at 5% significant level. The null hypothesis is that the distribution of the residuals is normal. Therefore, the residuals are normally distributed in this study and there is no the problem of normality in the models. To test the normality assumption in this study the researcher applied the Jarque-Bera (JB) test. As noted by Brooks (2008) JB uses the property of a normally distributed random variable that the entire distribution is characterized by the first two moments - the mean and the variances clearly plotted in figure the normality test for this study shows a p-value of Jarque-Bera 0.000017 for ROA.

Table 4.2. Jarque-Bera test result of Normality

	RETURN ON ASSET (ROA)
Jarque-bera	21.93237
Probability	0.00017

4.3.3. MULTICOLINEARITY

In this study, the correlation analysis was conducted to show relationship between explanatory variables. According to kutsienyo (2011, p.p IV) revealed that, Multicollinearity is the situation when some or all of the explanatory variables having a high degree of relation with each other's and making it difficult to tell which of them is influencing the dependent variable (ROA). It is observed from table 4.2 below, the result of the correlation matrix lies between the ranges of -0.19 and -0.22. As stated by Kennedy (2008), Multicollinearity creates problems when the correlation exceeds 0.80. Therefore, no problem of Multicollinearity in this study.

TABLE; Multicollinearity analysis 4.3.

	FIRM_SIZ	CAS	LIR	ME	LDR	CA	IFN	DP_GRO
FIRM_SIZ	1.000000							
CAS	-0.22518	1.00000						
LIR	-0.71858	-0.1933	1.00000					
ME	-0.31833	-0.0607	0.2343	1.00000				
LDR	0.014480	-0.1668	-0.3286	0.37107	1.00000			
CA	0.127438	-0.5766	0.1029	-0.0547	0.19827	1.00000		
IFN	-0.28281	0.01740	0.39168	-0.10147	-0.19715	0.01776	1.00000	
DP_GRO	0.738309	0.1344	-0.6578	-0.14119	0.22580	-0.03273	-0.2739	1.00000

Source: Output of E-views 8

4.3. 4. CORRELATION ANALYSIS

The Correlation Analysis indicates that at what extent the explanatory variables are factors on the profitability indicators (ROA). With our bank specific variables, inflation rate (IFN) and management efficiency (ME) are relatively, highly impacting on ROA as indicated in table 4.3 below. IFN was the most positively correlated variable with ROA. This shows that, as the inflation rate increases, profitability also increases. On the other hand, the ratio of liquidity (LID), loan to deposit ratio (LDR) and capital adequacy (CA) seems to be inversely correlated with the ROA.

Table 4. 4. Correlation matrixes of dependent and independent variables

	ROA	FIRM_SIZE	CAS	LIR	ME	LDR	CA	IFN	DP_GROW
ROA	1.0000								
FIRM_SIZE	0.1226	1.00000							
CAS	0.065	-0.22518	1.00000						
LIR	-0.011	-0.71858	-0.19334	1.00000					
ME	-0.290	-0.31832	-0.06074	0.23437	1.00000				
LDR	-0.206	0.01448	-0.16689	-0.32867	0.37107	1.00000			
CA	-0.215	0.12743	-0.57666	0.10296	-0.05473	0.19827	1.00000		
IFN	0.2154	-0.28281	0.01740	0.39169	-0.10146	-0.19714	0.01776	1.00000	
DP_GROW	0.0380	0.73830	0.13444	-0.65785	-0.14119	0.22580	-0.03272	-0.27396	1.00000

Source: Output of E-views 8

FIXED EFFECT/ RANDOM EFFECT

As noted by Gujarati (2004) if T (the number of time series data) is large and N (the number of cross-sectional units) is small, there is likely to be little difference in the values of the parameters estimated by fixed effect model and random effect model. Hence, the choice here is based on computational convenience. On this score, random effect model may be preferable. Due to this reason this research was done by fixed random effect.

