

Factors Affecting Profitability: An Empirical Study on Ethiopian Banking Industry

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ABSTRACT

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This study examines the bank-specific, industry-specific and macro-economic factors affecting bank profitability for a total of eight commercial banks in Ethiopia, covering the period of 2000-2011. To this end, the study adopts a mixed methods research approach by combining documentary analysis and in-depth interviews. The findings of the study show that capital strength, income diversification, bank size and gross domestic product have statistically significant and positive relationship with banks' profitability. On the other hand, variables like operational efficiency and asset quality have a negative and statistically significant relationship with banks' profitability. However, the relationship for liquidity risk, concentration and inflation is found to be statistically insignificant. The study suggests that focusing and reengineering the banks alongside the key internal drivers could enhance the profitability as well as the performance of the commercial banks in Ethiopia. Moreover, banks in Ethiopia should not only be concerned about internal structures and policies, but they must consider both the internal environment and the macroeconomic environment together in fashioning out strategies to improve their performance or profits. Finally, the government needs to revisit its requirements imposed solely on private banks like investing 27% of their total loans on bonds at a relatively lower interest rate.

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List of Acronyms

AIB	Awash International Bank
ASQ	Asset Quality
BoA	Bank of Abyssinia
CAP	Capital
CBB	Construction and Business Bank
CBE	Commercial Bank of Ethiopia
CIR	Cost to Income Ratio
CLRM	Classical Linear Regression Model
GDP	Gross Domestic Product
HHI	Herfindahl-Hirschman index
HP	Hypotheses
IDV	Income Diversification
INFL	Inflation
LIQ	Liquidity
MoFED	Ministry of Finance and Economic Development
NBE	National Bank of Ethiopia

NIB	Nib International Bank
OLS	Ordinary Least Square
ROA	Return on Asset
ROE	Return on Equity
RQ	Research Question
SSA	Sub Saharan Africa
UB	United Bank
WB	Wegagen Bank

Chapter 1 Introduction

Bank performance gets a great deal of attention in the economic literature considering that banks serve a pivotal role in the economy. Moreover, the stream of bank failures experienced in the United States of America during the great depression of the 1930s prompted considerable attention to bank performance. The attention has grown ever since then (Heffernan 2005). As noted in Olweny & Shipo (2011) the recent global financial crisis of 2007/2008 also demonstrated the importance of bank performance both in national and international economies and the need to keep it under surveillance at all times.

There are many aspects of the performance of banks that can be analyzed. This study focuses on the profitability performance of banks in Ethiopia. As noted in Flamini et al. (2009) bank profits provide an important source of equity especially if re-invested into the business. This should lead to safe banks, and as such high profits could promote financial stability. However, too high profitability is not necessarily good. Garcia-Herrero et al. (2009) observed that too high profitability could be indicative of market power, especially by large banks. This may hamper financial intermediation because banks exercising strong market power may offer lower returns on deposit but charge high interest rates on loans. Too low profitability, in turn, might discourage private agents (depositors and shareholders) from conducting banking activities thus resulting in banks failing to attract enough capital to operate. Furthermore, this could imply that only poorly capitalized banks intermediate savings with the corresponding costs for sustainable economic growth.

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 private banks to enter and expand their operations in the industry (Lelissa 2007). Despite these changes, currently, the banking industry in Ethiopia is 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 undiversified ownership structure (Lelisa 2007). The existence of less efficiency and little & insufficient competition in the country's banking industry is a clear indicator of relatively poor performance of the sector compared to the developed world financial institutions. Thus, it is important to know the determinants of banks profitability for an efficient management of banking operations aimed at ensuring growth in profits and efficiency.

In light of the above, a lot of research work has so far taken place concerning the issue of determinants of bank profitability. For instance, Flamini et al. (2009) and other several studies like Athanasoglou et al. (2008) and Trujillo-Ponce (2012) have shown that bank profitability is influenced by bank-specific, industry-specific and macro-economic factors. However, these studies were based on data from other countries and their findings may not be applicable to the Ethiopian banking sector. Moreover, those literatures by themselves provide contradictory conclusions for they are based on different models and methodologies. In the context of Ethiopia, to the knowledge of the researcher, there appears to be very limited work on the assessment of determinants of profitability of banks. For example, the recent study of Damena (2011) examined

determinants of profitability of commercial banks in Ethiopia, by adopting a quantitative approach and without including one of the governments owned commercial bank, namely Construction & Business Bank (CBB).

In the context of the above discussions, the purpose of this study is to assess factors affecting the financial performance (profitability) of banks in Ethiopia. The remaining discussions in the chapter are arranged in eight sections. The first section presents an overview of the Ethiopian banking system as a background for the research. Section 1.2 presents the problem statement. Section 1.3 presents the broad objective, research question and hypotheses of the study respectively. Section 1.4 presents the research methodology of the study. Section 1.5 presents the scope of the study. Section 1.6 discusses the limitations of the study. Section 1.7 presents the significance of the study. Finally, the structure of the study is discussed in section 1.8.

1.1.Overview of the Ethiopian banking system

Modern banking in Ethiopia started in 1905 with the establishment of Abyssinian Bank which was based on a fifty year agreement with the Anglo-Egyptian National Bank. In 1908 a new development bank¹ and two other foreign banks² were also established (Degefe 1995 cited in Geda 2006). As noted in Geda (2006) these banks were criticized for being wholly foreign owned. In 1931 the Ethiopian government purchased the Abyssinian Bank, which was the dominant bank, and renamed it the Bank of Ethiopia

¹ The new development bank was Societe Nationale d’Ethiophe Pour le Development del’Agriculture et du Commerce.

² The two foreign banks were Banque de l’Indochine and the Compagnie del’Afrique Orientale.

i.e., the first nationally owned bank on the African continent (Gedey 1990, pp. 83, cited in Geda 2006).

During the five-years of Italian occupation³ banking activity of the country was relatively expanded. In that time, the Italian banks were particularly active. As a result, most of the banks that were in operation during this period were Italian banks⁴. After independence from Italy's brief occupation, where the role of Britain was paramount owing to its strategic planning during the Second World War, Barclays Bank was established and it remained in business in Ethiopia between 1941 and 1943 (Degefe 1995 cited in Geda 2006). Following this, in 1943 the Ethiopian government established the State Bank of Ethiopia. As noted in Degefe (1995 cited in Geda 2006) the establishment of the Bank by Ethiopia was a painful process because Britain was against it. The Bank of Ethiopia was operating as both a commercial and a central bank until 1963 when it was remodeled into today's National Bank of Ethiopia (NBE) (the Central Bank, re-established in 1976) and the Commercial Bank of Ethiopia (CBE). After this period many other banks were established; and just before the 1974 revolution those banks were in operation (Degefe 1995 cited in Geda 2006).

As stated in Degefe (1995 cited in Geda 2006), all privately owned financial institutions including three commercial banks, thirteen insurance companies, and two non-bank financial intermediaries were nationalized on 1 January 1975⁵. The nationalized banks

³ The Italian occupation in Ethiopia was during the period of 1936-41.

⁴ The Banks operated during the Italian occupation were Banco di Italy, Banco di Roma, Banco di Napoli, Banco Nazionale, Casa de Creito and Society Nazionale di Ethiopia.

⁵ The commercial banks were Addis Ababa Bank, Banco di Napoli and Banco di Roma.

were reorganized and one commercial bank (the CBE), a national bank (recreated in 1976), two specialized banks i.e., the Agricultural and Industrial Bank, renamed recently as the Development Bank of Ethiopia and a Housing and Saving Bank, renamed recently as the CBB, and one insurance company (Ethiopian Insurance Company) were formed. Following the regime change in 1991 and the liberalization policy in 1992, these financial institutions were reorganized to work to a market-oriented policy framework. Moreover, new privately owned financial institutions were also allowed to work alongside the publicly owned ones. As a result, currently, the country has three public-owned and twelve private banks, which are operating throughout the country (NBE 2009/2010)⁶.

1.2.Statement of the problem

The current economic crisis has highlighted that a well-functioning financial system is significantly important for economic growth. The financial system enables an economy to be more productive as it allows investors with few resources to use savings from those with few prospects of investing. In this context, it is crucial to know what drives bank profitability. Higher profitability not only allows banks to generate funds to grant more credit to the economy, but is also important for regulators as it guarantees more flexible capital ratios, even in a riskier business environment. In addition, bank profitability must also lead to fair returns for its shareholders.

Despite all the above facts and the financial sector reforms in Africa since the 1990s with an aim of improving profitability, efficiency and productivity, banks' performance has

⁶ The three governments owned banks are Development Bank of Ethiopia, Commercial Bank of Ethiopia, Construction & Business Bank. The twelve privately owned banks are Awash International Bank, Dashen Bank, Bank of Abyssinia, Wegagen Bank, United Bank, Nib International Bank, Cooperative Bank of Oromia, Lion International Bank, Oromia International Bank, Zemen Bank, Bunna & Birhan International banks (NBE 2009/10).

remained poor with substantial gaps in service delivery to private agents (Francis 2010). There is sufficient empirical evidence that poor performance is manifest into low performance of bank indicators including: high levels of credit risk to private agents, poor quality loans, limited and/or inadequate capitalization, operational inefficiencies, higher incidences of non-performing loans and higher levels of liquidity risk; among others. Although these are mentioned as constraint areas affecting Sub-Saharan Africa (SSA) banks performance, they are based on a few studies and non-elaborate methods to generate sufficient conclusions (Francis 2010).

In light of the above, Nissanke & Aryeetey (1998) demonstrated that continuous poor performance of banking systems in Africa could be partly explained by the high degree of financial market fragmentation and limited access to basic payment services or savings accounts. Francis (2010) also noted that as the low performance in terms of profitability exists in SSA banks. This low profitability levels reflected lack of competitiveness and inefficiency in the SSA banking sector. Furthermore, Francis (2010) also noted that as banks' profitability for most of the SSA countries have been about two percent over the last ten years and compares significantly with other developing world, but lower than the developed world. On the other hand, Dermerguc-Kunt & Huizingha (2001) revealed that as African banks have not been widely studied and was therefore, difficult to inform policy on readily efficient banks in the continent without sufficient data. A similar view was reached by Goddard et al. (2004), that more data was required on African banking systems to inform policy. All these studies, among others observed that as more understanding on African banking sector performance was important. World Bank (2005

cited in Francis 2010) also emphasized the need to undertake deeper analysis of financial sector performance in SSA, where performance has not been impressive.

Coming back to the case of the Ethiopian banking sector, regardless of the series of changes and liberalization measures undertaken which is expected to change the ownership structure, the concentration, and profitability performance of the sector as compared to the situations prevalent before the reform period, currently the country's banking sector is characterized by the existence of high concentration (low competition) and operational inefficiencies; which is a clear sign of unimpressive performance of the sector (Lelisa 2007). In this regard, Keefe (2008) also noted as a non-competitive market structure exists in the Ethiopian banking industry, due to the nature of the country's financial sector in which there are no foreign banks. Moreover, even if the financial sector reform aims at improving profitability, efficiency and productivity, by adopting a strategy of gradualism, Ethiopian banks' performance has still remained poor with substantial gaps in service delivery to private agents, particularly to the rural and lower-income population. This is clearly indicated in the NBE (2008/09) annual report which states as one branch of a bank on the average is estimated to serve around 126,258 people, which is way below even at the SSA standard. This high people to bank branch ratio indicated that as Ethiopian banks performance is still poor in terms of outreach even as compared to the SSA standards where the performance is significantly poor. This very limited access to basic payment services or saving accounts clearly indicates as the industry is performing poorly.

In addition, as noted in Geda (2006) Ethiopian banking industry is characterized by a quite high liquidity, which is well above the statutory requirement of 20 per cent, high level of nonperforming loans, and failure to adopt new technologies to improve the efficiency of their services; among others which are the direct indicators of low performance when measured in terms of profitability as far as all of the above mentioned factors affect profitability negatively. Moreover, fear of risky investments by Ethiopian banks which may result in greater amount of profit for them and lack of active secondary stock market in the country which may reduce their investment options and their profitability as well are also clear indicators as Ethiopian banks are still not operating at their full capacity. Moreover, as noted in NBE (2009/10) annual report low contribution of the sector to Gross Domestic Product (GDP) despite the increasing contribution of the service sector to GDP is also another indicator of low performance of the sector. In general, even if Ethiopian banks looks like profitable, lack of competition, limited number of branches, poor asset quality, low efficiency, higher levels of liquidity and others clearly indicate as they are still not performing well and attaining the maximum profit that they can achieve.

All the above discussed problems in the banking industry of Ethiopia in relation to performance in general and profitability in particular along with the gap in the literature (to be established in the next chapter) with respect to profitability and the link between profitability and internal and external determinant factors call for detailed investigation. Furthermore, in order to minimize the above stated problems like the existence of high concentration (low competition), low efficiency, high liquidity, poor asset quality and

others related to profitability, identifying the factors that affect bank profitability is vital. Therefore, 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 all commercial banks operated in the country that had 12 years data.

1.3. Broad objective, research question and hypotheses

In the context of the problems highlighted above, the general objective of this study is to assess the factors that affect bank profitability in Ethiopia.

Research question (RQ)

In line with the broad purpose statement highlighted above, the following specific research question was formulated:

RQ1. What are the determinants of banks' profitability in Ethiopia and how do those factors influence the profitability of Ethiopian banks'?

Hypotheses of the Study (HP)

In line with the broad purpose statement the following hypotheses were also formulated for investigation. Hypotheses of the study stands on the theories related to a bank's profitability that has been developed over the years by banking area researcher's and past empirical studies related to a bank's profitability. The results from the literature review (to be established in the next chapter) were used to establish expectations for the

relationship of the different determinants. Hence, based on the objective, the present study seeks to test the following 9 hypotheses:

HP1: There is a significant positive/negative relationship between the amount of capital of a bank and the bank's profitability.

HP2: There is a significant negative relationship between the operational efficiency of a bank and the bank's profitability.

HP3: There is a significant positive relationship between the Income diversification of a bank and the bank's profitability.

HP4: There is a significant negative relationship between the liquidity risk of a bank and the bank's profitability.

HP5: There is a significant positive/negative relationship between the size of a bank and the bank's profitability.

HP6: There is a significant negative relationship between the asset quality of a bank and the bank's profitability.

HP7: There is a significant positive relationship between the concentration of the banking sector and the bank's profitability.

HP8: There is a significant positive relationship between real gross domestic product growth and bank profitability.

HP9: There is a significant positive/negative relationship between inflation and bank profitability.

