OWNERSHIP STRUCTURE AND FINANCIAL PERFORMANCE OF ETHIOPIAN BANKS: A COMPARATIVE ANALYSIS OF PRIVATE AND STATE OWNED BANKS

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A Thesis Submitted in Partial Fulfillment of the Requirements for the Degree of Master of Science in Accounting and Finance

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Statement of declaration

I, the undersigned, have carried out independently a research work on “Ownership Structure And Financial Performance of Ethiopian Banks: A Comparative Analysis of Private And State Owned Banks” in partial fulfillment of the requirement of the Master of Science program in Accounting and Finance with the guidance and support of the research advisor.

This study is my own work that has not been submitted for any degree or diploma program in this or any other institution.

Signature

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This is to certify that the thesis prepared by Mohammed Worku, entitled: Ownership Structure and Financial Performance of Ethiopian Banks: A Comparative Analysis of Private And State Owned Banks and submitted in partial fulfillment of the requirements for the degree of Degree of Master of Science (Accounting and Finance) compiles with the regulations of the University and meets the accepted standards with respect to originality and quality.

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Advisor Gebremedhin Gebrehiwot (Ato) Signature _____ Date_____

Examiner Alem H (PhD) Signature _____ Date _____

Examiner Abebaw K (PhD) Signature _____ Date_____

_____

Chair of Department or Graduate Program Coordinator

Abstract

The main objective of this study is to examine the effect of ownership structure on financial performance of Ethiopian commercial banks. In order to achieve the stated objective, the study adopts a quantitative research approach by using regression and test for means equality analysis techniques. Balanced panel data covering ten-year period from 2004 to 2013 for eight commercial banks are analyzed by random effect Ordinary Least Square (OLS) estimation technique. The findings of the study show that ownership structure, bank's size, gross domestic product and inflation have statistically significant effects on banks performance. In addition, the empirical evidence clearly shows that private-owned banks are superior in performance than state-owned banks. Out of eleven parameters used to measure performance five (in terms of; return on asset, capital adequacy, asset utilization ratio, debt to equity ratio and equity multiplier) supports the superiority of private-owned banks, two (in terms of; return on equity and management quality) supports for state-owned banks and the remaining four (in terms of; asset quality, loan to deposit ratio, liquid asset to deposit ratio and operating efficiency) not statistically significant difference between the two sub-sectors. So, until the Ethiopian banks are fully privatized, banks under government control should be made to compete with the private banks.

Keywords: Ownership Structure, Financial Performance, Commercial Banks in Ethiopia

Acknowledgements

A study of this kind would not have been possible without the help of all those who contributed in diverse ways towards its success. First of all, I would like to forward my sincere thanks and appreciation to my advisor Ato Gebremedhin Gebrehiwot. I cannot express the extent to which his patience and understanding allowed me to reach the end of this journey. His encouragement, support, and, above all, his prompt, constructive and greatly appreciated criticism and feedback, were invaluable to the research, writing, and completion of this study. Secondly, My special gratitude goes to the management of the Ethiopian Commercial Banks, National Bank of Ethiopia and Ministry of Finance and Economic Development for their cooperation in providing me all the necessary data required for the study. I would have never been able to complete this thesis without their kind support. Thirdly, My heartfelt appreciation also goes to Addis Ababa University and Debre Birhan University for their financial support. Finally, I would like to express my appreciation to my family, friends and to all those who helped me for the accomplishment of this thesis work.

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List of Abbreviations and Acronyms

AQ	Asset Quality
AUR	Asset Utilization Ratio
BSIZ	Bank Size
CA	Capital Adequacy
CBE	Commercial Bank of Ethiopia
CLRM	Classical Linear Regression Model
EM	Equity Multiplier
FE	Fixed Effect
GDP	Gross Domestic Product
HP	Hypothesis
INFL	Inflation
LADR	Liquid Assets to Deposit Ratio
LDR	Loan to Deposit Ratio
MENA	Middle East and North Africa
MoFED	Ministry of Finance and Economic Development
NBE	National Bank of Ethiopia
OE	Operating Efficiency
OEA	Operating Expenses to Total Assets
OECD	Organization for Economic Co-operation and Development
OLS	Ordinary Least Square
OS	Ownership Structure
POE	Private Owned Enterprise
RE	Random Effect
ROA	Return on Asset
ROE	Return on Equity
RQ	Research Question
SOE	State Owned Enterprise