4.4. FIXED EFFECT REGRESSION RESULT

This section presents the outputs of the regression analysis on the factors affecting bank profitability in newly established commercial bank of Ethiopia. Before running the regressions, the data sets were checked under certain assumption of classical linear regression model (CLRM). Like, test of Normality, Multicollinearity, Heteroskedasticity, and finally, model specification tests have been made to satisfy the assumptions and to undertake reliable estimations. Overall, the tests have been in line with the CLRM. The outputs of the regression were present.

$$ROA_{it} = \alpha + \beta_1 (FS)_{it} + \beta_2 (CAS)_{it} + \beta_3 (LIR)_{it} + \beta_4 (ME)_{it} + \beta_5 (LDR)_{it} + \beta_6 (CA)_{it} + \beta_7 (GDP)_{it} + \beta_8 (INR)_{it} + \mu_{it}$$

$$ROA = 1.44 + FS (0.052) + CA (-0.77) + LIR (0.015) + ME (-7.13) + LDR (-0.024) + CA (0.098) + IFN (0.054) + GDP (-2.14)$$

Where:

ROA=return on asset

FE= Firm size

CAS=Capital structure

LIR= Liquidity Ratio

LDR= Loan to Deposit Ratio

ME= Management Efficiency

CA= Capital Adequacy

IFN= Inflation Rate

GDP= Gross Domestic Product

Table 4.5. Results of the fixed effect panel data regression analysis

Dependent Variable: ROA

Method: Panel Least Squares

Date: 12/29/20 Time: 10:50

Sample: 2010 2018

Periods included: 9

Cross-sections included: 5

Total panel (balanced) observations: 45

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.144673	0.079836	-1.812121	0.0794
FIRM_SIZE	0.051573	0.013760	3.747956	0.0007
CAS	-0.069687	0.023061	-3.021828	0.0049
LIR	0.015210	0.036592	0.415670	0.6804
ME	-7.13E-05	4.95E-05	-1.440797	0.1594
LDR	-0.023500	0.047032	-0.499670	0.6207
CA	0.098034	0.085337	1.148777	0.2592
IFN	0.053881	0.021022	2.563055	0.0153
GDP_GROWTH	-2.14E-08	7.48E-09	-2.857215	0.0075

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.601928	Mean dependent var	0.029491
Adjusted R-squared	0.452651	S.D. dependent var	0.015136
S.E. of regression	0.011198	Akaike info criterion	-5.909255
Sum squared resid	0.004013	Schwarz criterion	-5.387330
Log likelihood	145.9582	Hannan-Quinn criter.	-5.714687
F-statistic	4.032295	Durbin-Watson stat	2.037196
Prob(F-statistic)	0.000784		

Source: Output of E-views 8

= significant at 10 %, 5%, and 1% confidence level

No. of observations = 45

R-Square 0.60, Adjusted R-Square 0.45, Prob (F-static) 0.000, Durbin Watson stat 2.0371. Based on the results shown in table 4.2, all newly established commercial bank independent variables capital adequacy (CA), liquidity ratio (LR), loan to deposit ratio (LDR), management efficiency (ME) has significantly affect the profitability of newly established commercial bank of Ethiopia, while and firm size (FS), capital structure (CAS) and the macro-economic explanatory variables used in this study GDP and inflation rate (INF) had statically significant at 5% significance level. Among the significant variable's CAS, FIRM SIZE, INFLATION and GDP GROWTH were significant at 1% significance level since the p-value for both variables were almost 0.000. Whereas management efficiency (MGE), capital adequacy (CA), liquidity ratio (DIR) and, loan to deposit ratio (LDR) were statically insignificant greater than at10% significance level for the factor affecting the profitability newly established bank in Ethiopia with in the period between 2010-2018.

The output also shows that the coefficient of management efficiency (ME), loan to deposit ratio (LDR) capital structure (CAS) and GDP GROWTH against ROA were negative with the coefficients of-0.023, -0.069, respectively. This described as; there was an inverse relationship between the aforementioned three explanatory variables and ROA. As a result, the increase of those variables will lead to a decrease in ROA. On the other hand, variables like firm size (FIRM SIZE), liquidity ratio (LIR), capital adequacy (CA) and inflation rate (INF), had a positive relationship with profitability as indicated a coefficient of 0.051, 0.015, 0.009 and0.053 respectively. This clearly shows that there was a direct relationship between the above listed four explanatory variables and ROA.

The value of R-squared statistics and the Adjusted-R squared statistics of the model was 60.19%and 45.26% respectively. The R-squared results indicate that 45.26% variation in the dependant variable (ROA) is described by the explanatory variables of the newly established commercial bank in Ethiopia and the reaming 39.81% was explained by other factors which are not included in the model. F value of 0.000 indicates that it is significant supporting the model relevant to the study.