1.4. Research Methodology

In order to achieve the broad research objective a mixed methods approach is adopted. To this end, to collect the necessary data the study mainly adopts survey of documents. The survey is administered in a structured document review mode, and it is intended to elicit data relevant for factors having impact on the profitability of banks. For the study the target population consists of all commercial banks registered by NBE and under operation in the country at least for the last twelve years. Consequently, the study consists of the two governments owned commercial banks namely, CBE and CBB. Moreover, the study also includes the six leading private commercial banks in the country in terms of both branch network and market share namely, Awash International Bank (AIB), Bank of Abyssinia (BoA), Dashen Bank (DB), Nib International Bank (NIB), United Bank (UB) and Wegagen Bank (WB). The analyses are basically concentrated on the data available in financial statements of banks and other documents which had macro-economic data in relation to the selected variables kept by NBE, the banks themselves and Ministry of Finance and Economic Development (MoFED), covering the period of 2000-2011. To supplement the data obtained through the structured document reviews in-depth interviews are also conducted with the finance managers of the selected banks.

1.5. Significance of the study

The significance of this research includes the following:

- First, as it is explained in the review of the literature part studies made so far in Ethiopia with the objective of identifying the factors affecting bank profitability are very scanty. As a result, this study makes a number of contributions towards

extended research in the area of determinants of profitability of banks in Ethiopia.

- Second, the study draws some conclusions and identifies the factors affecting bank profitability significantly. Thus, it gives signal to the management of the banks and policy makers to take remedial action.
- Third, it helps other researchers as a source of reference and as a stepping stone for those who want to make further study on the area afterwards.
- Finally, it gives all stake holders in the area the opportunity to gain deep knowledge about the relationship of internal and external factors and profitability.

1.6. Scope of the study

The scope of the study is restricted to the assessment of the internal and external factors affecting bank profitability of all commercial banks registered by the NBE and that have at least twelve years data i.e., 2000-2011. As a result, it includes the two large governments owned commercial banks namely, CBE and CBB. The scope of the study also includes the six leading private commercial banks in the country in terms of both branch network and market share namely, AIB, DB, BoA, WB, UB and NIB.

1.7. 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 poor cooperation of interviewees' in responding for the interview questions are some of the

factor's that hindered the outcome of the research. Moreover, lack of 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 researcher himself may be biased in interpreting the results that was collected through interviews.

1.8. Structure of the study

This study mainly focuses on the identification of both the internal (bank-specific factors) and the external factors which includes the industry-specific factors as well as the broader macro-economic factors that can affect the Ethiopian banking industry in general. This study is organized into six chapters. Chapter one presents introductions of the study. The literature review part of the study is presented in Chapter two. The review of the literature includes the theoretical review in its first section which is followed by the review of the previous studies related to the area and conclusion and knowledge gap finally. Chapter three presents the research design and methodology. The results of the different methods used are presented in chapter four. This is followed by an analysis of the results of the different methods concurrently in chapter 5. Finally, chapter six presents the conclusions and recommendations.

Chapter 2 Literature review

Several factors influence banks' operations and banks' profitability, recognizing and understanding the underlying concepts and definitions of the banking sector is essential in order to vouch results and analyses. Hence, chapter two serves as background for this study by describing concepts of financial intermediation and factors that could influence banks' profitability. Subsequent chapters will build on concepts and definitions described here. In light of the above, the purpose of this chapter is to review the literatures related to bank profitability and its determinants. The review has three sections. Section 2.1 presents a review of the theoretical aspects related to bank profitability and its determinants. This is followed by the review of the previous studies conducted in relation to bank profitability and its determinants in section 2.2. Finally, conclusions on the literature review and knowledge gaps are presented in section 2.3.

2.1. Theoretical review

This section reviews the basic theoretical issues related to banks and bank profitability and its determinants. Hence, section 2.1.1 presents the role of banks in the economy. Then, section 2.1.2 presents the theories related to bank profitability. Finally, section 2.1.3 presents the factors influencing bank profitability.

2.1.1. The role of banks

To start very basic, 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 principals 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 (van Greuning & Bratanovic 2009 cited in van Ommeren 2011). Besides the incorporations of liquidity, price and credit risks in banking activities, banks increasingly faces 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.

2.1.2. 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 results 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 non-competitive 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 holder's 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 depends 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 explanations 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).

There are also theoretical explanations for the opposite relationship that a higher equity-to-asset ratio has a positive effect on profitability. These explanations are based on the signaling and bankruptcy cost hypotheses. The first hypothesis states that a higher equity ratio is a positive signal to the market of the value of a bank (Berger 1995b). Less profitable banks cannot achieve such a signal since this will further deteriorate their earnings. In this way a lower leverage, indicates that banks perform better than their competitors who cannot raise their equity without further deteriorating the profitability. The latter hypothesis suggests that in a case where bankruptcy cost are unexpected high a bank hold more equity to avoid period of distress (Berger 1995b).

2.1.3. Factors affecting bank profitability

Theoretically factors affecting bank profitability are mainly divided into two categories as internal and external variables. The internal (bank-specific factors) are factors that are related to internal efficiencies and managerial decisions. As stated in the above section

the efficiency and portfolio theory highly assume as bank performance is influenced by those internal factors that are related to internal efficiencies and managerial decisions. Such factors include determinants such as bank capital, bank size, asset quality, income diversification, liquidity risk and operational efficiency (expenses management). On the other hand, the market power theory assumes as bank profitability is a function of external market factors. Accordingly, one of the external factors (variables) that can affect bank profitability is industry specific factors. Such factors mainly include industry concentration or market share as a major determinant factor of bank profitability. Finally, the macroeconomic factors that can affect bank profitability include factors such as GDP, money supply growth, and inflation rate among others. The exact relationship between these factors and the bank profitability and the significance of the relationship remain as questions to be addressed more specifically in the context of Ethiopia.

2.2. Previous studies in relation to bank profitability and its determinants

The study on the determinants of bank profitability began as early as 1979 when Short (1979) examined the relationship between profit rate and the bank concentration. By classifying the determinants to internal and external determinants, Bourke (1989) extended this study to banks in twelve countries in Europe, North America and Australia. Further study performed by Athanasoglou et al. (2005) classified the determinants to three specific aspects: bank-specific, industry-specific and macroeconomic determinants of bank profitability (Said & Tumin 2011, p.159). Thus, the following section reviews the empirical evidence on factors affecting bank profitability with a particular focus on those that have been conducted more recently, as far as they are the best indicators of the current situation. Determinants of bank profitability studies conducted in single country

are reviewed in section 2.2.1. This is followed by a review of determinants of bank profitability studies carried out on a panel of countries in section 2.2.2. Finally, related studies conducted in the Ethiopian context are reviewed in section 2.2.3.

2.2.1. Single country studies

This section presents all the single country studies reviewed by the researcher chronologically as far as the writers' views have tended to change over time.

Berger (1995b) more or less belonged to one of the earliest researches conducted in the area of bank profitability. Berger (1995b) examined the relationship between the return on equity and the equity to asset ratio for a sample of United States banks for the 1983-1992 time periods. Using the granger causality model, he showed that the return on equity and equity to asset ratio tend to be positively related.

Guru et al. (2002) investigated the determinants of bank profitability in Malaysia, using a sample of 17 commercial banks during the 1986 to 1995 period. The profitability determinants were divided into two main categories, namely the internal determinants (liquidity, capital adequacy, and expenses management) and the external determinants (ownership, firm size and economic conditions). Their finding revealed that efficient expenses management was one of the most significant factors explaining high bank profitability. Among the macro indicators a high interest rate ratio was associated with low bank profitability and inflation was found to have a positive effect on bank performance.

Athanasoglou et al. (2008) examined the effect of bank-specific characteristics, industry-specific and macroeconomic determinants of bank profitability for Greek banks that covered the period 1985-2001. Specific attention was given for the testing of SCP hypothesis. The empirical results suggested that capital, labor productivity growth, operating expenses, inflation, and cyclical output significantly affect profitability. However, the impact of bank size and ownership cannot be observed. Furthermore, the SCP hypothesis was not verified as the effect of the industry concentration on bank profitability was found insignificant.

Sufian & Chong (2008) examined the determinants of Philippines banks profitability during the period 1990–2005. The empirical findings suggested that all the bank-specific determinant variables had a statistically significantly impact on bank profitability. The empirical findings also suggested that size, credit risk, and expense preference behavior are negatively related to banks' profitability, while non-interest income and capitalization had a positive impact. During the period under study, the results suggested that inflation had a negative impact on bank profitability, while the impact of economic growth, money supply, and stock market capitalization had not significantly explained the variations in the profitability of the Philippines banks.

Ben Naceur & Goaid (2008) examined the impact of bank characteristics, financial structure and macro-economic conditions on Tunisian banks' net interest margins and profitability during the period from 1980 to 2000. They suggested that banks which hold a relatively high amount of capital and higher overhead expenses tend to exhibit higher net-interest rate margin and profitability levels, while size was negatively related to bank

profitability. During the period under study, they found that stock market development had a positive impact on bank profitability. The empirical findings suggested that private banks were relatively more profitable than their state owned counterparts. The result indicated that macroeconomic conditions had no significant impact on Tunisian banks' profitability.

Garcia-Herrero et al. (2009) analyzed the main determinants of profitability for Chinese banks by employing a panel data set for 87 banks from 1997-2004. They found that better capitalized banks, a relatively larger share of deposits, and more X-efficient banks tend to be more profitable. Hence, a less concentrated banking system as well as lower government intervention increases bank profitability. Furthermore, from the macroeconomic variables included, higher real interest rates on loans and inflation appear to foster profitability while the volatility of interest rates reduces it.

Gul et al. (2011) examined the relationship between bank-specific and macro-economic characteristics over Pakistan bank profitability by using data of top fifteen Pakistani commercial banks over the period 2005-2009. Their paper used the Pooled Ordinary Least Square method to investigate the impact of assets, loans, equity, deposits, economic growth, inflation and market capitalization on major profitability indicators i.e., return on asset, return on equity, return on capital employed and net interest margin separately. The empirical results have found strong evidence that both internal and external factors have a strong influence on the profitability.

Olweny & Shiphoo (2011) examined the effects of banking sector factors on the profitability of commercial banks in Kenya. To this end, their study adopted an

explanatory approach by using panel data research design. Annual financial statements of 38 Kenyan commercial banks from 2002 to 2008 were obtained from the Central Bank of Kenya and banking survey 2009 for the analysis purpose. The data was analyzed using multiple linear regressions method. The results of the analysis showed that all the bank specific factors had a statistically significant impact on profitability, while none of the market factors had a significant impact.

The determinants of profitability of Korean banking sector is examined by Sufian (2011), in which bank-specific and macroeconomic determinants are evaluated. By employing unbalanced bank level panel data, the period considered is 1992-2003. The empirical results revealed that liquidity level, diversification, credit risk, business cycle, and industry concentration significantly affect banks' profitability.

One of the latest studies by Sufian & Noor-Mohamad-Noor (2012) examined the internal and external factors that influenced the performance of banks operating in the Indian banking sector during the period 2000–08. The empirical findings from this study suggested that credit risk, operating expenses, liquidity and size had statistically significant impact on the profitability of Indian banks.

The other very latest study by Ponce (2012) empirically analyzed the factors that determine the profitability of Spanish banks for the period of 1999–2009. Based on the findings of the study the researcher concluded that the high bank profitability during these years is associated with a large percentage of loans in total assets, a high proportion of customer deposits, good efficiency and a low doubtful assets ratio. In addition, as per the findings a higher capital ratios also increased the bank's return, but only when return

on assets is used as the profitability measure. The findings also revealed that as no evidence of either economies or diseconomies of scale or scope exist in the Spanish banking sector.

2.2.2. Panel country studies

Molyneux & Thornton (1992) were the first to explore thoroughly the determinants of bank profitability on a set of countries. They used a sample of 18 European countries during the 1986-1989 periods. They found a significant positive association between the return on equity and the level of interest rates in each country, bank concentration and government ownership.

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

Athanasoglou et al. (2006) examined the profitability behavior of bank-specific, industry-related, and macroeconomic determinants, using an unbalanced panel dataset of South Eastern European credit institutions over the period 1998-2002. The estimation results indicated that, with the exception of liquidity, all bank-specific determinants significantly affect bank profitability in the anticipated way. A key result is that the effect of concentration was positive, which provides evidence in support of the structure-conduct-performance hypothesis, even though some ambiguity arises given its interrelationship

with the efficient-structure hypothesis. In contrast, a positive relationship between banking reform and profitability was not identified, whilst the picture regarding the macroeconomic determinants is mixed.

Pasiouras & Kosmidou (2007) measured the effects of 10 internal and external variables on profitability, including the capital ratio, cost to income ratio, loans to customers and short-term funding, bank size, inflation, GDP growth, concentration, and three determinants reflecting the development of banking and stock markets on bank returns for 584 domestic and foreign commercial banks in the 15 developed European Union countries over the period 1995-2001. The effects of all variables are found to be significant, regardless of bank ownership status except for the concentration ratio.

Using a sample of 389 banks on an unbalanced panel of 41 SSA countries over the period 1998-2006, Flamini et al. (2009) studied the determinants of bank profitability. The paper proposed that higher returns on assets are associated with larger bank size, activity diversification, and private ownership. Bank returns are affected by macroeconomic variables, which indicate that macroeconomic policies that promote low inflation and stable output growth promote the expansion of credit. The results also indicated moderate persistence in profitability. Causation in the Granger sense from returns on assets to capital occurs with a considerable lag, which means that it does not maintain high returns immediately in the form of capital increases. Thus, the paper gave some support to the policy of imposing higher capital requirements in the region to promote financial stability.

Ben Naceur & Omran (2011) analyzed the influence of bank regulations, concentration, and financial and institutional development on the Middle East and North Africa countries' commercial banks' margins and profitability during the period 1989-2005. They found that bank specific characteristics, in particular bank capitalization and credit risk, had a positive and significant impact on banks' net interest margins, cost efficiency, and profitability. On the other hand, macroeconomic and financial development indicators had no significant impact on bank performance.

More recently, Said & Tumin (2011) examined performance and financial ratios of commercial banks in Malaysia and China. The purpose was to investigate the impact of bank-specific factors which include liquidity, credit, capital, operating expenses and the size of commercial banks on their performance, which is measured by return on average assets and return on average equity. The results imply that ratios employed in the study have different effects on the performance of banks in both countries, except credit and capital ratios. Operating ratios influence performance of banks in China, but this influence was not true for Malaysian banks regardless of the measure of performance.

2.2.3. Review of previous studies on Ethiopia

In the context of Ethiopia, to the knowledge of the researcher, there appears to be very limited work on the assessment of determinants of profitability of banks. These studies include the recent studies of Semu (2010) and Damena (2011). Those studies examined the impact of reducing loan by Ethiopian banks on their own performance and the determinants of commercial banks profitability in Ethiopia respectively. Thus, this

particular section provides a detailed review of the two related studies conducted in the context of Ethiopia.

A study made by Semu (2010) assessed the impact of reducing or restricting loan disbursement on the performance of banks in Ethiopia. It also attempted to examine the possible factors that compel the banks to reduce or restrict lending, covering the period of 2005-2009. Quantitative method particularly survey design approach was adopted for the study. The findings of the study showed that net deposit and paid up capital have statistically significant relationship with banks' performance measured in terms of return on equity. New loan disbursement and liquidity had relationship with banks' performance measured in terms of both return on asset and Return on Equity (ROE). However, the relationship was found to be statistically insignificant. Net deposit and paid up capital had no statistically significant relationship with banks' performance in terms of Return on Asset (ROA).