Chapter one: Introduction

1.1. Background of the study

Financial system is serving as back bone in a country and acts as good facilitator for financial institutions. Financial institutions play vital role for the development and progress of country's economy. Strong financial system promotes investment by financing productive business, mobilizing savings, efficiently allocating resources and facilitating trade activities. McKinnon (1973) and Levine (1997) mentioned that an efficient financial systems are critical to reduce information and transaction cost. Consequently, financial institutions are key for growth and efficient capital allocation (Levine 2005). From the financial institutions, banks are one of the principal units in financial ecosystem which determine its prosperity and consequently that of countries economy as well. Accordingly, Schumpeter (1934) noted that banking sector is the main source of fund for long term investment and the sector is the foundation of economic growth.

The major financial institutions operating in Ethiopia are banks, insurance companies and micro-finance institutions. Financial system in Ethiopia is determined by banks where the banking systems account for around 80 percent of total capitals of the financial sector. The total capital of the banking system reached about Birr 21 billion (about USD 1 billion) at the end of the march, 2013 (NBE, 2013). Ethiopia has mixed banking system comprising state- and private-owned banks. It comprised three state-owned banks including two commercial banks i.e. commercial bank of Ethiopia (CBE) and construction and business bank (CBB) and Development Bank of Ethiopia (DBE) and sixteen private commercial banks (PCBs) as of January 31, 2014. Regarding

to the share of capital, private banks jointly accounted for 49.4 percent of the total capital, with the remainder being held by state owned banks (NBE, 2013). State or government owned banks in Ethiopia have substantial shares in the total capitals of industry and have a huge branch networks around the country while private owned banks are managed and owned by private sector not by state.

Over the years banks have branched into various categories making it an intermingled and vast field with the primary division being that of state- and private-owned banks. Comparing their performance and efficiency has been under scrutiny for a long time and researchers are trying to find the merit of one over the other. There was an extensive amount of literature present on the variables understudy which signified their paramount importance in the modern era. As Berle and Means (1932) notes that the ownership structure of firms is an important element of their performance achievements. A firm ownership structure can be defined along two main dimensions (Iannotta et al., 2006). First, the degree of ownership concentration; meaning firms may differ because of their ownership is more or less dispersed. Second, the nature of the owners; that is firms may be private, government owned (state owned) and mutual (mixed owned). Ownership structure of a firm can also be categorized into two groups; proportion of shares owned by insiders and outsiders and proportion of shares owned by institutional versus individual shareholders. Institutional investors are large investors, other than natural persons, who exercise discretion over investment of others. However, this research focused mainly on the ownership dimension regarding the nature of owners since other dimension are peculiar to Ethiopia.

Considering the state-owned versus privately owned banks, we get three different findings from the financial and economic literature. First, some researchers found that private firms are

superior in performance; Second, others found that state-owned firms are superior in performance; Third, yet others found that ownership structure does not have any effect on performance. In their findings other factors like environment and externalities regulate the performance.

A research conducted by Cebenoyan et al. (1993) provides different evidences that there are no differences between private, state and mutual ownership on the aspect of performance. Sarkar and Bhaumik (1998) also provide empirical evidence that in the absence of well functioning capital markets, there is no significant differences in the performance of private-owned firms and public-owned firms. On the other hand, Ram Mohan (2003) and Mester (1993) document that public-owned banks and mutual banks have slight cost and profit advantages over their private banks. Other researchers, Kumara and Yasushi (2008) find that management of state and mutual banks is less efficient than management of private-owned banks. Whereas Micco et al. (2001) find that there is little evidence to suggest that private-owned banks are more efficient than their mutual and state-owned firm counterparts. To strengthen this findings, Berger et al. (2005) find state-owned banks demonstrate poor long-term performance comparing with private domestic and foreign banks. Dewenter and Malatesta (2001) finds also that state-owned firms are, on average, more labor intensive than privately-owned firms. They conclude that private banks outperform than state-owned banks because it incurs lower overhead cost than counterpart of state-owned banks.