BANK SIZE

Size is used to capture the factor of bank size on profitability, and is measured as the logarithm of (FIRM SIZE) total assets. The result indicates that size is positively related to profitability and statistically significant at 1%, 5%, and 10% significance level (p-value = 0.0007). However, the

coefficient 0.051 indicates that when the log of the bank size increases by 1 unit, the other things remain constant profit (ROA) of the bank will be enhanced by 5.1%. According to the result of this study, size does lead to profitability for the newly established commercial banks. The result is in line with Shih et al. (2007), in Chinese banks using several bank-specific factors and Tesfaye (2014), who studied the factor of newly established Ethiopian commercial banks performance. The study result is refuting with the finding of (Melaku, 2016; Birehanu, 2012; Amdemichael, 2012; Samuel, 2015; Habtamu, 2012; Moges, 2017; Habibullah, 2009 and Kosmidou, 2008), among other found statistically significant and has a positively affecting on bank profitability.

CAPITAL STRUCTURE (CAS)

Capital structure statistically significant at the (p-value=0.0049 and the coefficient value was (-0.069) have negative relationship with profit. The result is in line with Weersainghe&Perera (2013), determinant of profitability of commercial banks in Sri Lanka. Similarly, Tesfaye (2014), who studied the determinants of Ethiopian commercial banks performance and found that the capital structure is not a significant driver of profitability performance of commercial banks,. Hence, regulatory measures that insist on holding a high level of capital seems to strengthen the risk bearing capacity of banks than improving their profit performance. In this research the capital structure of newly established commercial bank of Ethiopia positive significant and negative relation to the profitability of the banks.

LIQUIDITY RATIO (LIR)

Regarding to liquidity ratio, the results implies that the effect of liquidity ratio was statistically positivity insignificant greater than 10% of significance level (p-value= 0.6804) and has a positive influence on profitability (ROA)and the coefficient value (0.015) The result revealed that, the increase of liquid ratio asset leads to the enhancement of profitability. The empirical finding provides support to earlier study by among others (Eichengreen and Gibson, 2001; Sufian and Habibullah, 2009; Gemechu, 2016; Melaku, 2016 and Birehanu, 2012). According to Chinoda (2014), the availability of liquidity is influences profitability since it enhances the capacity of the bank to acquire cash, in order to fulfil present and essential needs. Therefore, for commercial banks to gain public assurance, they should have sufficient liquidity to meet the demands loan holders and depositors needs. The finding is opposing with the study result of (Molyneux et al.1992;

Amdemichael, 2012 and Samuel, 2015) comes to a conclusion that a negative association exists between liquidity and profitability.

MANAGEMENT EFFICIENCY (ME)

As expected, Management efficiency has a positive and statistically significant impact on bank profitability. The result shows that, a negative coefficient of -7.13 and insignificant at 5% significance level (p-value =0.159). The outcomes imply that, an increase (decrease) in the expenses results, decrease (increases) the profits of banks. The negative relationship also in line with the results of prior studies Habtamu (2012), and Bourke (1989). The empirical finding of this study is also contrary to the results of Birehanu (2012) who analysed the determinants of commercial bank profitability in Ethiopia and find out that the management efficiency has a negative significant impact on profitability. Furthermore, the finding of Samuel (2015) revealed that the management efficiency has a positive and insignificant association with profitability. Thus, the hypothesis that stated earlier, there is no significant relationship between management efficiency and profitability.

LOAN TO DEPOSIT (LDR)

Concerning the impact of loan to deposit ratio, the result of the regression output shows that, it is statistically insignificant at 10% significance level (p-value=0.62) and has a positive impact on profitability (ROA). The coefficient of -0.023 in the regression output indicates that LDR is a quite insignificant determinant of banks profitability in newly established commercial bank Ethiopia under the study period. This means, it describes that one Birr given as a loan from a deposit has the effect of Birr -0.023 reduced on bank's profitability in Ethiopia. The result of this study is also contrary to the finding of Moges (2017) that argued there is a negative and significant association among LTDR and bank profitability. Logically Higher loan to deposit ratio indicates, newly established commercial banks has issuing more of its deposit in the form of interest-bearing loans, consequently banks can have generating more profit. But if the ratio is too high banks may default in the repayment of loan. Too low loan to deposit ratio is also a risk for commercial banks.