On the other hand, Damena (2011) examined the determinants of Ethiopian commercial banks profitability. The study applied the balanced panel data of seven Ethiopian commercial banks that covers the period 2001- 2010. The paper used Ordinary Least Square (OLS) technique to investigate the impact of some internal as well as external variables on major profitability indicator i.e., ROA. The estimation results showed that all bank-specific determinants, with the exception of saving deposit, significantly affect commercial banks profitability in Ethiopia. Market concentration was also a significant determining factor of profitability. Finally, with regard to macroeconomic variables, only economic growth exhibits a significant relationship with banks' profitability.

2.3. Conclusions and knowledge gap

The review of the literature reveals the existence of many gaps of knowledge in respect of the factors affecting bank profitability, particularly in the context of Ethiopia. As per the review of the literature most of the empirical studies that have been conducted with the aim of identifying factors affecting bank profitability belong to European Union and some emerging markets such as Philippines, Malaysia and Tunisia. Moreover, the literature review also reveals the existence of controversial conclusions that results from different studies made so far. Furthermore, so far as the review of the literature discloses, very scanty work has been done with the objective of identifying the determinants of profitability of banks in SSA in general and Ethiopia in particular.

In the context of Ethiopia, the related study conducted by Semu (2010) mainly assessed the impact of reducing or restricting loan disbursement on the performance of banks in country, even if it tries to identify the impact some bank-specific variables. Accordingly, this study clearly failed to identify most of the factors that affect bank profitability significantly as far its main focus was an assessment of the impact of reducing or restricting loan disbursement on the performance of banks in Ethiopia. That means this study clearly fails to fill the knowledge gap that exists in the area as far as it considers only very few internal variables and ignores all the external variables affecting bank profitability.

The recent study of Damena (2011) examined the determinants of commercial banks profitability in Ethiopia. The recent study of Damena (2011) also fails to disclose the knowledge gap that exists in the area as far as it limits its scope only in case of seven

commercial banks of the country and also overlooked some important variables that can significantly affect Ethiopian banks profitability from the point of view of the theories and previous empirical studies reviewed above. That means, even if the study of Damena (2011) tried to address the issue in a better way as compared to the previous work of Semu (2010), surprisingly, the study fails to include in its sample one of the governments owned commercial bank namely, CBB which have around 66 branches operated throughout the country currently (CBB 2010/11). In addition to this, the study fails to disclose the impact of some very important variables on Ethiopian banks profitability such as efficiency, non-performing loans and liquidity risk among others.

Besides, both studies adopt a quantitative approach only without considering a lot of limitations of it. Moreover, both previous works fail to perform some very important diagnostic tests and their conclusions were also dependent on secondary data solely. Furthermore, the contradictory conclusions that results from the two previous researches call for a detailed investigation to be conducted in the area. In general, the lack of sufficient research on the determinants of bank profitability in the context of Ethiopia and the existence of knowledge gap in the area initiate this study. Therefore, the objective of this research thesis is to examine the factors that affect bank profitability in Ethiopia and to fill the knowledge gap that exists in the area by adopting a mixed method.

Chapter 3 Research design and methods

The preceding chapter presented the review of the existing evidence on factors affecting the profitability of 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 determinants. Therefore, the purpose of this chapter is to present the research question and hypotheses, the underlying principles of research methodology and the choice of the appropriate research method for the thesis. The chapter is organized as follows. The first section 3.1 presents the research hypotheses and question along with the broad research objective. Section 3.2 discusses the research approaches while section 3.3 finally presents the method adopted in the study.

3.1. Hypotheses, determinants selection and research question

As already shown in the first chapter, in the context of the problems highlighted the broad objective of this research is to identify factors that affect bank profitability in Ethiopia. In line with the broad purpose statement nine hypotheses and one specific research question were formulated for investigation purpose. Hence, subsection 3.1.1 presents the dependent variable as proxy for banks' profitability. Then the independent variables that are selected and categorized into bank-specific, industry-specific and macroeconomic determinants of banks' profitability are presented in subsection 3.1.2.

3.1.1. Dependent variable

In the literature, there are two major alternative measures of profitability, namely ROA and ROE. ROA reflects the ability of bank's management to generate profits from the bank's assets, although it may be biased due to off-balance-sheet activities. ROE shows

the return to the shareholders on their equity. As highlighted by Athanasoglou et al. (2008) and Sufian (2011), many scholars suggest that ROA is the key ratio for the evaluation of bank profitability given that ROA is not distorted by high equity multipliers, while ROE disregards the risks associated with high leverage and financial leverage. In this respect, we rarely find the paper utilizes ROE as a single measure of profitability. Rumler & Waschiczek (2010) is one of the examples. Other papers utilize ROE for checking the consistency with ROA, e.g. Ben Naceur & Omran (2011) and Sufian (2011). While a bulk of studies employ ROA as profitability measure, e.g. Pasiouras & Kosmidou (2007), Athanasoglou et al. (2008) and Olweny & Shiphoh (2011). Therefore, this study attempts to measure profitability by using ROA similar to most of the aforementioned researchers. ROA is measured as net profit before tax divided by total assets similar to Olweny & Shiphoh (2011).

3.1.2. Independent variables

This subsection describes the independent variables that are used in the econometric model to estimate the dependent variable. Following prior researches towards the determinants of banks' profitability, the independent variables are classified into bank-specific, industry-specific and macroeconomic variables (Athanasoglou et al. 2008, Flamini et al. 2009 and Sastrosuwito & Suzuki 2011). The bank-specific variables are internal factors and controllable for banks' managers while the industry-specific and macroeconomic variables are uncontrollable and hence external. Moreover, these subsection present hypotheses, by proposing the expected sign of the coefficients, based on academic literature. Note that some relationships between selected independent variables and profitability are rather straightforward. Nevertheless, the inclusion of

irrelevant variables does not lead to biased coefficients or standard deviations while the omission of relevant variables does. Hence, some variables that look rather predictable at first sight are included to prevent biased results.

Bank specific variables

The bank-specific variables are selected by using some key drivers of profitability like earnings, efficiency, risk taking and leverage. Profitability is driven by the ability of a bank in generating sufficient earnings or in lowering operational cost, implying being more efficient. Furthermore, due to the special nature of banks, risk taking and leverage are also very important drivers for profitability. Theoretical academic literature suggests that there is a risk-return tradeoff, higher risks is associated with higher profits. Risk taking could relate to the quality of assets, liquidity of assets and to the capital structure of a bank. Hence, the following part of this particular section clearly presents the bank-specific variables that are used in this particular study.

Capital strength: This analysis firstly examines the leverage structure of a bank by using the equity-to-total asset ratio (the inverse of the leverage ratio). The equity-to-asset ratio measures how much of bank's assets are funded with owner's funds and is a proxy for the capital adequacy of a bank by estimating the ability to absorb losses. As the literature review pointed out, academic research is mixed regarding the relationship between the equity-to-asset ratio and banks' profitability. Following the risk-return tradeoff, a higher equity-to-asset ratio leads to a lower expected return. Opposed to the risk-return hypothesis, Berger (1995b) examines the signaling hypothesis and bankruptcy cost hypothesis; suggesting that a higher equity-to-asset ratio increase profitability due to

signaling issues or lower costs of financial distress. Thus, the expected sign of the equity-to-asset ratio is unpredictable based on prior research.

HP1: There is a significant positive/negative relationship between the amount of capital of a bank and the bank's profitability.

Operational efficiency: Cost to income ratio shows the overheads or costs of running the bank, including staff salaries and benefits, occupancy expenses and other expenses such as office supplies, as percentage of income. It is used as an indicator of management's ability to control costs and is expected to have a negative relation with profits, since improved management of these expenses will increase efficiency and therefore raise profits. It is also one of the key drivers of profitability that is examined. Similar to Pasiouras & Kosmidou (2007), Trujillo-Ponce (2012) and others, the cost-to-income ratio is used, to measure banks' operational efficiency. The cost-to-income ratio is calculated by dividing the overhead costs (costs of operating a bank) to the income generated before provisions. Among others, Pasiouras & Kosmidou (2007), and Sastroswito & Suzuki (2011) find that better efficiency is associated with higher profitability. Thus, a negative sign between cost-to-income ratio and banks' profitability is expected mainly in the context of the Ethiopian banking industry where efficiency is less.

HP2: There is a significant negative relationship between the operational efficiency of a bank and the bank's profitability.

Income diversification: The concept of revenue diversifications follows the concept of portfolio theory which states that banks can reduce firm-specific risk by diversifying their

portfolios. Moreover, the decline in interest margins during the last decade has changed the traditional role of banks and forced them to search for new sources of revenue. In this context, using annual bank level data of all Philippines commercial banks Sufian & Chong (2008) found a positive relationship between the ratio of total non-interest income to total assets, a proxy for income diversification and bank profitability. Following, the study of Sufian & Chong (2008) the ratio of non-interest income to total assets is entered in the regression analysis as a proxy for income diversification in the current study. The variable is expected to exhibit a positive relationship with bank profitability which is in line with balanced portfolio theory.

HP3: There is a significant positive relationship between the Income diversification of a bank and the bank's profitability.

Liquidity risk: Liquidity risk is one of the types of risk for banks; when banks hold a lower amount of liquid assets they are more vulnerable to large deposit withdrawals. Therefore, liquidity risk is estimated by the ratio of liquid assets to total assets. Based on the risk-return hypothesis, more liquidity risk is associated with higher expected returns. Otherwise stated more cash and other liquid non-earning assets result in a lower expected return because these assets do not generate any return. Following prior research of Pasiouras & Kosmidou (2007), a negative relationship for liquid assets to total asset ratio and profitability is hypothesized.

HP4: There is a significant negative relationship between the liquidity risk of a bank and the bank's profitability.

Size: There is consensus in academic literature that economies of scale and synergies arise up to a certain level of size. Beyond that level, financial organizations become too complex to manage and diseconomies of scale arise. The effect of size could therefore be nonlinear; meaning that profitability is likely to increase up to a certain level by achieving economies of scale and decline from a certain level in which banks become too complex and bureaucratic. Hence, the expected sign of the coefficient of bank size is unpredictable based on academic literature. This analysis uses the logarithm of total asset to capture the potential non-linear effect of size similar to Athanasoglou et al. (2008) and Sastroswito & Suzuki (2011).

HP5: There is a significant positive/negative relationship between the size of a bank and the bank's profitability.

Asset Quality: There appears to be a consensus that bank profitability is directly related to the quality of the assets on its balance sheet; that is, poor credit quality has a negative effect on bank profitability and vice versa. This relationship exists because an increase in the doubtful assets, which do not accrue income, requires a bank to allocate a significant portion of its gross margin to provisions to cover expected credit losses; thus, profitability will be lower. This was in line with the theory that increased exposure to credit risk is normally associated with decreased firm profitability. Indicating that banks would improve profitability by improving screening and monitoring of credit risk. Previous studies of Kosmidou (2008) and Olweny & Shipo (2011) among others found a negative relationship between profitability and asset quality. Therefore, in this study similar to Olweny & Shipo (2011) the ratio of non-performing loan to gross loan as a proxy to

measure asset quality is used. Consequently, the researcher formulates the following hypothesis:

HP6: There is a significant negative relationship between the quality of the assets of a bank and the bank's profitability.

Industry-specific variables

This subsection discusses the industry concentration variable separately from bank-specific variables as far as this variable is to some extent external. That means managers cannot change the variable immediately like that of bank-specific variables.

Industry Concentration Level: Two theories are proposed to explain how the degree of sector concentration affects bank profitability. The SCP hypothesis states that a more concentrated sector favors bank profitability motivated by the benefits of greater market power. On the other hand, the efficiency theory explains the positive relationship between concentration and profitability as an indirect consequence of efficiency. This theory argues that the better managed banks or those with more efficient (and thus more profitable) cost structures could see their market shares increase, resulting in a higher degree of concentration. Berger and Humphrey (1997) find that the cost efficiency hypothesis seems to be more important than the market-power theory in explaining bank profitability when frontier efficiency analysis is applied. However, the empirical evidence on the relationship between concentration and profitability is not conclusive. For example, Goddard et al. (2004) and Ponce (2012) report a positive relationship between market concentration and profitability; other studies do not find such a relationship (see

e.g., Berger, 1995a). In this study the researcher uses the most popular measure of industry concentration level namely, Herfindahl–Hirschman index⁷ (HHI) to measure industry concentration similar to Sastrosuwito & Suzuki (2011) and Ponce (2012) among others. In this study in support of the two theories, the researcher hypothesizes a direct association between industry concentration and bank profitability in Ethiopia.

HP7: There is a significant positive relationship between the concentration of the banking sector and the bank's profitability.

Macroeconomic variables

Among others, Aburime (2008) use several macroeconomic control variables that probably affect banks' performance. 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 macro-economic 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

⁷ HHI is measured by adding up the squares of the market shares of all banks, and mathematically can be expressed as follows: $HHI = \sum_{i=1}^N (Z_i / ZT)^2$, Where: Z_i is the deposit of bank i and ZT is the total deposit of the commercial banking sector. The criteria of concentration level by the US Department of Justice are as follows: HHI more than 0.18 is highly concentrated, HHI between 0.18 and 0.1 is moderately concentrated, and HHI less than 0.1 is un-concentrated.

al. 2008). Thus, the variable is expected to exhibit positive relationship with bank profitability.

HP8: There is a significant positive relationship between real gross domestic product growth and bank profitability.

Inflation: Another important macro-economic condition which may affect both the costs and revenues of banks is the inflation rate (INFL). 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. On the other hand, in the unanticipated case, banks may be slow in adjusting their interest rates resulting in a faster increase of bank costs than bank revenues and consequently, having negative effects on bank profitability. Thus, the expected sign of the inflation is unpredictable based on prior research.

HP9: There is a significant positive/negative relationship between inflation and bank profitability.

In addition, the following research question was developed by the researcher with the intent of achieving the research objective qualitatively as far as mixed method approach is used in this particular study:

RQ1- What are the determinants of banks' profitability in Ethiopia and how do those factors influence the profitability of Ethiopian banks'?

The following table 3.1 presents the summary of hypothesized expected sign for the relationship between the explanatory variables (independent variables) and banks' profitability (dependent variable).