Though many studies have been conducted on the performance of commercial banks all around the globe but to determine the effect of ownership on performance, this is comparatively a new topic particularly with reference to Ethiopia. Therefore, the main purpose of this research is to examine the effect of ownership structure on performance of banks and to test the hypothesis

derived from literature review, principal agent theory & public choice theory that private banks perform better than the public banks. This research will not only add to existing literature but also serve as a practical guidelines for policy makers to consider whether ownership structure have effect on financial performance of financial institutions in general and banks in particular.

The remaining part of the proposal is organized as follows: section 1.2 deals with a statement of problem; section 1.3 presents objectives of the study; section 1.4 presents the research methods to be adopted; section 1.5 deals with hypotheses and research question; section 1.6 deals with significance of the study; Section 1.7 is about scope and limitation of the study and finally section1.8 deals with organization of the research report.

1.2. Statements of the problem

Bank performance gets a great deal of attention in the finance literature considering that banks serve a key role in the economy. The performance of banks is expressed in different ways like via profitability, competition, concentration, efficiency, productivity and so on. Firms with better performance are better able to resist negative shocks and contribute to the stability of the financial system (Athanasoglou et al., 2008). As a result the performance of the banking sector has been one of the hot issues in financial environment. Since the banking industry play a major role in the financial system of the country and it supports the competitiveness of the financial institution.

It is reasonable to expect that the performance of a bank is affected by its ownership structure or origin of capital (whether a banking sector is owned by foreign or domestic and state or private). For instance, Bonin et al. (2004) find that foreign banks are more cost-efficient than domestic banks in transition countries. Moreover, the presence of foreign ownership opens access to

cheaper foreign resources and ability to offer these resources in local markets at a cost lower than that of its domestic peers. This makes foreign banks more competitive and it led to efficient and well performed. While, there is no foreign banks involved in Ethiopia so the financial markets leave to only domestic private and state-owned banks. As a result, currently the banking sector in Ethiopia is characterized by little and insufficient competition and perhaps can be distinguish by its market concentration towards the big government commercial banks and having undiversified ownership structure (Lelissa, 2007).

In light of comparing performances between private versus state-owned banks, Kumara and Yasushi (2008) based on the data during 2000 - 2007, evaluates the influence of ownership on performance using regression techniques to show whether state - owned banks can outperform. They found that state - owned banks perform better than private banks though they lag behind foreign banks in terms of revenue efficiency. The findings imply that strong government support and established public confidence lets state - owned banks to outperform domestic private banks in terms of overall performance. Similarly, Altunbas et al.(2001) found little evidence for the superiority of private over state owned banks in Germany.

Micco et al. (2007) also made comparison between private- and state-owned banks in 179 countries. They found that private-owned banks is related good performer as compared government or state-owned bank on developing countries and no effect on industrialized countries. Private banks in developing countries tends obtained a little more income and higher costs compared with state owned bank. They did not find evidence of a difference between the performance of government banks and domestic private sector in industrialized countries. In addition, Cornett et al. (2010) found that during financial crisis, the private banks are better than private banks in terms of cash flow, capital base and loan quality. After the financial crisis, banks

which are owned by state could equally perform with state-owned in terms of the ratio of bank capital adequacy, asset quality and management efficiency.

In the case of the Ethiopian banking sector, regardless of the series of changes and liberalization measures undertaken, which are expected to change the ownership structure, concentration, and profitability and in general its 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). Related to this, Kefele (2008) also noted that 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. Furthermore, 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 (Lelisa, 2007). In addition, as noted in Geda (2006) Ethiopian banking industry is characterized by a quite high liquidity, which is above the statutory requirement of 25 percent, 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.

In particular, Kapur and Gualu (2012) study about eight Ethiopian commercial banks from 2001 to 2008 period. Their results revealed that private sector banks had better profitability, asset quality and capital adequacy performance measurements. While state-owned banks were better in cost management indicator. In terms of liquidity, no difference was observed between the private and government banks. On the contrary, Yaregal (2011) found that performance of state owned-banks is superior to private banks in Ethiopia in terms of profitability, liquidity and

solvency. He concluded that privatization is not the only solution to improve poor performance of state ownership rather introduction of competition can substantially get better performance of both state and private ownership.