CAPITAL ADEQUACY (CA)

Adequacy statistically insignificant at the (p-value=0.259 and the coefficient value was (0.098) have a positive relationship with profit. The result is in line with Weersainghe&Perera (2013), determinants of profitability of commercial banks in Sri Lanka. Similarly, Tesfaye (2014), who

studied the determinants of Ethiopian commercial banks performance and found that the capital adequacy is not a significant driver of profitability performance of commercial banks,.

Hence, regulatory measures that insist on holding a high level of capital seems to strengthen the risk bearing capacity of banks than improving their profit performance. The results appear in contradiction with the study of (Gemechu, 2016; Melaku, 2016; Birehanu, 2012; Amdemichael, 2012; Samuel, 2015; Habtamu, 2012; Ermias, 2016 and Athanasoglou et al. 2008) that argues that capital has positive and significant impact on bank profitability. Moreover, the finding is in line with the Risk Return Theory argues that capital and bank profitability are negatively associated (Saona, 2011, Ommeren, 2011). The theory suggests that increasing risks by increasing leverage of the bank leads to higher expected returns.

INFLATION (IFN)

The other macroeconomic factor inflation had statistically significant at 1%. The coefficient 0.053 indicates that, the inflation affects the bank profitability positively. When inflation of the countries increases by 1-unit, the other things remain constant the profit will increase by 0.053 units. This may imply that bank management may anticipate the rate of inflation and react accordingly. Consequently, newly commercial banks in Ethiopia tend to be more profitable in inflationary environments. The result is in line with the finding of (Athanasoglou, Brissimis and Delis, 2005; Tesfaye, 2014; Moges, 2017; Molyneux and Thornton 1992, and Guru, Staunton and Balashanmugam, 2002) established positive relationship between inflation and bank profitability. Contrariwise, the studies conducted by Abreu and Mendes (2000) in Europe found a negative relationship between inflation and bank profitability. According to Samuel (2015) and Amdemichael (2012), inflation is not a significant driver of profitability performance of commercial banks.

GDP GROWTH

The growth of GDP was statistically significant at 1% significance level (p -value =0.0075) and has a negative relationship with profitability. The coefficient of -2.14E in the regression output indicates that GDP is a quite significant determinant of banks profitability in newly established commercial bank Ethiopia under the study period. The results show that one-unit increase in GDP will contribute -2.14E unit decrease in return on assets. Moreover, higher GDP growth leads to

lower bank profitability in Ethiopia. This result is agreed with the studies by Tan et.al, (2012). The negative relationship is in contrast with the findings of (Birehanu, 2012; Amdemichael, 2012; Samuel, 2015; Habtamu, 2012 and Moges, 2017), which stated that positive and significant association among GDP and bank profitability. The negative coefficient sign of real GDP growth rate was beyond to the researcher expectation

Table4.6: Summery about the relationship of variable and (ROA)

Variable	Expected Relation of (ROA)	Actual Relation Of (ROA)
Firm Size	Positive & significant	Positive & significant
CAS	Positive & significant	Negative & significant
LIR	Negative & significant	Positive & insignificant
ME	Positive & significant	Negative & insignificant
LDR	Positive	Negative & insignificant
CA	Positive & significant	Positive & insignificant
INF	Negative & significant	Positive & significant
GDP GROWTH	Positive & significant	Negative & significant

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1. INTRODUCTION

The previous chapter emphasized the analysis of the findings and examined the result of the regression of all independent variables against the theories and earlier stated expectations. Accordingly, this chapter is organized into two subsections. The first section presents the summery about the finding; second section presents the conclusions whereas the final section presents the recommendations.

5.2. CONCLUSION

The study addressed the factors affecting on bank profitability and to find out to what extent these factors affect the Ethiopian newly established commercial banks profitability. The factor was identified in to two main categories; the internal factors and the external factors. The internal factor refers to the factors that are originated from bank accounts (balance sheets and/or profit and loss accounts) and could be called micro or bank-specific factor of profitability. While, the external factors are variables that are not related to bank management but are related to the economic and legal environment that affects the operation and performance of the firms.

This study investigates the factor of both internal and external factor of the Ethiopian newly established banking system profitability. The internal factors included in this study are variables such as firm's size, management efficiency, loan to deposit ratio and capital adequacy, liquidity risk and capital structure. While, as external factors are used two variables gross domestic product and inflation rate. Furthermore, the study used Return on Asset (ROA) as the main measure of bank profitability. Panel data (fixed effects model) from 2010 to 2018 of 5 newly established commercial banks in Ethiopia was analysed using ordinary least square (OLS) regressions method.