Table 3.1 Description of the variables and their expected relationship

Variables	Measure	Notation	Expected sign
Dependent variable			
Profitability	Net profit before tax/total assets ratio	ROA	NA
Independent variables			
Bank-specific variables			
Capital strength	Equity/ total assets ratio	CAP	+/-
Operational efficiency	Cost/income ratio	CIR	-
Income diversification	Non-interest income/total assets ratio	IDV	+
Liquidity risk	Liquid assets/total assets ratio	LIQ	-
Size	Natural log of total assets	Size	+/-
Asset quality	Non-performing loans/gross loans ratio	AQL	-
Industry specific factors			
Industry concentration Level	Herfindahl-Hirschman index	HHI	+
Macro economic factors			
Economic growth	Real GDP growth (in %)	GDP	+
Inflation	The annual inflation rate	INFL	+/-

3.2. Research approaches

As noted in Creswell (2003, p.13) in terms of investigative study there are three common approaches to business and social research namely, quantitative, qualitative and mixed methods approach. Quantitative research is a means for testing objective theories by examining the relationship among variables (Creswell 2009). On the other hand,

qualitative research approach is a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem with intent of developing a theory or pattern inductively (Creswell 2009). Finally, mixed methods approach is an approach in which the researchers emphasize the research problem and use all approaches available to understand the problem (Creswell, 2003).

Hence, based on the above discussions of the three research approaches and by considering the research problem and objective, in this study, the quantitative method is primarily used. However, to have a better insight and gain a richer understanding about the research problem, the quantitative method is supplemented by the qualitative method of inquiry. That is, to get the benefits of a mixed methods approach, as presented below, and to mitigate the bias in adopting only either quantitative or qualitative approach, the current research combines both quantitative and qualitative research approaches.

As noted in Greene et al. (1989, p. 259 cited in Yesegat 2009, pp.75-76) adopting a mixed methods approach has a number of benefits. The first benefit is triangulation pertaining to a situation where researchers seek convergence, corroboration, correspondence of results from quantitative and qualitative methods to increase validity of constructs and inquiry results. Secondly, by mixing methods complementarily, researchers seek elaboration, enhancement, illustration, clarification of the results from one method with the results from the other method. Thirdly, by mixing methods with developmental intent, researchers seek to use the results from one method to help develop or inform the other method. Fourthly, mixing methods with initiation intent seeks the discovery of paradox and contradiction, new interpretations, the recasting of questions or

results from one method with questions or results from the other method. Finally, to increase the scope of inquiry mixed method with expansion intent seeks to extend the breadth and range of inquiry by using different methods for different inquiry components. The following section hence presents the methods adopted in the study.

3.3. Methods adopted

As far as the purpose of this study is to identify factors affecting bank profitability in Ethiopia and the researcher wants to both generalize the findings to a population and to conduct an in-depth investigation, the current study adopts mixed methods approach. Mixed method approach focuses on collecting, analyzing and mixing both quantitative and qualitative data in a single study or series of studies. The decisive argument here is that the use of both quantitative and qualitative approaches in combination provides a better understanding of research problems than either approach achieves alone. Mixed method research involves both collecting and analyzing quantitative and qualitative data either sequentially or concurrently. Hence, the following sections present consecutively the quantitative and qualitative aspects of the research method.

3.3.1. Research method: quantitative aspect

According to Leedy & Ormord (2005 cited in Semu 2010, p.45) survey research is a common method used in business among quantitative strategies of inquiry that includes experimental design on it. As a result, in order to generalize the findings to the whole banks operated in the country, in the current study the researcher adopts survey research method.

3.3.1.1. Survey design: *documentary Analysis*

Creswell (2003, p. 153) stated that the purpose of survey is to generalize description of trends, attitudes, or opinions from a sample to a population so that inferences can be made about some characteristic, attitude, or behavior of this population. Moreover, as noted in Fowler (1986) it is also reasonable to use survey designs because of its benefits such as the economy of the design and the rapid turnaround in data collection and identifying attributes of a large population from a small group of individuals. Therefore, it is logical to apply survey method for this study. The survey was carried out by means of structured document review.

Sample design

For the study the target population would be all commercial banks registered by NBE and under operation in the country currently. Currently, the country has two public-owned and twelve private commercial banks which are operating throughout the country (NBE 2009/2010). But because of lack of 12 years data that is required for the analysis purpose in most of the newly established private banks the number of sample banks are reduced to eight. The researcher believes that the sample size is sufficient to make sound conclusion about the population as far as it covers around 60% of the total population. Moreover, the inclusion of CBE in the sample which takes the lions share in the country's banking activity makes the sample more representative and reasonable.

Data collection

In order to analyze the effect of bank specific factors on profitability of banks audited financial statements of eight banks (CBE, CBB, AIB, DB, WB, BoA, UB and NIB) for 12 consecutive years .i.e., from 2000-2011 were collected. The secondary data that were collected through structured document reviews are mainly from the records held by NBE and the banks themselves. Moreover, in order to analyze the relationship that exists between profitability and macro-economic variables, macroeconomic data were also collected for the same years. Those macroeconomic data were mainly gathered from the records held by NBE and MoFED through structured document review.

Data analysis techniques

To comply with the objective, the paper was primarily based on panel data, which was collected through structured document review. As noted in Baltagi (2005) the advantage of using panel data is that it controls for individual heterogeneity, less collinearity among variables and tracks trends in the data something which simple time-series and cross-sectional data cannot provide. Thus, the collected panel data was analyzed using descriptive statistics, correlations, multiple linear regression analysis and inferential statistics. Mean values and standard deviations were used to analyze the general trends of the data from 2000 to 2011 based on the sector sample of 8 banks and a correlation matrix was also used to examine the relationship between the dependent variable and explanatory variables. A multiple linear regression model and t-static was used to determine the relative importance of each independent variable in influencing profitability. The multiple linear regressions model was run, and thus OLS was conducted

using EVIEWS 6 econometric software package, to test the casual relationship between the firms' profitability and their potential determinants and to determine the most significant and influential explanatory variables affecting the profitability of Ethiopian banks. The rational for choosing OLS is as noted in Petra (2007) OLS outperforms the other estimators when the following holds; the cross section is small and the time dimension is short. Therefore, as far as both the above facts hold true in this study it is rational to use OLS.

In light of the above, to investigate the effect of bank-specific, industry-specific and macroeconomic determinants of bank profitability, the following general multivariate regression equation similar to Athanasoglou et al. (2008) and Sastroswito & Suzuki (2011) was adopted:

$$\Pi_{it} = \beta_0 + \sum_{j=1}^J \beta_j X_{it}^j + \sum_{l=1}^L \beta_l X_{it}^l + \sum_{m=1}^M \beta_m X_{it}^m + \varepsilon_{it}; \varepsilon = \nu_i + \mu_{it}$$

Where π_{it} is the profitability of bank i at time t , with $i=1 \dots N$, $t=1 \dots T$, β_0 is a constant term, X_{it} 's the explanatory variables and ε_{it} the disturbance, with ν_i the unobserved bank-specific effect and μ_{it} the idiosyncratic error. This is a one-way error component regression model, where $\nu_i \sim \text{IIN}(0, \sigma_\nu^2)$ and independent of $\mu_{it} \sim \text{IIN}(0, \sigma_\mu^2)$. The X_{it} 's are grouped into bank-specific X_{it}^j , industry-specific X_{it}^l , and macroeconomic variables X_{it}^m .

A fixed cross-sectional effect is specified in the estimation so as to capture unobserved idiosyncratic effects of different banks. In addition, as noted in 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, fixed effect model may be preferable than random effect model (Gujarati 2004). Since the number of time series (i.e. 12 year) is greater than the number of cross-sectional units (i.e. 8 commercial banks) and adjusted R^2 value and Durbin-Watson stat value increases with the use of cross-sectional fixed effect model, fixed effect model is preferable than random effect model in this case.

As noted in Brooks (2008) there are basic assumptions required to show that the estimation technique, OLS, had a number of desirable properties, and also so that hypothesis tests regarding the coefficient estimates could validly be conducted. If these Classical Linear Regression Model (CLRM) assumptions hold, then the estimators determined by OLS will have a number of desirable properties, and are known as Best Linear Unbiased Estimators. Therefore, for the purpose of this study, diagnostic tests are performed to ensure whether the assumptions of the CLRM are violated or not in the model. Thus, the following section discusses about the nature and significance of the model misspecification tests.

Test for Heteroscedasticity

To test for the presence of heteroscedasticity, the popular white test would be employed in this study. This test involves testing the null hypothesis that the variance of the errors is constant (homoscedasticity) or no heteroscedasticity versus the alternative that the errors do not have a constant variance.

Test for Autocorrelation

This is an assumption that the errors are linearly independent of one another (uncorrelated with one another). If the errors are correlated with one another, it would be stated that they are auto correlated. To test for the existence of autocorrelation or not, the popular Durbin-Watson test was employed. As noted in Brooks (2008) the rejection / non-rejection rule would be given by selecting the appropriate region from the following figure:

Figure 3.1 Rejection and non-rejection regions for Durbin-Watson Test

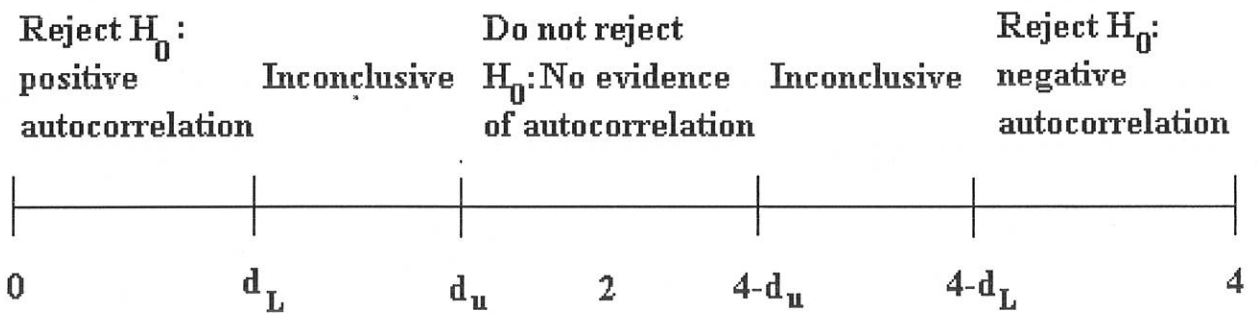


Figure 3.1 shows as Durbin-Watson has 2 critical values: an upper critical value (d_U) and a lower critical value (d_L).

Test for normality

As noted in Brooks (2008) a normal distribution is not skewed and is defined to have a coefficient of kurtosis of 3. One of the most commonly applied tests for normality; the Bera-Jarque formalizes these ideas by testing whether the coefficient of skewness and the coefficient of excess kurtosis are zero and three respectively. Brooks (2008) also states

that, if the residuals are normally distributed, the histogram should be bell-shaped and the Bera--Jarque statistic would not be significant at 5% significant level.

Test for Multicollinearity

To test the independence of the explanatory variables or to detect any multicollinearity problem in regression model the study used a correlation matrix of independent variables. The problem of multicollinearity usually arises when certain explanatory variables are highly correlated. Usually, as noted by Hair et al. (2006) correlation coefficient below 0.9 may not cause serious multicollinearity problem. In contrary to this, Kennedy (2008) argued that as any correlation coefficient above 0.7 could cause a serious multicollinearity problem leading to inefficient estimation and less reliable results.

Coming back to the model, based on the general model provided earlier and on the base of selected variables the empirical model used in the study was as follows:

$$ROA_{it} = \beta_0 + \beta_1 CAP_{it} + \beta_2 CIR_{it} + \beta_3 IDV_{it} + \beta_4 LIQ_{it} + \beta_5 Size_{it} + \beta_6 ASQ_{it} \\ + \beta_7 HHI_{it} + \beta_8 GDP_{it} + \beta_9 INFL_{it} + \varepsilon_{it}$$

Where:

ROA_{it} = Return on asset for bank i at time t

CAP_{it} = Capital strength for bank i at time t

CIR_{it} = Cost to income ratio for bank i at time t

IDV_{it} = Income diversification for bank i at time t

LIQ_{it} = Liquidity risk for bank i at time t

$Size_{it}$ = The natural logarithm of total asset for bank i at time t

ASQ_{it} = Asset quality for bank i at time t

HHI_{it} = Industry concentration for bank i at time t

GDP_{it} = Real GDP growth for bank i at time t

$INFL_{it}$ = Inflation rate for bank i at time t

ε = the error term

In general, while the discussion so far has shown the quantitative component of the research design, the following section presents the qualitative aspect.

3.3.2. Research method: qualitative aspect

In the current study qualitative data was gathered as a supplementary of the quantitative one. In-depth interviews were the primary data collection technique in this study for gathering data in qualitative methodologies. The interviews were conducted with the finance managers of the selected five banks namely CBE, CBB, AIB, UB and WB. A total of five finance managers were interviewed from the aforementioned banks. In this study, the interview was totally unstructured. The respondents were contacted once and each respondent were contacted at different times. The interviews were conducted to know about both the internal and external factors affecting the profitability of banks in Ethiopia and to what extent these determinants exert impact on Ethiopian banks profitability. Furthermore, the interviewees' were asked about the major determinant

factors among the identified, the measures taken to reduce the effect of factors that affects bank profitability negatively, and their opinion regarding the matter.

In respect of the method of analyzing the data collected from in-depth interviews, the results of the interview are analyzed using triangulation with the findings of the structured record reviews. As a result, the response of the interviewees' for the interview questions were used for supporting the result obtained from analysis of structured record reviews or as arguments.

Finally, links between research question/hypotheses and variables on the one hand and different data sources on the other hand are presented in table 3.2 below.

Table 3.2 Link between research question/hypotheses, variables and the different data sources

Research question and hypotheses	Variables	Data sources
<i>RQ1- What are the determinants of banks' profitability in Ethiopia and how do those factors influence the profitability of Ethiopian banks'?</i>	Factors affecting bank profitability	In-depth unstructured face-to-face interviews with Ethiopian commercial banks finance managers
<i>HP1: There is a significant positive/negative relationship between the amount of capital of a bank and the bank's profitability.</i>	Dependent variable: Profitability	Bank-specific data from Income statement and Balance sheet held by NBE and the banks and macroeconomic data from the records held by NBE and MOFED
<i>HP2: There is a significant negative relationship between the operational efficiency of a bank and the bank's profitability.</i>	Independent variables: Capital	
<i>HP3: There is a significant positive relationship between the Income diversification of a bank and the bank's profitability.</i>	Operational efficiency Income diversification	
<i>HP4: There is a significant negative relationship between the liquidity risk of a bank and the bank's profitability.</i>	Liquidity risk Size	
<i>HP5: There is a significant positive/negative relationship between the size of a bank and the bank's profitability.</i>	Asset quality Concentration	
<i>HP6: There is a significant negative relationship between the quality of the assets of a</i>	GDP Inflation	

<p><i>bank and the bank's profitability.</i></p>		
<p><i>HP7: There is a significant positive relationship between the concentration of the banking sector and the bank's profitability.</i></p>		
<p><i>HP8: There is a significant positive relationship between real gross domestic product growth and bank profitability.</i></p>		
<p><i>HP9: There is a significant positive/negative relationship between inflation and bank profitability.</i></p>		

Chapter 4 Results

The preceding chapter presented the research methods adopted in the study. The purpose of this chapter is to present the results of the different methods used. The remaining part of the chapter is organized into two sections. The first section 4.1 discusses the results of the documentary study. Then, the results of in-depth interviews with finance managers of the selected banks are presented in the second section 4.2.