In general, there is no universally accepted findings about the effects of ownership structure on performance of banking sector. Because countries differ each other by their economic systems, financial systems, political systems and operating environments. Thus, in this study the researcher examined performance differences between the ownership structure of Ethiopian commercial banks by using variety of variables (asset quality, management quality, capital adequacy, earnings performance, liquidity management, efficiency, risk and solvency) and the effect of ownership structure on performance of banks have been selected based on the selected theoretical literatures and previous empirical works. Even though, various of earlier studies have made to add their own contribution to the literature and stated their own findings, they were inclined towards to the transition and developed economy, and less developing countries including Ethiopia received little attention in this arena. Consequently the conclusion and finding of the study in one country may not serve to another.

Although the above mentioned two studies conducted on this area in Ethiopia, the researchers not included numerous performance indicators. For instance a research conducted by Kapur and Gualu failed to consider the two performance parameters (i.e. management quality and solvency) to show the relation between ownership structure and banks performance. While, a research done by Yaregal (2011) failed to consider performance parameters like management and asset quality and capital adequacy. In addition most studies including Kapur and Gualu (2012) and Yaregal (2011) failed to examine the effect of ownership structure on banks performance and they mainly focused on comparisons of private and state owned banks in Ethiopia. Because their findings

highly depend on descriptive statistics and trend analysis. But various authors clearly mentioned that difficult to come up with the right findings from descriptive statistics and time trend analysis. Consequently, this arena have not effectively studied due to the these problems. As a result the present researcher is included these overlooked performance indicators to test equality of means between private- and state-owned banks and use regression technique to investigate the effect of ownership structure on financial performance of commercial banks in Ethiopia.

1.3. Objectives of the study

The main objective of the research is to examine the effect of ownership structure on financial performance of Ethiopian commercial banks over the period 2004 - 2013.

1.3.1. Research questions and hypothesis

1.3.1.1. Research questions

In order to achieve the above objective of the study, seven research questions (RQ) and one hypothesis (HP) have been developed. In line with the broad objective highlighted above, the following specific research questions are formulated:

RQ1. Is there a difference in asset quality between private- and state-owned banks in Ethiopia?

RQ2. Is there a difference in management quality between private- and state-owned banks in Ethiopia?

RQ3. Is there a difference in capital adequacy between private- and state-owned banks in Ethiopia?

RQ4. Is there a difference in earnings performance (profitability) between private- and state-owned banks in Ethiopia?

RQ5. Is there a difference in liquidity management between private- and state-owned banks in Ethiopia?

RQ6. Is there a difference in efficiency between private-and state-owned banks in Ethiopia?

RQ7. Is there a difference in solvency and risk management between private- and state-owned banks in Ethiopia?

1.3.1.2. Hypothesis of the study

In order to achieve the stated objective of the study, one general hypothesis (HP) have been developed. The hypothesis would be construct to estimate the effect of ownership structure (independent variable) i.e. banks owned by state or private on return on asset (ROA) and return on equity (ROE) as the proxy of performance, being dependent variable that are selected from the literature.

HP. There is a positive or negative relationship between ownership structure (banks owned by state or private) and performance of banking industry in Ethiopia.

1.4. Research method adopted

The primary aim of this paper is to examine the effect of ownership structure on financial performance of Ethiopian commercial banks over the period 2004 - 2013. In order to achieve this main research objective and test hypothesis a quantitative method is adopted. The intent of using