The liquidity risk has a positive impact on ROA with strong insignificance coefficient. This indicates that as banks that hold more liquid asset experience significant increase in profitability. On the other side, the study found a capital adequacy ratio has positive and statistically insignificant impact on ROA of commercial banks in Ethiopia. However, this indicates banks with strong capital adequacy or keep the fund in the bank will have a cost and the bank will the less profit which should be earns if the money was borrowed.

Loan to Deposit has negative and statistically insignificant impact on ROA. This result shows that the bank charge less than what the bank incurring as interest expense for the depositors and the more loan the bank give will have a significant effect on banks profitability. The Size of the bank positive and had significant positive relationship as per the regression result. This means that size does great contribute any type of profitability for the newly established commercial banks are beneficiary of the advantage of economies of scale.

Concerning the macro-economic indicators, inflation rate plays an important role in explaining However, the output of regression model showed that the impact of capital adequacy, liquidity ratio, loan to deposit ratio, management efficiency, on ROA of newly established commercial banks in Ethiopia is not significant for the period under consideration. The relationship between profitability and loan to deposit ratio, for GDP growth, management efficiency, and capital structure was found to be negative and liquidity risk, firm size, capital adequacy, inflation rate the relationship were positive. The banks return on assets. The positive relationship between inflation and statistically significant bank performance suggests that a bank's income increase more with inflation than its costs. In general, the findings revealed that capital structure, firm size, inflation rate and GDP are the major significant determinants of the profitability of the newly established bank in Ethiopia.

5.3. Recommendation

- ❖ The regression results in this research imply that the relation between liquidity and ROA is positive and significant. So, the commercial bank in Ethiopia, need to focus on that investing in short-term, less risky securities like government treasury bills leads to increased profitability.
- ❖ Management efficiency, liquidity ratio, loan to deposit ratio are significant key internal drivers of profitability of commercials banks in Ethiopia. Actually, focusing and redesign the firms together

with these indicators could improve the profitability as well as the performance of the newly established commercial banks in Ethiopia.

- ❖ The study provides suggestion for managers to focus on properly managing the level of non-interest expenses like reducing operating, administrative and personnel expense through using common facilities such as ATM and Agent banking service.
- ❖ Finally, the study required to investigate the factors affecting the profitability of newly established commercial banks in Ethiopia. However, the variables used in the statistical analysis did not include all factors that can affect Ethiopian banks profitability. Thus, future research could incorporate factors such as effect of regulations by national bank.

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Appendix

	ROA	FIRM_SIZE	CAS	LIR	ME	LDR	CA	IFN	GDP_GROWTH
Mean	0.0294	3.6709	0.60581	0.3307	9.5669	0.5943	0.4940	0.1371	896099.3
Median	0.0296	3.77057	0.73534	0.30307	1.65853	0.58421	0.1758	0.0880	626977.4
Maximum	0.0671	4.44763	0.83741	0.5789	359.660	0.80020	1.0002	0.3804	1719491.
Minimum	-0.0316	2.5792	0.10537	0.1756	-2.07211	0.43355	0.1022	0.0732	419217.8
Std. Dev.	0.0151	0.46761	0.26997	0.12243	53.3809	0.0845	0.41776	0.0968	504963.9
Skewness	-0.8931	-0.45903	-1.19849	0.56781	6.48019	0.2498	0.3811	1.73318	0.687945
Kurtosis	8.3398	2.38719	2.60051	2.13939	43.0033	2.48950	1.17627	4.7431	1.637515
Jarque-Bera	59.446	2.284454	11.0720	3.8068	3315.45	0.9566	7.3254	28.227	7.030192
Probability	0.0000	0.319108	0.00394	0.14905	0.00000	0.61981	0.0256	0.0000	0.029745
Sum	1.3270	165.1948	27.2617	14.8825	430.512	26.7445	22.233	6.17392	40324468
Sum Sq. Dev.	0.01008	9.621302	3.20703	0.6596	125379.0	0.31451	7.6791	0.41258	1.12E+13
Observations	45	45	45	45	45	45	45	45	45