4.1. Documentary analysis

The major purpose of this study is to identify the internal as well as the external factors affecting bank profitability in Ethiopia. The primary data sources to this end are the documents held by NBE, MoFED and the banks themselves. The following discussion presents the results of the documentary analysis as follows. Section 4.1.1 presents tests for the classical linear regression model assumptions followed by the descriptive statistics in section 4.1.2. Section 4.1.3 presents the correlation analysis among the dependent and independent variables. The outcomes of the panel data regression analysis are presented in section 4.1.4.

4.1.1. Test results for the classical linear regression model assumptions

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

Test for Heteroscedasticity

In this study as shown in table 4.1, both the F-statistic and Chi-Square versions of the test statistic gave the same conclusion that there is no evidence for the presence of heteroscedasticity, since the p-values were in excess of 0.05. The third version of the test statistic, 'Scaled explained SS', which as the name suggests is based on a normalized version of the explained sum of squares from the auxiliary regression, also gave the same conclusion that there is no evidence for the presence of heteroscedasticity problem, since the p-value was considerably in excess of 0.05.

Table 4.1 Heteroskedasticity Test: White

F-statistic	1.274	Prob. F(54,41)	0.211
Obs*R-squared	60.159	Prob. Chi-Square(54)	0.263
Scaled explained SS	49.980	Prob. Chi-Square(54)	0.630

Source: Financial statements of banks, MoFED reports and own computation

Test for Autocorrelation

The Durbin-Watson test statistic value in table 4.2 was 2.006. As mentioned in the previous chapter to empirically analyze factors affecting bank profitability in Ethiopia 96 (8*12) observations were used in the model. Moreover, there were 9 regressors and an intercept term in the model. Therefore, the relevant critical values for the test are $dL = 1.336$, $dU = 1.741$, i.e., for 96 observations and 9 regressors and $4 - dU = 4 - 1.741 = 2.259$; $4 - dL = 4 - 1.336 = 2.664$. The Durbin-Watson test statistic of 2.006 is clearly between the upper limit (dU) which is 1.741 and the critical value of $4 - dU$ i.e. 2.259 and thus the null hypothesis of no autocorrelation is within the non-rejection region of the number line and thus there is no evidence for the presence of autocorrelation.

Table 4.2 Autocorrelation Test: Durbin Watson

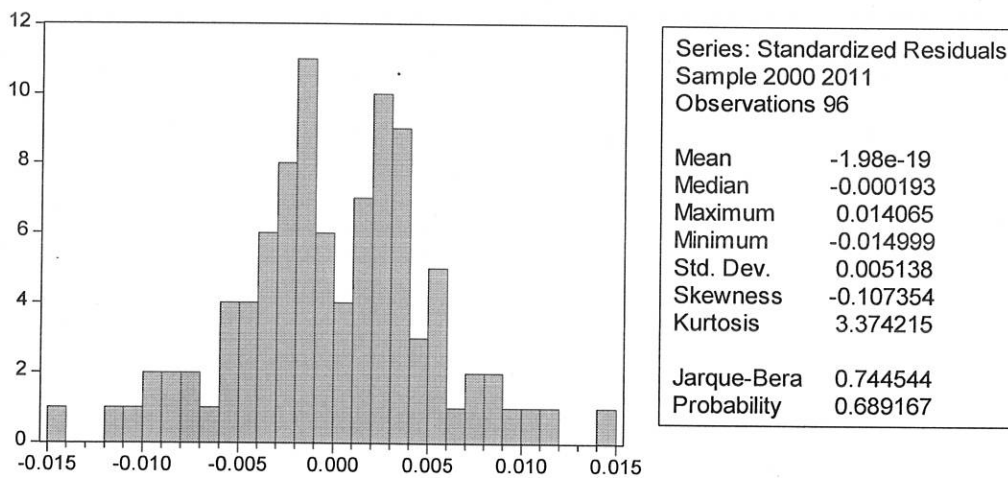
Variables	DW test static result
All bank-specific, industry-specific & macro-economic	2.006

Source: Financial statements of banks, MoFED reports & own computation

Test for normality

The normality tests for this study as shown in figure 4.1, the coefficient of kurtosis was close to 3, and the Bera-Jarque statistic had a P-value of 0.689 implying that the data were consistent with a normal distribution assumption.

Figure 4.1 Normality test for residuals



Source: Financial statements of banks, MoFED reports and own computation

Test for Multicollinearity

Correlation matrix between independent variables is presented in table 4.3. As shown in table 4.3 there were fairly low data correlations among the independent variables. These low correlation coefficients indicate that, there is no problem of multicollinearity in this

study. Moreover, Kennedy (2008) stated that multicollinearity problem exists when the correlation coefficient among the variables are greater than 0.70, but in this study there is no correlation coefficient that exceeds or even close to 0.70. Accordingly, in this study there is no problem of multicollinearity which enhanced the reliability for regression analysis.

Table 4.3 Correlation matrixes of independent variables

	CAP	ASQ	CIR	LIQ	SIZE	IDV	HHI	GDP	INFL
CAP	1.000								
ASQ	-0.395	1.000							
CIR	0.205	0.156	1.000						
LIQ	-0.099	0.064	-0.276	1.000					
SIZE	-0.543	-0.019	-0.572	0.515	1.000				
IDV	0.257	-0.480	-0.303	0.292	0.086	1.000			
HHI	0.111	0.464	0.529	-0.418	-0.609	-0.488	1.000		
GDP	-0.067	-0.450	-0.369	0.149	0.369	0.366	-0.594	1.000	
INFL	-0.035	-0.359	-0.326	0.329	0.392	0.261	-0.655	0.383	1.000

Source: Financial statements of banks, MoFED reports and own computation

4.1.2. Descriptive statistics

Table 4.4 presents the outcomes of the descriptive statistics for main variables involved in the regression model. Key figures, including mean, median, standard deviation, minimum and maximum value were reported. This was generated to give overall description about data used in the model and served as data screening tool to spot unreasonable figure.

Table 4.4 Descriptive Statistics

Variables	Observations	Mean	Median	Max	Min	Std. Dev.
ROA	96	0.032	0.036	0.057	0.003	0.013
CAP	96	0.116	0.111	0.294	0.037	0.047
CIR	96	0.674	0.523	3.000	0.191	0.434
IDV	96	0.031	0.030	0.062	0.009	0.010
LIQ	96	0.372	0.364	0.594	0.201	0.093
SIZE	96	21.797	21.679	25.462	18.778	1.365
ASQ	96	0.133	0.087	0.535	0.000	0.118
HHI	96	0.512	0.486	0.732	0.352	0.127
GDP	96	0.086	0.108	0.126	-0.021	0.045
INFL	96	0.107	0.090	0.364	-0.106	0.118

Source: Financial statements of banks, MoFED reports and own computation

According to table 4.4, all variables comprised 96 observations and the profitability measure used in this study namely; ROA indicates that the Ethiopian banks attained, on average, a positive before tax profit over the last twelve years. For the total sample, the mean of ROA was 3.2% with a minimum of 0.3% and a maximum of 5.7%. That means, the most profitable bank among the sampled banks earned 5.7 cents of profit before tax for a single birr invested in the assets of the firm. On the other hand, the least profitable bank of the sampled banks earned 0.3 cents of profit before tax for each birr invested in the assets of the firm. The standard deviation statistics for ROA was 0.013 which indicates that the profitability variation between the selected banks was very small. The result implies that these banks need to optimize the use of their assets to increase the return on their assets.

Regarding the explanatory variables of the model there are some interesting statistics that have to be mentioned. Despite the small dispersion in the minimum and maximum observation of ROA there could be seen relatively high variation in the equity to asset ratio. On average, the equity-to-asset ratio equals 11.6% with a maximum of 29.4%,

which was considerably above the statutory requirement of 8% set by NBE based on Basel II recommendation⁸, even if its minimum value was 3.7%. The standard deviation statistics for capital strength was 0.047 which shows the existence of relatively higher variation of equity to asset ratio between the selected banks compared to the variation in ROA. On the other hand, the outputs of the descriptive statistics indicate that, the ratio of liquid assets to total assets was 37.2%, on average, with a minimum of 20.1% and a maximum of 59.4%. This means despite the inverse relationship that exists between liquidity and profitability, the liquidity measure indicates that the Ethiopian commercial banks have, on average, a higher liquidity position which was somewhat higher than the statutory requirement of 20% for the last twelve years.

Furthermore, another interesting observation is that there was somewhat a higher variation in the cost-to-income ratio indicated by the range between 300% and 19.1%. The mean of the cost-to-income ratio equals 67.4%. The relatively higher range between the minimum and maximum value implies that the most efficient bank has a quite substantial cost advantage compared to the least efficient bank. It is especially important to notice that the mean of industry concentration was 0.512, meaning that the industrial concentration level of the Ethiopian banking sector during the analyzed period 2000-2011 was highly concentrated. On the other hand bank size which is measured by natural log of total asset had the highest standard deviation (1.365), which means it is the most deviated variable from its mean compared to other variables. The smallest standard deviation was

⁸ Basel II is the second of the Basel Accords, which are recommendation on banking laws and regulations issued by the Basel committee on banking supervision. The purpose of Basel II is to create international standard that banking regulators can use when creating regulations about how much capital banks need to put aside to guard against the type of financial and operational risks banks face.

reported in income diversification which was 0.010 and shows the existence of less variation among the Ethiopian banks in diversifying their source of revenue.

Table 4.4 also shows that the mean real GDP growth in Ethiopia for the last twelve years was 0.086 (8.6%), with a maximum of 12.6% and a minimum of -2.1 %. Table 4.4 also presents for GDP a small standard deviation of 0.045; this implies that economic growth in Ethiopia during the period of 2000 to 2011 remains reasonable stable and the result was more or less in agreement with the governments report regarding economic growth. The other macro-economic variable employed in this study INFL, had somewhat a higher standard deviation (0.118) compared to GDP; this implies that inflation rate in Ethiopia during the study period remains somewhat unstable.

4.1.3. Correlation analysis among variables

As could be seen in table 4.5, the income diversification was the most positively correlated variable with ROA. This correlation clearly shows that, as the revenue diversification increases, profitability also moves to the same direction. On the other hand, the cost to income ratio and the ratio of non-performing loans to gross loans seems to be negatively correlated with the profitability measure, indicating that, when the cost and nonperforming loan increase, profitability moves to the opposite direction. Surprisingly, the liquidity of banks was positively correlated with ROA, indicated by the correlation of 0.157 between liquid assets to total asset ratio and ROA. In contrary to the liquidity, amazingly, the industry concentration was negative correlated with profitability with a correlation of -0.634 between concentration and ROA. Continuing to the correlations of equity to asset ratio and size one could see that as those variables were

positively correlated with ROA. The correlations for these two variables were 0.230 and 0.323 respectively. Similarly, both the macro economic variables used in this study show a positive correlation with ROA.

Table 4.5 Correlation matrix of dependent and independent variables

	ROA	CAP	CIR	IDV	LIQ	SIZE	ASQ	HHI	GDP	INFL
ROA	1.000									
CAP	0.230	1.000								
CIR	-0.644	0.205	1.000							
IDV	0.666	0.257	-0.303	1.000						
LIQ	0.157	-0.099	-0.276	0.292	1.000					
SIZE	0.323	-0.543	-0.572	0.086	0.515	1.000				
ASQ	-0.608	-0.395	0.156	-0.480	0.064	-0.019	1.000			
HHI	-0.634	0.111	0.529	-0.488	-0.418	-0.609	0.464	1.000		
GDP	0.560	-0.067	-0.369	0.366	0.149	0.369	-0.450	-0.594	1.000	
INFL	0.400	-0.035	-0.326	0.261	0.329	0.392	-0.359	-0.655	0.383	1.000

Source: Financial statements of banks, MoFED reports and own computation

4.1.4. Results of regression analysis

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

Empirical model: As presented in the third chapter the empirical model used in the study in order to identify the factors that can affect Ethiopian banks profitability was provided as follows:

$$ROA_{it} = \beta_0 + \beta_1 CAP_{it} + \beta_2 CIR_{it} + \beta_3 IDV_{it} + \beta_4 LIQ_{it} + \beta_5 Size_{it} + \beta_6 ASQ_{it} + \beta_7 HHI_{it} + \beta_8 GDP_{it} + \beta_9 INFL_{it} + \varepsilon_{it}$$

The estimation result of the operational panel regression model used in this study is presented in table 4.6. From table 4.6 the R-squared statistics and the adjusted-R squared statistics of the model was 83.9% and 80.7% respectively. The result indicates that the changes in the independent variables explain 80.7% of the changes in the dependent variable. That is equity to total asset ratio, operational efficiency, income diversification, liquidity risk, size, asset quality, industry concentration, gross domestic product, and inflation rate collectively explain 80.7% of the changes in ROA. The remaining 19.3% of changes was explained by other factors which are not included in the model. Thus these variables collectively, are good explanatory variables of the profitability of commercial banks in Ethiopia. The null hypothesis of F-statistic (the overall test of significance) that the R^2 is equal to zero was rejected at 1% as the p-value was sufficiently low. F value of 0.000 indicates strong statistical significance, which enhanced the reliability and validity of the model.

Based on the results shown in table 4.6, all bank-specific independent variables except liquidity risk had statistically significant impact on profitability. On the other hand, among the three external independent variables used in this study the only significant variable was GDP. Among the significant variables, capital and cost to income ratios were significant at 1% significance level since the p-value for both variables were 0.000. Whereas variables like income diversification, asset quality, and gross domestic product were significant at 5% significance level. Finally, size was significant at 10% significance level (p-value=0.075).

Table 4.6 Regression Results for factors affecting Ethiopian banks profitability

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.051195	0.047981	-1.066973	0.2892
CAP	0.107711	0.022171	4.858224	0.0000***
CIR	-0.014724	0.002021	-7.284031	0.0000***
IDV	0.248037	0.103644	2.393173	0.0191**
LIQ	-0.012384	0.010200	-1.214063	0.2283
SIZE	0.003457	0.001914	1.806319	0.0747*
ASQ	-0.022276	0.009456	-2.355872	0.0210**
HHI	0.003998	0.014494	0.275843	0.7834
GDP	0.041652	0.017295	2.408272	0.0184**
INFL	-0.002100	0.006777	-0.309865	0.7575
R-squared	0.839368	Durbin-Watson stat		2.005560
Adjusted R-squared	0.806835			
S.E. of regression	0.005634			
F-statistic	25.80041			
Prob(F-statistic)	0.000000			

***, **, and * denote significance at 1%, 5%, and 10% levels respectively.

Source: Financial statements of banks, MoFED reports and own computation

Besides, table 4.6 also shows that the coefficient of operational efficiency, liquidity risk, asset quality, and inflation against ROA were negative as far as the coefficients for those variables are negative -0.015, -0.012, -0.02 and -0.002 respectively. This indicates that there was an inverse relationship between the aforementioned four independent variables and ROA. Thus the increase of those variables will lead to a decrease in ROA.