such a quantitative method approach is to collect data that could not be obtained by adopting other research approach. Because, if the problem is to investigate cause and effect relationship, identifying factors that influence an outcome and the utility of an intervention or understanding the best predictors in outcomes, then a best research approach is quantitative method (Creswell, 2003). Therefore in order to examine the effect of ownership structure on financial performance of commercial banks in Ethiopia the researcher adopted a quantitative research approach. In this particular case, the effect is the firms' financial performance and the research targeted to determine whether ownership structure is significant cause for it. To gather data related to banks financial performance, it is apparent to use structured documentary review. So to achieve stated objective banks audited financial statement especially balance sheet and income statement has been reviewed. In this study the target population consists of all commercial banks registered by NBE and on operation in the country at least for the last ten years. Consequently, the study cover the two state-owned banks namely, Commercial Bank of Ethiopia (CBE), Construction and Business Bank (CBB), and six private commercial banks namely, Bank of Abyssinia (BoA), Awash International Bank (AIB), Dashen Bank (DB), Nib International Bank (NIB), United Bank (UB), and Wegagen Bank (WB). The analyses basically concentrate on the data available in financial statements of banks and other documents in relation to the selected variables kept by NBE and the banks themselves, covering the period of 2004-2013. Finally, the study analyses the results obtained from the above mentioned data sources through using descriptive statistics, correlation, regression and test for means equality.

1.5. Significant of the study

Because the research is conducted in a country where the financial sector is dominated by commercial banks, the findings can be useful for developing countries under the same scenarios. In addition, it can be of paramount importance for policy makers to evaluate their policies, regulation, directives in line with the finding of the research. To this end, particularly this study has importance for the following body:

- ✓ It enables governments, policy makers and management body of the commercial banks to keep and strengthen or adjust and improve the existing policies, rules and regulations based on the results of the study.

- ✓ This study adds knowledge on the field of finance. Since other studies will be conduct on issues related to the effect of ownership structure on performance of banking industry and other sectors in countries where there are difference on financial ownership, therefore this particular study have significant contributions as literature to the upcoming researchers. Meaning 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.

- ✓ Last but not least, it will provide a road map for managers and the shareholders of the two sub-sectors to evaluate its bank performance in a variety of performance measures such as profitability, efficiency, asset quality, management quality, risks. .

1.6. Scope and Limitation of the study

There are eighteen commercial banks in Ethiopia which is fully engaged in commercial banking activity. Out of the eighteen commercial banks, two state and six private-owned commercial

banks namely; Commercial Bank of Ethiopia (CBE), Construction and Business Bank (CBB), Bank of Abyssinia (BoA), Awash International Bank (AIB), Dashen Bank (DB), Nib International Bank (NIB), United Bank (UB), and Wegagen Bank (WB) are selected which has been in operation at least for ten years (i.e. 2004 - 2013). All sampled commercial banks are operated for more than ten years and the study used ten years data (i.e. 2004 - 2013). Therefore, the study does not reflect the overall picture of performance of the banking industry in Ethiopia. Additionally, this study concentrated on the effect of ownership structure on performance of commercial banks by incorporating performance measures i.e. through seven different categories which includes; asset quality, management quality, capital adequacy, earnings performance, liquidity management, efficiency and solvency. In general the study did not consider the effect of ownership structure on financial performance of other institutions like insurance companies, microfinance institutions and other sectors that are owned by both private and government or state. In addition, other bank with development objective like Development Bank of Ethiopia (DBE) is not included in this study. Finally, the major potential limitations that hindered the smooth running of the research work were shortage of finance, time constraint and the results of this study will not be generalized to other sectors other than banking industry.

1.7. Organization of the paper

The research report is organized into six chapters. Chapter one introduction where background of the study, statement of the problem, objectives of the study, research method, research hypothesis, scope and limitation and significance of the study presented. Chapter two about study background of the sector under scrutiny. Chapter three presented review of literature in which theories, empirical evidence and knowledge gap were identified. Chapter four presents methodology and it contains research design, sample population and participants, data collection instruments and variables, and data analysis procedures. Chapter five presented results and discussion in which the obtained results were interpreted. Finally, Chapter six presents the conclusions and possible recommendations.

Chapter Two: Background of the Sector

This chapter, is the extension of the first chapter, represents the background of the sector on which the study is to be conducted. It introduces to readers about the brief history of Ethiopian banking system, role of banks. Subsequently it reports facts on the developments banking sector.