Descriptive statistic table Source

Dependent Variable: ROA

Method: Panel Least Squares

Date: 12/29/20 Time: 10:50

Sample: 2010 2018

Periods included: 9

Cross-sections included: 5

Total panel (balanced) observations: 45

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.144673	0.079836	-1.812121	0.0794
FIRM_SIZE	0.051573	0.013760	3.747956	0.0007
CAS	-0.069687	0.023061	-3.021828	0.0049
LIR	0.015210	0.036592	0.415670	0.6804
ME	-7.13E-05	4.95E-05	-1.440797	0.1594
LDR	-0.023500	0.047032	-0.499670	0.6207
CA	0.098034	0.085337	1.148777	0.2592
IFN	0.053881	0.021022	2.563055	0.0153
GDP_GROWTH	-2.14E-08	7.48E-09	-2.857215	0.0075

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.601928	Mean dependent var	0.029491
Adjusted R-squared	0.452651	S.D. dependent var	0.015136
S.E. of regression	0.011198	Akaike info criterion	-5.909255
Sum squared resid	0.004013	Schwarz criterion	-5.387330
Log likelihood	145.9582	Hannan-Quinn criter.	-5.714687
F-statistic	4.032295	Durbin-Watson stat	2.037196
Prob(F-statistic)	0.000784		

Source: Output of E-views 8

Results of the fixed effect panel data regression analysis

Excel result

YEAR	ID	ROA	FIRM SIZE	CAS	LIR	ME	LDR	CA	GDP	IFN
2010	1	0.0331	3.7706	0.1081	0.4815	0.9097	0.5532	1.0000	419217.8	0.0732
2011	1	0.0340	3.8879	0.1167	0.4867	0.7038	0.5402	1.0000	475647.5	0.3804
2012	1	0.0361	3.9438	0.1254	0.3367	0.7602	0.6046	1.0000	517026.5	0.2081
2013	1	0.0228	3.9990	0.1204	0.5197	1.6510	0.5842	1.0000	568432.3	0.0739
2014	1	0.0181	4.0747	0.1326	0.2513	2.0213	0.5693	0.9581	626977.4	0.0846
2015	1	0.0214	4.1572	0.1174	0.2126	2.0967	0.5811	1.0000	692221.7	0.1045
2016	1	0.0214	4.2373	0.1200	0.2008	2.1216	0.6546	1.0000	1449397.5	0.0750
2017	1	0.0195	4.3405	0.1149	0.1967	3.7468	0.7268	1.0000	1596481.6	0.0880
2018	1	0.0230	4.4476	0.1054	0.2714	1.9849	0.6443	1.0000	1719491.3	0.1470
2010	2	0.0672	3.0235	0.1149	0.5789	2.0153	0.5580	0.1502	419217.8	0.0732
2011	2	0.0635	3.2077	0.7206	0.4382	1.8537	0.5550	0.1492	475647.5	0.3804
2012	2	0.0431	3.3792	0.7488	0.3759	1.8962	0.5648	0.1172	517026.5	0.2081
2013	2	0.0334	3.5117	0.7713	0.3458	2.7078	0.5467	0.1519	568432.3	0.0739
2014	2	0.0513	3.5938	0.7722	0.3806	1.3586	0.4718	0.1673	626977.4	0.0846