On the other hand, variables like capital, income diversification, size, industry concentration, and gross domestic product had a positive relationship with profitability as far as their respective coefficients were 0.108, 0.25, 0.003, 0.003 & 0.042. This revealed that there was a direct relationship between the above five independent variables and

ROA. In general as per the regression results provided in table 4.6 among the 9 regressors used in this study six of them were significant.

In general, so far, the results of the documentary analysis which includes tests for the classical linear regression model, descriptive statistics, correlation matrix & regression analysis have been presented. The results of the tests for the classical linear regression model showed as the data fit the basic assumptions of CLRMs. On the other hand, the remaining results of the documentary analysis were used to assess the link that exists between bank-specific, industry-specific and macro-economic determinants of bank profitability and ROA. The following section details the results of in-depth interview which was conducted with Ethiopian commercial banks finance managers.

4.2. In-depth interview results

In depth interviews were conducted with five Ethiopian commercial banks finance managers. The five finance managers interviewed were from CBE, CBB, AIB, UB and WB. The five finance managers were interviewed independently at different times. The interview questions were fully unstructured and focused on the identification of factors affecting Ethiopian banks profitability in general. More specifically, the interview questions were also tried to identify how those factors can influence profitability, the major determinant factors among the influential factors, measures taken by the banks to reduce the negative influence of controllable factors and their general opinion regarding the matter.

According to an interview with the aforementioned finance managers, the factors that can affect Ethiopian banks profitability can be grouped generally into two major categories. The first category includes the internal determinants originate from bank accounts (balance sheets and/or profit and loss accounts) and therefore could be termed micro or bank-specific determinants of profitability. The group of the bank-specific determinants of profitability includes variables such as loan, bank size, capital, liquidity risk, operational efficiency, non-interest income, deposit, level of nonperforming loans, bank age and branch network. Besides, lack of innovative products and fear of risky investments by banks themselves were also considered as internal factors that can affect Ethiopian banks profitability.

In light of the above, the second category of factors that can affect Ethiopian banks profitability as per the interview conducted includes external factors. The external determinants are variables that are not related to bank management but reflect the economic and legal environment that affects the operation and performance of financial institutions. The determinants classified under this category includes variables such as the countries tax system, technology, gross domestic product, government regulation, interest rate change by the NBE and exchange rate. In addition, absence of active secondary stock market, increasing level of competition and lack of awareness by the public in relation to savings also contributes its own share for the existence of good or bad performance of banks in the country.

As per the interview conducted with Ethiopian banks finance managers, among the bank-specific factors listed above for example, the increase in the amount of loan results in an increased profitability despite the bank's focus currently towards increasing the amount of their non-interest income as a result of increased competition. Moreover, variables such as size of the bank and capital have a constructive effect on the Ethiopian banks profitability even if the contribution of size is not usually similar. The reason behind a favorable relationship between capital and profitability results mainly from the goodwill created which in turn gives the banks the capability of borrowing without collateral. Moreover, according to the regulation of NBE single borrower limit is also increased as the amount of capital increases as far as single borrower limit depends on the amount of capital held by the bank. Both the aforementioned reasons showed the existence of a direct relationship between capital and performance in general and profitability in particular. In addition, other bank-specific variables like non-interest income and deposit also affects bank profitability optimistically. On the other hand, other influential factors like liquidity risk, operational efficiency, and level of non-performing loans (asset quality) had an inverse outcome on banks profitability. Here one interesting result generated from interview was despite the high liquidity ratio recorded earlier based on the output of the descriptive statistics, as per the interview conducted with the finance managers Ethiopian banks are currently characterized by low level of liquidity. The reason for the existence of high liquidity as per the result of descriptive statistics was the classification of some accounts like reserve with NBE and treasury bill as a liquid asset on which banks have no right for lending or other purposes. Similarly, lack of innovative

products by banks and fear of banks to invest in risky investment areas also recorded as factors that affect Ethiopian banks profitability adversely.

The interview result also showed that as the effect of external factors are either direct or indirect on Ethiopian banks profitability. This means the increase in some external or uncontrollable factors result in an increase in banks profitability and the others act in a reverse way. Among the external factors for example unfair tax imposed on the borrowers of the banks directly results in a reduction on the amount of loan taken by those clients for investment and it may also result in an increase in the level of nonperforming loans. This clearly shows the existence of an adverse relationship between unfair tax imposed on borrowers and banks profitability. Moreover, some government regulations which were solely imposed on private banks like the credit cap and the new regulation by the government which forces private banks solely to invest 27% of their total loan on bonds at a relatively minimum interest rate (3%) which was even below the 5% interest rate paid by most of the privately owned banks for their depositors also considered as a factor that affects Ethiopian private banks profitability. Similar to the above factors absence of active secondary stock market and lack of awareness by the public in relation to savings were also considered as factors that affect Ethiopian banks profitability. On the other hand, the effect of variables like inflation and exchange rate may be direct or indirect depending on the situation. The remaining external variable which includes GDP and technology contributes positively for the profitability.

As per the interview conducted with Ethiopian banks finance managers almost all the aforementioned internal and external variables determine profitability highly either by having a direct or indirect impact on it. On the other hand, there are also some measures taken by the banks management in order to reduce the influence of controllable factors that can affect banks profitability negatively. For instance, by having strong follow up system in relation to loan disbursement process and by conducting more accurate feasibility study which shows the exact amount of collaterals before loan disbursement the banks are currently trying to reduce their level of nonperforming loans. Similarly, in order to reduce the inverse effect of liquidity on bank's profitability they are doing their best to have more and more investment options despite the existence of less liquidity in reality. In general all the above identified factors contribute to the existence of poor or good performance of banks.

Chapter 5 Analysis and discussions

The previous chapter presented mainly the outputs of the documentary analysis and in-depth interviews with selected Ethiopian banks' finance managers. Accordingly, based on the outputs presented in the previous chapter, this chapter presents the analysis. The chapter is organized in two sections, the first section, 5.1 presents the research hypotheses presented in chapter three and section 5.2 discusses the results and attempts to test hypotheses .

5.1. Research hypotheses and question

As stated in chapter one the broad objective of this study was to identify the factors that affect bank profitability in Ethiopia. Further, as noted in the previous chapters (chapter 1 and three), in order to achieve this broad objective the study developed the following nine hypotheses and one research question.

HP1: There is a significant positive/negative relationship between the amount of capital of a bank and the bank's profitability.

HP2: There is a significant negative relationship between the operational efficiency of a bank and the bank's profitability.

HP3: There is a significant positive relationship between the Income diversification of a bank and the bank's profitability.

HP4: There is a significant negative relationship between the liquidity risk of a bank and the bank's profitability.

HP5: There is a significant positive/negative relationship between the size of a bank and the bank's profitability.

HP6: There is a significant negative relationship between the quality of the assets of a bank and the bank's profitability.

HP7: There is a significant positive relationship between the concentration of the banking sector and the bank's profitability.

HP8: There is a significant positive relationship between real gross domestic product growth and bank profitability.

HP9: There is a significant positive/negative relationship between inflation and bank profitability.

Research question (RQ) is:

RQ- What are the determinants of banks' profitability in Ethiopia and how do those factors influence the profitability of Ethiopian banks'?

In order to be able to investigate whether each of the research hypotheses presented above hold in the context of Ethiopian commercial banks and in order to address the specific research question presented above, the next section tries to present the analysis concurrently.

5.2. Analysis of results

This section of the chapter discusses the analysis of the results. The analysis is based on the theoretical framework and the data collected through the data collection instruments.

The data are analyzed in light of the specific research question and hypotheses stated. Hence, the analysis focuses mainly on the results of the regression analysis for the selected bank-specific, industry-specific and macro-economic factors that have an impact on bank profitability. These selected factors are capital strength, operational efficiency, income diversification, liquidity risk, size, asset quality, concentration, economic growth and inflation. Moreover the study also analyzed the results of the interviews by using them as an argument for the quantitative output.

Capital strength

The coefficient of capital strength which is measured by the equity to asset ratio was positive and statistically significant at 1% significance level ($p\text{-value}=0$). The positive coefficient for capital strength was in favor of the signaling or bankruptcy costs hypotheses and in opposite to the risk-return trade-off hypothesis. Moreover, the coefficient of the ratio of equity to asset which was relatively higher as compared to other variables shows that an increase in capital strength will result in increased profitability. This is in line with the expectation as a bank with a sound capital position is able to pursue business opportunities more effectively and has more time and flexibility to deal with problems arising from unexpected losses, thus achieving increased profitability. So from the findings we can conclude as capital strength was one of the main determinants of profitability of banks in Ethiopia. Further, the finding was also consistent with previous studies of Berger (1995b), Pasiouras & Kosmidou (2007), Athanasoglou et al. (2008), Trujillo-Ponce (2011) and Damena (2011) and it also indicates that well capitalized Ethiopian banks face lower costs of going bankrupt, which reduces their cost

of funding or that they have lower needs for external funding which results in higher profitability. Moreover the result was also consistent with the existed reality in the Ethiopian banking industry, which shows the existence of a direct relationship between capital strength and bank profitability i.e., the most profitable bank CBE was also the most capitalized bank of the country.

Correspondingly, the result obtained from interview reveals the existence of similar fact or the result clearly supports the regression output. As per the interview conducted with the finance managers of the selected banks, capital strength is one of the major factors that can affect Ethiopian banks profitability certainly. That means an increase in capital will lead to an increase in profitability by bringing good will to them, which gives for them the ability to finance their financial needs through debt without the need for collateral. That means having more and more capital leads to more and more profitability by increasing their loan providing capacity. Moreover, the dependency of single borrower limit on the amount of capital held by a bank serves as another reason for the existence of strong constructive relationship between capital and banks profitability. Thus one can conclude that as the Ethiopian banks profitability was highly determined by the equity to asset ratio. Generally, the existence of a positive relationship between capital strength and profitability in the Ethiopian banking industry is in favor of the signaling or bankruptcy costs hypothesis and in opposite to the risk-return trade-off hypothesis.

Operational efficiency

The coefficient of the ratio of cost to income, which provides information on the efficiency of the management regarding expenses relative to income, was negative and statistically significant at 1% significance level ($p\text{-value}=0$) which is in line with a prior expectation and makes the variable an important determinant of Ethiopian banks profitability. This showed that minimizing commercial banks operating costs in Ethiopia would certainly improve the banks performance in general and profitability in particular. This finding was consistent with many previous studies, e.g. Athanasoglou et al. (2008), Sufian & Chong (2008) and Sasrosuwito & Suzuki (2011). For instance, Sufian & Chong (2008) in their work on the Philippines banks realized as cost to income ratio exhibits a negative and significant impact on Philippines banks' profitability. The results imply that an increase (decrease) in these expenses reduces (increases) the profits of financial institutions operated in Philippines. Coming back to this particular study, the result revealed that in the context of the Ethiopian banking industry like that of Sufian & Chong (2008) result, the ratio of cost to income exhibits a negative and significant impact on the ROA. Thus, the ratio of cost to income was statistically significant in explaining the variability in ROA of commercial banks in Ethiopia. The result generated through interview also supports the above fact. Therefore, operational efficiency exists as one of the major determinant factor that can influence Ethiopian banks profitability in an unfavorable way. Moreover, this result was also consistent with the existed reality in the Ethiopian banking industry where the efficiency was definitely lower.

Income diversification

The ratio of non-interest income to total assets which is a measure of diversification and business mix have a positive effect on profitability, which is in agreement with a prior expectation. In addition, this variable was also statistically significant at 5% significance level ($p\text{-value}=0.02$) in explaining the variability in ROA of commercial banks in Ethiopia. Thus, IDV was considered as a vital driver of the performance of Commercial banks in Ethiopia. That means in the Ethiopian banking industry for the last twelve years revenue generated from non-traditional activities were one of the relevant drivers of their performance in general and profitability in particular. Furthermore, the highest positive coefficient that existed between income diversification and profitability compared to other variables clearly indicates as the Ethiopian banks profitability is highly determined by earnings other than interest. This result was also consistent with the previous findings of Olweny & Shipo (2011) and Trujillo-Ponce (2012). Besides, the result of this study was also in agreement with what is existed in reality in the Ethiopian context which shows the shifting of banks from interest based income to non-interest one as a result of relatively growing competition this days.

The result generated from interview also strongly indicates as the revenue diversification was one of the major determinants of Ethiopian banks profitability. This is because of the Ethiopian banks move towards non-traditional activities as a main source of revenue. As a result, in the periods under study the determination ability of this factor increases at an increasing rate and it had clearly a positive effect on profitability of Ethiopian banks.

Liquidity

One would expect that the impact of liquidity on profitability is negative and significant. However, even if the coefficient of liquidity was negative as expected, it was not statistically significant even at 10% significance level ($p\text{-value} = 0.2283$), insinuating that its influence is negligible. Moreover, the insignificant parameter indicates that the liquidity structure does not affect Ethiopian banks profitability. Thus the hypothesis that states there is a significant relationship between liquidity risk and profitability may be rejected or data did not support the hypothesis. Referring to previous studies, the results concerning liquidity are mixed. Molyneux & Thornton (1992) and Guru et al. (2002) find a negative relationship between liquidity and bank profitability. However, Pasiouras & Kosmidou (2007) found a significant positive relationship between liquidity and bank profits.

Regardless of the findings of the regression analysis, the result of the interview reveals that the liquidity of banks is one of the major determinants of Ethiopian banks profitability. But, the output of the regression analysis and the interview are in agreement in relation to the direction of the effect of liquidity as far as both of them proves the existence of negative or inverse relationship between liquidity and profitability of Ethiopian banks. Therefore, conclusion about the impact of Ethiopian bank's liquidity on their performance remains ambiguous and further research is required.

Size

Bank size which is measured by the natural log of total assets had a positive impact on the profitability of Ethiopian banks and conforms to a prior restriction. The variable was also statistically significant in the model even if its low coefficient indicates that size had little impact on the profitability of Ethiopian banks. Further, the positive coefficient between Ethiopian banks size and profitability clearly indicated that larger banks of the country are better placed than smaller banks of the country in harnessing economies of scale in transactions. From this one can conclude that larger banks of the country experience more significant increases in profitability through economies of scale. The finding was in consistent with the findings of Ben-Khediri et al. (2005) and Damena (2011). Similarly, the result generated from the interview also supports the output of the regression analysis fully. That is Ethiopian banks profitability increases as the size of the banks increase, which strengths the fact that larger banks are enjoying higher profit than smaller banks of the country.