2015	2	0.0348	3.6879	0.7844	0.2368	1.5619	0.5641	0.1568	692221.7	0.1045
2016	2	0.0331	3.8677	0.7441	0.2995	1.6585	0.5930	0.1359	1449397.5	0.0750
2017	2	0.0418	3.9854	0.7574	0.3182	1.4119	0.5422	0.1360	1596481.6	0.0880
2018	2	0.0245	4.0948	0.8233	0.3259	1.5619	0.4877	0.1364	1719491.3	0.1470
2010	3	0.0267	3.0487	0.7339	0.5620	2.5943	0.4495	0.1895	419217.8	0.0732
2011	3	0.0289	3.2927	0.7780	0.4332	2.0479	0.4336	0.1509	475647.5	0.3804
2012	3	0.0209	3.4452	0.7596	0.3972	2.1588	0.4816	0.1570	517026.5	0.2081
2013	3	0.0200	3.5923	0.7799	0.3072	2.0563	0.5315	0.1400	568432.3	0.0739
2014	3	0.0306	3.7890	0.8134	0.3031	1.4223	0.5059	0.1217	626977.4	0.0846
2015	3	0.0275	3.9793	0.7646	0.1757	1.1437	0.6456	0.1033	692221.7	0.1045
2016	3	0.0213	4.0524	0.8286	0.1904	1.2344	0.5526	0.1168	1449397.5	0.0750
2017	3	0.0209	4.2120	0.8233	0.2037	2.0228	0.5349	0.1022	1596481.6	0.0880
2018	3	0.0363	4.3765	0.8374	0.2441	1.1351	0.5003	0.1089	1719491.3	0.1470
2010	4	0.0002	2.6813	0.5004	0.5218	359.6600	0.8002	0.3522	419217.8	0.0732
2011	4	0.0309	2.8926	0.6291	0.4820	1.7255	0.7455	0.2976	475647.5	0.3804
2012	4	0.0259	3.1351	0.6617	0.2956	1.7097	0.7217	0.2103	517026.5	0.2081
2013	4	0.0265	3.3281	0.7271	0.2729	1.3965	0.6135	0.1759	568432.3	0.0739
2014	4	0.0311	3.4788	0.7144	0.2966	1.6649	0.6243	0.1716	626977.4	0.0846
2015	4	0.0358	3.6532	0.7781	0.1821	1.5633	0.6906	0.1506	692221.7	0.1045
2016	4	0.0331	3.8338	0.7894	0.1837	1.6525	0.6745	0.1409	1449397.5	0.0750
2017	4	0.0242	3.9921	0.7617	0.2101	2.0152	0.6954	0.1378	1596481.6	0.0880
2018	4	0.0276	4.1146	0.7639	0.2050	1.8264	0.6878	0.1523	1719491.3	0.1470
2010	5	-0.0316	2.5792	0.6271	0.5187	-2.0721	0.6437	0.9950	419217.8	0.0732
2011	5	0.0328	2.9609	0.7597	0.5789	1.1073	0.4779	0.9999	475647.5	0.3804
2012	5	0.0306	3.1089	0.7251	0.4421	1.0283	0.5362	1.0000	517026.5	0.2081
2013	5	0.0304	3.3419	0.7250	0.3367	0.9476	0.6145	1.0000	568432.3	0.0739
2014	5	0.0180	3.4492	0.7151	0.3489	2.5806	0.5889	1.0003	626977.4	0.0846
2015	5	0.0297	3.6203	0.7354	0.2980	1.5620	0.6113	1.0000	692221.7	0.1045
2016	5	0.0468	3.8571	0.7360	0.2163	1.1246	0.6989	1.0000	1449397.5	0.0750
2017	5	0.0533	4.0207	0.7239	0.2288	0.9883	0.6920	1.0000	1596481.6	0.0880
2018	5	0.0267	4.1482	0.7721	0.1903	2.1946	0.6506	1.0000	1719491.3	0.1470