Asset quality

The ratio of nonperforming loans to gross loans, which measures how much a bank is not collecting in year t relative to its gross loans disbursed, is used to measure the impact of nonperforming loans on Ethiopian banks profitability. The negative coefficient of this ratio which was in line with the prior expectation and theory for that matter indicated the existence of an inverse relationship between profitability and nonperforming loans. In addition the coefficient of the variable was statistically significant at 5% significant level. This implies that an increase in the ratio of nonperforming loans to gross loans, certainly

lead to a decrease in profit as measured by ROA. The finding was in consistent to the results of Olweny & Shipho, (2011). Therefore one can conclude as the asset quality of banks which is measured by the ratio of nonperforming loans to total loans was a key driver of profitability of commercial banks in Ethiopia. The result of the interview also supports the existence of the above reality in relation to the relationship of banks profitability and increased level of nonperforming loans. According to the results of the interview the quality of the assets held by Ethiopian banks remain as a major determinant factor that affects their profitability negatively.

Industry concentration

Continuing to the industry-specific variable, the coefficient of the only industry specific variable used in this study concentration is positive as hypothesized, but it is not statistically significant. Hence, this study finds no evidence to support the SCP hypothesis. The structure-conduct-performance hypothesis (also referred to as the market-power hypothesis) states that a more concentrated sector favors bank profitability motivated by the benefits of greater market power. But in case of Ethiopian banking industry even if the level of concentration influences Ethiopian banks' profitability positively this effect is not insignificant. Thus, industry concentration is not a factor that determines Ethiopian banks profitability as indicated by the insignificant coefficient in the combined regression analysis output. The finding is consistent with the findings of Athanasoglou et al. (2008) but the opposite to the findings of Damena (2011). The possible reason for this may include the existence of highly regulated banking industry and the existence of less price sensitive customers in Ethiopia. Surprisingly, the result of

the interview also reveals as concentration is not a factor that influences Ethiopian banks profitability. So, from the findings of the regression analysis and the interview one can conclude that as Ethiopian banks profitability is not determined by the level of market concentration. However, the existence of different conclusion of Damena (2011) which tells us that the level of concentration positively and significantly affects Ethiopian banks profitability calls for a detailed investigation in the area.

Gross domestic product

As expected, Ethiopian banks profitability was positively related to the GDP growth, mainly through the impact of the economic cycle on the demand for credit by households and firms, as well as to provisions. The growth of GDP was also statistically significant at 5% significance level. The parameter, of 0.04 in the operational panel regression model, indicated that the business cycle was a quite substantial determinant of banks' profitability in Ethiopia. This show as the stimulated Ethiopian economy over the study period creates a new and potential demand for financial services. The results for positive coefficients are similar to the parameters that are observed by Pasiouras & Kosmidou (2007), and Ponce (2012). The result of the interview also very highly support the output of the regression analysis as far as the Ethiopian banks profitability shows a parallel increase as the economy grows up.

Inflation

The coefficient of inflation was negative as anticipated, but it was not statistically significant, thus, the effect of inflation on Ethiopian banks profitability is not significant.

The findings also suggested that as inflation is not a determinant of banks' profitability in Ethiopia as far as the parameter for this variable is insignificant as illustrated by the large p-values of 0.758. In terms of inflation impact on ROA, previous studies of Demirguc-Kunt & Huizinga, 1999 showed a positive result and this implies that during the period of the study, inflations was anticipated which gave banks the opportunity to adjust the interest rates accordingly, resulting in revenues that increased faster than costs, with a positive impact on profitability. However, the result of this study clearly shows as inflation has a negative impact on profitability and statistically not significant determinant of Ethiopian banks profitability. This is because of the existence of a lower real interest rate which is obviously lower than the real inflationary rate, resulting in costs increased faster than revenues. Surprisingly, as per the result of the interview currently despite of a high inflation rate that exists in the country the amount of deposit deposited by customers is increasing from time to time. As a result the result of both the regression and interview clearly reveals as Ethiopian banks profitability is not influenced by inflation.

This chapter discussed the analysis of the results of multiple linear regressions model and in-depth interviews jointly. From the above data analysis Ethiopian banks profitability are highly affected by bank-specific (internal) factors than that of external one. That means except liquidity risk all the bank-specific factors included in this study are proved as they were the major determinants of Ethiopian banks profitability. On the other hand, among the external variables included in this study the only factor that can affect Ethiopian banks profitability is GDP. Thus, next chapter will discuss the conclusions and recommendations of the study.

Chapter 6 Conclusions and Recommendations

The previous chapter presented the analysis of the findings, while this chapter deals with the conclusions and recommendations provided based on the findings of the study. Accordingly this chapter is organized into two subsections. The first section presents the conclusions where as the second section presents the recommendations.

6.1. Conclusions

This study aims to identify the main bank-specific, industry-specific and macro-economic factors that can affect Ethiopian banks profitability and to what extent these determinants exert impact on Ethiopian banks profitability. In doing so, previous studies on bank profitability have been reviewed and it is summarized that the profitability of bank is usually expressed as a function of internal and external determinants. The internal determinants refers to the factors originate from bank accounts (balance sheets and/or profit and loss accounts) and therefore could be termed micro or bank-specific determinants of profitability. The external determinants are variables that are not related to bank management but reflect the economic and legal environment that affects the operation and performance of financial institutions. Empirical results from previous studies conclude that internal factors explain a large proportion of banks profitability; nevertheless external factors have also an impact on the performance.

A number of explanatory variables have been proposed for both categories, according to the nature and purpose of each study. Studies dealing with internal determinants employ variables such as size, capital, asset quality, income diversification or costs etc while for external determinants, several factors have been suggested as impacting on profitability

and these factors can further distinguish between control variables that describe the macroeconomic environment, such as inflation, interest rates and economic growth, and variables that represent market characteristics. The latter refer to market concentration, industry size and ownership status.

Based on the review on previous studies and banking area theories, the present study investigated the impact of some selected bank-specific, industry-specific and macroeconomic factors on the profitability of the Ethiopian banking industry over the period of 2000 to 2011. The bank-specific factors that were used in this study include variables such as capital, liquidity risk, size, income diversification, asset quality, operational efficiency. On the other hand in this study only one industry-specific variable and two macroeconomic conditions indicator variables were employed (concentration, GDP and inflation). To comply with the objective of this research, the paper is primarily based on quantitative research method which is supplemented by qualitative one. The quantitative data were mainly obtained from NBE and MoFED through documentary analysis in order to identify and measure the determinants of banks profitability. In specific, multiple regression analysis is adopted to measure the effect of determinants on banks profitability quantitatively. On the other hand, qualitative data were collected through unstructured interview conducted with Ethiopian commercial banks finance managers.

For testing the research hypotheses, a sample size of eight Ethiopian commercial banks were selected and the necessary financial data were collected for the time period of 2000 to 2011.

The empirical findings on the impact of bank profitability in Ethiopia for the sample suggest the following conclusions.

First, as expected, the result showed a positive relationship between capital strength and profitability with strong statistical significance. The coefficient of the ratio CAP is relatively high compared with other variables, showing that an increase in capital strength will result in increased profitability. This is in line with the expectation as a bank with a sound capital position is able to pursue business opportunities more effectively and has more time and flexibility to deal with problems arising from unexpected losses, thus achieving increased profitability.

Second, again as expected, the result showed a negative relationship between operational efficiency and profitability with strong statistical significance. This shows that as minimizing commercial banks operating costs in Ethiopia would certainly improve the banks performance.

Third, the result showed a positive relationship between income diversification and profitability as expected with strong statistical significance. The coefficient of the ratio IDV is relatively the highest compared with other variables, showing that an increase in noninterest income will result in increased profitability.

Fourth, the natural logarithm of total assets has a positive impact on ROA with weak significance coefficient. This indicates that as larger banks of the country experience more significant increases in profitability through economies of scale.

Fifth, the ratio of nonperforming loans to total loans has a negative impact on ROA with statistical significance. This implies that higher level of nonperforming loans results in lower profit, which is in line with the expectation.

Lastly, the GDP growth also has statistically significant and positive relationship with profitability. On the other hand, liquidity, concentration and inflation are factors that have little or no impact on the profitability of Ethiopian banks in this model as far all those variables were not significant even at 10% significance level.

Besides, variables such as loan, deposit, lack of innovative products and fear of risky investments by banks themselves are also considered as possible internal factors that can affect Ethiopian banks profitability. Moreover, external variables such as the countries tax system, technology, government regulation, exchange rate, absence of active secondary stock market, increasing level of competition and lack of awareness by the public in relation to saving also contributes their own share for the existence of good or bad performance of banks in the country.

In the Ethiopian banking industry, as per the result of descriptive statistics there was excess liquidity ratio. Almost all the banks had excess liquidity ratio which is above the liquidity requirement set by the NBE. This shows as the Ethiopian banks are still underutilized their capacity as far as they prefer to maintain higher liquidity position rather than putting it on different investments or providing it to customers in the form of loan which in turn results in an increase in their profitability. This was more specifically exaggerated in the large government owned bank, CBE. In contrary to this the result of the interview indicated the existence of a very serious liquidity problem in the Ethiopian

banking industry, particularly in the case of private banks which may result from some regulations imposed by the government like the credit cap and the forced investment on bonds which amounts 27% of their total loan i.e., both these regulations are exercised on private banks only. To conclude both the results obtained in relation to liquidity are affecting the Ethiopian banks profitability negatively.

6.2 Recommendations

Based on the findings of the study the following possible recommendations were forwarded:

Bank's capital strength, operational efficiency, non-interest income, bank size, level of nonperforming loan, and GDP growth rate are significant key drivers of profitability of commercial banks in Ethiopia. Indeed focusing and reengineering the institutions alongside these indicators could enhance the profitability as well as the performance of the commercial banks in Ethiopia.

The explanatory powers of bank-specific variables are far more important in explaining the variability in ROA for commercial banks in Ethiopia than external variables. But among the external factors included in this study GDP growth rate exists as a significant key drivers of profitability of Ethiopian banks. This is a clear signal to all commercial banks in Ethiopia that they cannot ignore the macroeconomic indicators when strategizing to improve on their profits or performance. Thus, banks in Ethiopia should not only be concerned about internal structures and policies, but they must consider both the internal environment and the macroeconomic environment together in fashioning out strategies to improve their performance or profits.

As far as lack of innovative products and fear of risky investments by banks themselves are also factors that can affect Ethiopian banks profitability negatively, Ethiopian banks should try their best in order to provide new banking services and to participate in risky investment areas which may in turn increases their profitability significantly.

Government regulation which forced private banks solely to make investment on bonds that amounts about 27% of the total loans provided by the bank to customers is currently affecting the Ethiopian private banks liquidity in general. So the government needs to revisit its policy or it should take some corrective actions like paying at least equal interest with that of the deposit in order to enhance the performance of the sector in general and the profitability in particular.

Finally, the study sought to investigate the factors that influence profitability of 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 external factors such as government regulation, ownership and exchange rates.

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Appendices

Appendix –I: Tests for the Heteroskedasticity Test: White

Heteroskedasticity Test: White

F-statistic	1.274416	Prob. F(54,41)	0.2106
Obs*R-squared	60.15904	Prob. Chi-Square(54)	0.2627
Scaled explained SS	49.98005	Prob. Chi-Square(54)	0.6301

Test Equation:

Dependent Variable: RESID^2

Method: Least Squares

Date: 06/01/12 Time: 16:33

Sample: 1 96

Included observations: 96

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.015824	0.011611	1.362839	0.1804
CAP	-0.015799	0.018748	-0.842707	0.4043
CAP^2	-0.001093	0.007693	-0.142072	0.8877
CAP*CIR	-0.000879	0.000974	-0.902729	0.3719
CAP*IDV	0.014736	0.034421	0.428116	0.6708
CAP*LIQ	0.001767	0.004952	0.356810	0.7231
CAP*SIZE	0.000553	0.000764	0.724711	0.4727
CAP*ASQ	0.000937	0.005744	0.163118	0.8712
CAP*HHI	0.006597	0.004233	1.558632	0.1268
CAP*GDP	0.002954	0.010375	0.284687	0.7773
CAP*INFL	-0.001250	0.002876	-0.434753	0.6660
CIR	0.001697	0.002105	0.806298	0.4247
CIR^2	1.50E-05	6.08E-05	0.245824	0.8070
CIR*IDV	0.001295	0.003979	0.325344	0.7466
CIR*LIQ	-0.001004	0.000738	-1.359594	0.1814
CIR*SIZE	-5.51E-05	8.71E-05	-0.633165	0.5301
CIR*ASQ	-4.55E-05	0.000293	-0.155120	0.8775
CIR*HHI	-0.000523	0.000446	-1.171227	0.2483
CIR*GDP	0.002127	0.000848	2.507747	0.0162
CIR*INFL	-0.000837	0.000397	-2.107965	0.0412
IDV	-0.052770	0.050111	-1.053061	0.2985
IDV^2	-0.055845	0.071847	-0.777275	0.4415
IDV*LIQ	-0.006515	0.015018	-0.433793	0.6667
IDV*SIZE	0.002408	0.001792	1.344116	0.1863
IDV*ASQ	0.005597	0.016830	0.332549	0.7412
IDV*HHI	0.004414	0.020593	0.214325	0.8314
IDV*GDP	0.016304	0.032803	0.497047	0.6218
IDV*INFL	-0.010559	0.011177	-0.944699	0.3503
LIQ	0.005128	0.005440	0.942691	0.3514
LIQ^2	0.000793	0.001433	0.553669	0.5828
LIQ*SIZE	-0.000182	0.000212	-0.854885	0.3976
LIQ*ASQ	-0.000218	0.001774	-0.122759	0.9029
LIQ*HHI	-0.001317	0.001883	-0.699632	0.4881
LIQ*GDP	-0.005832	0.004739	-1.230552	0.2255

LIQ*INFL	0.000890	0.001398	0.636755	0.5278
SIZE	-0.001184	0.000842	-1.407307	0.1669
SIZE^2	2.28E-05	1.55E-05	1.475438	0.1477
SIZE*ASQ	0.000179	0.000228	0.783466	0.4379
SIZE*HHI	0.000161	0.000205	0.784446	0.4373
SIZE*GDP	0.000481	0.000694	0.692783	0.4924
SIZE*INFL	-0.000221	0.000116	-1.900487	0.0644
ASQ	-0.003905	0.005957	-0.655461	0.5158
ASQ^2	-0.001172	0.001233	-0.950908	0.3472
ASQ*HHI	0.000948	0.002240	0.423271	0.6743
ASQ*GDP	0.001009	0.001981	0.509431	0.6132
ASQ*INFL	-0.001350	0.000996	-1.355128	0.1828
HHI	-0.006125	0.006953	-0.880866	0.3835
HHI^2	0.001435	0.002642	0.542937	0.5901
HHI*GDP	0.010906	0.012627	0.863692	0.3928
HHI*INFL	-0.002616	0.002955	-0.885359	0.3811
GDP	-0.018460	0.018902	-0.976619	0.3345
GDP^2	0.011266	0.020127	0.559748	0.5787
GDP*INFL	0.003028	0.007344	0.412290	0.6823
INFL	0.007034	0.003277	2.146359	0.0378
INFL^2	-0.002082	0.001595	-1.305043	0.1992