YEAR	ID	ROA	FIRM SIZE	CAS	LIR	ME	LDR	CA	GDP	IFN
2010	1	0.0331	3.7706	0.1081	0.4815	0.9097	0.5532	1.0000	419217.8	0.0732
2011	1	0.0340	3.8879	0.1167	0.4867	0.7038	0.5402	1.0000	475647.5	0.3804
2012	1	0.0361	3.9438	0.1254	0.3367	0.7602	0.6046	1.0000	517026.5	0.2081
2013	1	0.0228	3.9990	0.1204	0.5197	1.6510	0.5842	1.0000	568432.3	0.0739
2014	1	0.0181	4.0747	0.1326	0.2513	2.0213	0.5693	0.9581	626977.4	0.0846
2015	1	0.0214	4.1572	0.1174	0.2126	2.0967	0.5811	1.0000	692221.7	0.1045
2016	1	0.0214	4.2373	0.1200	0.2008	2.1216	0.6546	1.0000	1449397.5	0.0750
2017	1	0.0195	4.3405	0.1149	0.1967	3.7468	0.7268	1.0000	1596481.6	0.0880
2018	1	0.0230	4.4476	0.1054	0.2714	1.9849	0.6443	1.0000	1719491.3	0.1470
2010	2	0.0672	3.0235	0.1149	0.5789	2.0153	0.5580	0.1502	419217.8	0.0732
2011	2	0.0635	3.2077	0.7206	0.4382	1.8537	0.5550	0.1492	475647.5	0.3804
2012	2	0.0431	3.3792	0.7488	0.3759	1.8962	0.5648	0.1172	517026.5	0.2081
2013	2	0.0334	3.5117	0.7713	0.3458	2.7078	0.5467	0.1519	568432.3	0.0739
2014	2	0.0513	3.5938	0.7722	0.3806	1.3586	0.4718	0.1673	626977.4	0.0846
2015	2	0.0348	3.6879	0.7844	0.2368	1.5619	0.5641	0.1568	692221.7	0.1045
2016	2	0.0331	3.8677	0.7441	0.2995	1.6585	0.5930	0.1359	1449397.5	0.0750
2017	2	0.0418	3.9854	0.7574	0.3182	1.4119	0.5422	0.1360	1596481.6	0.0880
2018	2	0.0245	4.0948	0.8233	0.3259	1.5619	0.4877	0.1364	1719491.3	0.1470
2010	3	0.0267	3.0487	0.7339	0.5620	2.5943	0.4495	0.1895	419217.8	0.0732
2011	3	0.0289	3.2927	0.7780	0.4332	2.0479	0.4336	0.1509	475647.5	0.3804
2012	3	0.0209	3.4452	0.7596	0.3972	2.1588	0.4816	0.1570	517026.5	0.2081
2013	3	0.0200	3.5923	0.7799	0.3072	2.0563	0.5315	0.1400	568432.3	0.0739
2014	3	0.0306	3.7890	0.8134	0.3031	1.4223	0.5059	0.1217	626977.4	0.0846
2015	3	0.0275	3.9793	0.7646	0.1757	1.1437	0.6456	0.1033	692221.7	0.1045
2016	3	0.0213	4.0524	0.8286	0.1904	1.2344	0.5526	0.1168	1449397.5	0.0750
2017	3	0.0209	4.2120	0.8233	0.2037	2.0228	0.5349	0.1022	1596481.6	0.0880
2018	3	0.0363	4.3765	0.8374	0.2441	1.1351	0.5003	0.1089	1719491.3	0.1470
2010	4	0.0002	2.6813	0.5004	0.5218	359.6600	0.8002	0.3522	419217.8	0.0732
2011	4	0.0309	2.8926	0.6291	0.4820	1.7255	0.7455	0.2976	475647.5	0.3804
2012	4	0.0259	3.1351	0.6617	0.2956	1.7097	0.7217	0.2103	517026.5	0.2081
2013	4	0.0265	3.3281	0.7271	0.2729	1.3965	0.6135	0.1759	568432.3	0.0739
2014	4	0.0311	3.4788	0.7144	0.2966	1.6649	0.6243	0.1716	626977.4	0.0846
2015	4	0.0358	3.6532	0.7781	0.1821	1.5633	0.6906	0.1506	692221.7	0.1045
2016	4	0.0331	3.8338	0.7894	0.1837	1.6525	0.6745	0.1409	1449397.5	0.0750
2017	4	0.0242	3.9921	0.7617	0.2101	2.0152	0.6954	0.1378	1596481.6	0.0880
2018	4	0.0276	4.1146	0.7639	0.2050	1.8264	0.6878	0.1523	1719491.3	0.1470
2010	5	-0.0316	2.5792	0.6271	0.5187	-2.0721	0.6437	0.9950	419217.8	0.0732
2011	5	0.0328	2.9609	0.7597	0.5789	1.1073	0.4779	0.9999	475647.5	0.3804
2012	5	0.0306	3.1089	0.7251	0.4421	1.0283	0.5362	1.0000	517026.5	0.2081
2013	5	0.0304	3.3419	0.7250	0.3367	0.9476	0.6145	1.0000	568432.3	0.0739
2014	5	0.0180	3.4492	0.7151	0.3489	2.5806	0.5889	1.0003	626977.4	0.0846
2015	5	0.0297	3.6203	0.7354	0.2980	1.5620	0.6113	1.0000	692221.7	0.1045
2016	5	0.0468	3.8571	0.7360	0.2163	1.1246	0.6989	1.0000	1449397.5	0.0750
2017	5	0.0533	4.0207	0.7239	0.2288	0.9883	0.6920	1.0000	1596481.6	0.0880
2018	5	0.0267	4.1482	0.7721	0.1903	2.1946	0.6506	1.0000	1719491.3	0.1470