R-squared	0.626657	Mean dependent var	3.00E-05
Adjusted R-squared	0.134936	S.D. dependent var	4.35E-05
S.E. of regression	4.04E-05	Akaike info criterion	-17.09957
Sum squared resid	6.70E-08	Schwarz criterion	-15.63041
Log likelihood	875.7794	Hannan-Quinn criter.	-16.50571
F-statistic	1.274416	Durbin-Watson stat	2.086140
Prob(F-statistic)	0.210556		

Appendix-II: Regression Results For Factors affecting Bank Profitability

Dependent Variable: ROA
 Method: Panel Least Squares
 Date: 06/01/12 Time: 16:37
 Sample: 2000 2011
 Periods included: 12
 Cross-sections included: 8
 Total panel (balanced) observations: 96

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.051195	0.047981	-1.066973	0.2892
CAP	0.107711	0.022171	4.858224	0.0000
CIR	-0.014724	0.002021	-7.284031	0.0000
IDV	0.248037	0.103644	2.393173	0.0191
LIQ	-0.012384	0.010200	-1.214063	0.2283
SIZE	0.003457	0.001914	1.806319	0.0747
ASQ	-0.022276	0.009456	-2.355872	0.0210
HHI	0.003998	0.014494	0.275843	0.7834
GDP	0.041652	0.017295	2.408272	0.0184
INFL	-0.002100	0.006777	-0.309865	0.7575

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.839368	Mean dependent var	0.032127
Adjusted R-squared	0.806835	S.D. dependent var	0.012820
S.E. of regression	0.005634	Akaike info criterion	-7.360602
Sum squared resid	0.002508	Schwarz criterion	-6.906498
Log likelihood	370.3089	Hannan-Quinn criter.	-7.177046
F-statistic	25.80041	Durbin-Watson stat	2.005560
Prob(F-statistic)	0.000000		

Appendix- III: Ratio Data

Year	Bank	ROA	CAP	CIR	Size	ASQ	IDV	GDP	LIQ	HHI	INFL
2000	CBE	0.031269	0.065	0.292011	23.71036	0.2644	0.01614	0.059	0.346	0.731608	0.054
2001	CBE	0.009912	0.061	0.302425	23.79081	0.3377	0.016474	0.074	0.393	0.694027	-0.003
2002	CBE	0.022894	0.037	0.431217	23.82092	0.5209	0.018875	0.016	0.4012	0.644499	-0.106
2003	CBE	0.029587	0.053	0.315327	23.90962	0.535	0.02595	-0.021	0.564	0.595602	0.109
2004	CBE	0.017408	0.054	0.430615	24.05458	0.3768	0.021019	0.117	0.594	0.560964	0.073
2005	CBE	0.023787	0.043	0.387833	24.22488	0.2752	0.02231	0.126	0.527	0.5055	0.061
2006	CBE	0.031242	0.042	0.333929	24.30258	0.2245	0.027086	0.115	0.592	0.466672	0.106
2007	CBE	0.026924	0.097	0.625641	24.49501	0.1452	0.028005	0.118	0.59	0.43256	0.158
2008	CBE	0.037052	0.09	0.305139	24.64357	0.0533	0.028384	0.112	0.354	0.39945	0.253
2009	CBE	0.045715	0.085	0.190722	24.80775	0.0366	0.02508	0.099	0.45	0.359813	0.364
2010	CBE	0.03785	0.075	0.33357	25.02985	0.0188	0.023603	0.104	0.3354	0.352	0.028
2011	CBE	0.037089	0.055	0.236196	25.46179	0.0086	0.025493	0.114	0.265	0.398674	0.181
2000	CBB	0.00308	0.071	2.222222	20.69692	0.137	0.010267	0.059	0.24	0.731608	0.054
2001	CBB	0.007231	0.07	1.133333	20.69074	0.4812	0.009298	0.074	0.25	0.694027	-0.003
2002	CBB	0.008351	0.08	2	20.68036	0.4155	0.012526	0.016	0.245	0.644499	-0.106
2003	CBB	0.014862	0.084	0.772727	20.66352	0.4009	0.016985	-0.021	0.235	0.595602	0.109
2004	CBB	0.006623	0.08	1.391304	20.7787	0.3547	0.033113	0.117	0.314	0.560964	0.073
2005	CBB	0.014192	0.06	0.913043	21.32867	0.2776	0.034389	0.126	0.338	0.5055	0.061
2006	CBB	0.043962	0.09	0.288462	21.30938	0.1942	0.037841	0.115	0.312	0.466672	0.106
2007	CBB	0.04288	0.112	0.404412	21.35931	0.1706	0.05135	0.118	0.307	0.43256	0.158
2008	CBB	0.048077	0.11	0.422764	21.5954	0.1556	0.034699	0.112	0.39	0.39945	0.253
2009	CBB	0.040895	0.104	0.551724	21.6757	0.1145	0.035494	0.099	0.365	0.359813	0.364
2010	CBB	0.041429	0.101	0.564885	21.87447	0.0656	0.033207	0.104	0.2356	0.352	0.028
2011	CBB	0.035093	0.104	0.796748	21.97746	0.0681	0.036805	0.114	0.397	0.398674	0.181
2000	DB	0.020809	0.089	1.136364	20.57824	0.1595	0.021965	0.059	0.301	0.731608	0.054
2001	DB	0.032727	0.085	1.111111	20.81858	0.1092	0.033636	0.074	0.321	0.694027	-0.003
2002	DB	0.026245	0.082	0.837209	21.11935	0.1422	0.025572	0.016	0.343	0.644499	-0.106
2003	DB	0.018584	0.065	0.733333	21.4119	0.0889	0.026118	-0.021	0.326	0.595602	0.109
2004	DB	0.029137	0.064	0.606383	21.70796	0.0744	0.028016	0.117	0.326	0.560964	0.073
2005	DB	0.028363	0.071	0.669725	21.95291	0.0672	0.021053	0.126	0.298	0.5055	0.061
2006	DB	0.040695	0.085	0.507538	22.23751	0.0621	0.027497	0.115	0.253	0.466672	0.106
2007	DB	0.042708	0.09	0.473684	22.52184	0.0595	0.027313	0.118	0.277	0.43256	0.158
2008	DB	0.042534	0.093	0.446023	22.7811	0.0589	0.031933	0.112	0.372	0.39945	0.253
2009	DB	0.036166	0.093	0.570621	22.99879	0.0739	0.032981	0.099	0.483	0.359813	0.364
2010	DB	0.037076	0.091	0.526652	23.23716	0.03	0.039019	0.104	0.425	0.352	0.028
2011	DB	0.042974	0.095	0.479134	23.40839	0.0338	0.046317	0.114	0.425	0.398674	0.181
2000	AIB	0.030303	0.124	0.62963	20.44751	0.3027	0.018445	0.059	0.362	0.731608	0.054
2001	AIB	0.019846	0.125	1	20.62565	0.205	0.020948	0.074	0.337	0.694027	-0.003
2002	AIB	0.017086	0.12	1.166667	20.82943	0.3402	0.017986	0.016	0.362	0.644499	-0.106

2003	AIB	0.012848	0.1	0.785714	21.06045	0.2513	0.030692	-0.021	0.396	0.595602	0.109
2004	AIB	0.019774	0.09	0.740741	21.29425	0.1839	0.031638	0.117	0.429	0.560964	0.073
2005	AIB	0.024708	0.102	0.796875	21.52347	0.1202	0.024708	0.126	0.389	0.5055	0.061
2006	AIB	0.037576	0.103	0.621622	21.80643	0.0956	0.030806	0.115	0.314	0.466672	0.106
2007	AIB	0.053264	0.113	0.377451	22.06613	0.0736	0.033681	0.118	0.295	0.43256	0.158
2008	AIB	0.042324	0.124	0.553922	22.29604	0.0866	0.035685	0.112	0.383	0.39945	0.253
2009	AIB	0.031449	0.12	0.545455	22.58315	0.0578	0.031294	0.099	0.496	0.359813	0.364
2010	AIB	0.044179	0.12	0.441734	22.79581	0.0547	0.048206	0.104	0.49	0.352	0.028
2011	AIB	0.049921	0.129	0.407255	23.03738	0.0381	0.052689	0.114	0.4	0.398674	0.181
2000	BOA	0.029248	0.171	0.76	20.39198	0.0421	0.029248	0.059	0.224	0.731608	0.054
2001	BOA	0.039063	0.164	0.485714	20.61345	0.032	0.018973	0.074	0.333	0.694027	-0.003
2002	BOA	0.007005	0.123	0.642857	20.85605	0.3795	0.013135	0.016	0.381	0.644499	-0.106
2003	BOA	0.006002	0.112	0.6875	21.0107	0.2843	0.014254	-0.021	0.38	0.595602	0.109
2004	BOA	0.034069	0.122	0.446154	21.18385	0.1751	0.016404	0.117	0.396	0.560964	0.073
2005	BOA	0.039864	0.123	0.45122	21.44451	0.124	0.022849	0.126	0.369	0.5055	0.061
2006	BOA	0.043049	0.142	0.420635	21.76495	0.0494	0.019407	0.115	0.276	0.466672	0.106
2007	BOA	0.027974	0.12	0.457746	21.94586	0.1054	0.01914	0.118	0.301	0.43256	0.158
2008	BOA	0.028641	0.1	0.542628	22.17487	0.1287	0.022253	0.112	0.338	0.39945	0.253
2009	BOA	0.027574	0.095	0.737904	22.42375	0.1475	0.02354	0.099	0.492	0.359813	0.364
2010	BOA	0.03121	0.093	0.739796	22.56064	0.0698	0.032962	0.104	0.472	0.352	0.028
2011	BOA	0.035449	0.091	0.639013	22.70812	0.0397	0.0338	0.114	0.398	0.398674	0.181
2000	WB	0.013619	0.097	1.818182	20.05773	0.191	0.036965	0.059	0.31	0.731608	0.054
2001	WB	0.024014	0.1	0.954545	20.1837	0.1366	0.037736	0.074	0.387	0.694027	-0.003
2002	WB	0.018576	0.1	1.470588	20.28631	0.1294	0.03096	0.016	0.353	0.644499	-0.106
2003	WB	0.016873	0.105	1.173913	20.60561	0.1086	0.028121	-0.021	0.353	0.595602	0.109
2004	WB	0.039474	0.113	0.559322	20.85429	0.1224	0.038596	0.117	0.359	0.560964	0.073
2005	WB	0.038985	0.111	0.560976	21.20322	0.0841	0.043317	0.126	0.384	0.5055	0.061
2006	WB	0.041611	0.113	0.504065	21.53819	0.0485	0.044267	0.115	0.293	0.466672	0.106
2007	WB	0.043966	0.116	0.432432	21.9703	0.0525	0.038793	0.118	0.379	0.43256	0.158
2008	WB	0.046061	0.147	0.409091	22.14033	0.0839	0.046545	0.112	0.437	0.39945	0.253
2009	WB	0.05002	0.163	0.501931	22.35603	0.077	0.046698	0.099	0.569	0.359813	0.364
2010	WB	0.055381	0.183	0.498471	22.47107	0.0347	0.055381	0.104	0.529	0.352	0.028
2011	WB	0.056817	0.166	0.434706	22.8103	0.0351	0.062027	0.114	0.514	0.398674	0.181
2000	UB	0.034965	0.28	1	18.77836	0.0795	0.041958	0.059	0.245	0.731608	0.054
2001	UB	0.037383	0.294	1	19.18149	0.0775	0.042056	0.074	0.322	0.694027	-0.003
2002	UB	0.022293	0.28	1.25	19.5649	0.1595	0.022293	0.016	0.452	0.644499	-0.106
2003	UB	0.014925	0.194	1.083333	19.96611	0.0993	0.025586	-0.021	0.369	0.595602	0.109
2004	UB	0.014837	0.142	0.842105	20.32874	0.099	0.02819	0.117	0.43	0.560964	0.073
2005	UB	0.040075	0.116	0.48	20.79372	0.0845	0.041938	0.126	0.363	0.5055	0.061
2006	UB	0.037523	0.12	0.469697	21.19264	0.0418	0.034396	0.115	0.371	0.466672	0.106
2007	UB	0.039853	0.165	0.52	21.50397	0.0459	0.032066	0.118	0.347	0.43256	0.158
2008	UB	0.038769	0.144	0.55	21.90192	0.0398	0.033538	0.112	0.426	0.39945	0.253
2009	UB	0.028805	0.112	0.708609	22.26056	0.0462	0.02902	0.099	0.534	0.359813	0.364

2010	UB	0.042062	0.108	0.469314	22.49754	0.0376	0.044098	0.104	0.445	0.352	0.028
2011	UB	0.041812	0.117	0.472727	22.76773	0.0335	0.037799	0.114	0.461	0.398674	0.181
2000	NIB	0.006329	0.253	3	18.87811	0	0.012658	0.059	0.251	0.731608	0.054
2001	NIB	0.045455	0.156	0.421053	19.79692	0.019	0.032828	0.074	0.2013	0.694027	-0.003
2002	NIB	0.041199	0.167	0.4	20.09591	0.0864	0.029963	0.016	0.313	0.644499	-0.106
2003	NIB	0.021469	0.123	0.410256	20.6011	0.1234	0.032768	-0.021	0.276	0.595602	0.109
2004	NIB	0.039294	0.124	0.368421	20.94401	0.0877	0.029671	0.117	0.265	0.560964	0.073
2005	NIB	0.038106	0.13	0.321429	21.27254	0.1122	0.030023	0.126	0.268	0.5055	0.061
2006	NIB	0.039961	0.141	0.422222	21.42982	0.0847	0.02664	0.115	0.215	0.466672	0.106
2007	NIB	0.04066	0.163	0.495495	21.68147	0.0556	0.023399	0.118	0.267	0.43256	0.158
2008	NIB	0.043562	0.164	0.432584	22.01799	0.0673	0.029315	0.112	0.365	0.39945	0.253
2009	NIB	0.045559	0.152	0.450413	22.29334	0.1116	0.035781	0.099	0.486	0.359813	0.364
2010	NIB	0.047731	0.154	0.468553	22.51018	0.0737	0.048568	0.104	0.414	0.352	0.028
2011	NIB	0.048369	0.165	0.495822	22.68505	0.0504	0.045557	0.114	0.513	0.398674	0.181

Appendix-IV: Interview Instrument

Addis Ababa University

School of Business and Public Administration

Department of Accounting

Interview questions for the higher officials of Ethiopian Commercial Banks

1. What are the overall factors that can affect your banks' profitability?
2. How do those identified factors affect/influence your banks' profitability in general?
3. Among the identified factors that can influence your banks' profitability, which of them are the major determinants of your banks' profitability?
4. What types of measures are taken by your bank in order to reduce the influence of factors that affects profitability negatively?
5. Do you think that the identified factors contribute to the existence of poor or good performance of banks' when measured in terms of profitability? And, if they have, how do they contribute?
6. Any comments?

Thank you!