2.1. Brief History of Ethiopian Banking System

The history of modern banking in Ethiopia dates, when, in 1906, the Bank of Abyssinia was established under the reign of Emperor Menelek II. At the time, the Bank of Abyssinia was given a 50 years concession and was engaged in issuing notes, collecting deposits and granting loans. But its clients were mostly foreign businessmen and wealthy Ethiopians. As a result of disappointed by the behavior of this bank, mainly devoted to profit-making rather than promoting economic development, the bank of Abyssinia was liquidated. Up to 1931, when, the Bank of Abysinia replaced by Bank of Ethiopia, Bank of Abyssinia was opened its branches in different areas of the country such as; in Harar, Dire Dawa, Dessie and Djibouti.

In 1931, a new bank, the Bank of Ethiopia, a fully government owned bank which provide both central and commercial banking services was established by Emperor Haile Sellassie. The Bank of Ethiopia was the first indigenous bank in Africa and established by an official decree on August 29, 1931 with capital of £750,000. It retained management, staff, premises and clients of the bank of Abyssinia. But, after five year operation, when, in 1936, the Bank of Ethiopia was liquidated due to Italian invasion. During Italian invasion or occupation, Bank of Italy was formed as a legal tender in Ethiopia.

In 1943, after Ethiopia regain its independence from fascist Italy, the State Bank of Ethiopia commenced full operation through two departments performing the separate functions of an issuing bank and a commercial bank. After twenty years operation, when, in 1963, these functions were formally separated and the National Bank of Ethiopia (the central and issuing bank) formed in January, 1964 and the Commercial Bank of Ethiopia took over the commercial banking activity as of December, 1963.

In 1974, following the declaration of socialism, the banking sector could not move further because of the nationalization of all private financial institutions in general and banks in particular Lelisa (2007). At the time, during socialist regime, the government leaved the banking business for only three state-owned banks; the National Bank of Ethiopia, the Commercial Bank of Ethiopia and agricultural and Industrial Development Bank (Mortgage Bank). Following the overthrown of the Dergue regime, when, in 1991, the Ethiopian People's Revolutionary Democratic Front (EPRDF) declared a liberal economy system. Subsequently, the Monetary and Banking proclamation No. 83/1994 and the Licensing and Supervision of Banking Business No. 84/1994 was issued in 1994 which lead to the introduction of many new private banks in our financial markets.

In general, there were five principal events has been occur in Ethiopian banking sector history regarded to Ethiopian political instability since 1905.

- The first event was, 1906, when, the establishment of the Bank of Abyssinia, marking the advent of banking into the country.
- The second event was Italian invasion in 1936, after liquidation of the Bank of Ethiopia, control a colonial banking network.

- The third event was the establishment of State Bank of Ethiopia in 1943, marking the rebirth of the Ethiopian independent banking.

- The fourth event was the revolution of 1974, which wiped out the monarchy, nationalized companies and the whole credit system being based on the central bank and three state owned financial institutions.

- The fifth event was, 1991, the collapse of socialist regime followed by a financial sector reform and liberalization.

2.2. The role of banks

The role of banks in the economy is crucial. Banks act as an intermediary between those who have shortage of money and those who have excess of money. However, in a perfect capital market the participants can borrow and save directly through the capital market. In reality, such perfect market does not exist; transaction costs and monitoring costs distort a perfect capital markets. Besides, it suffer by the information asymmetry and the agency problem. The agency problem refers to the dissimilar incentives of borrowers and savers, in a broader context it refers to the dissimilar incentives of principles and agents (Jensen and 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 useful since banks have lower monitoring and transaction costs than individuals, due to economies of scale.

Another important facet 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. 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 do not achieve maturity transformation with the same benefits as banks do. 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.

Currently, 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 might assume 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.

2.3. Developments in banking sector

Banks, insurance companies and microfinance institutions are the main financial institutions in Ethiopia. According to 2013's first quarter review report of national bank of Ethiopia, the number of banks operating in the country reached 19 of which 16 banks were privately owned and total number of branch banks (state and private) operating across the country are 1,616. But unfortunately out of these branches, 1,002 of them, constituting about 62 percent concentrated on the metropolis. The rest 614 branches constituting about 38 percent are established in different parts of the country, concentrating in major urban centers. As per this report, it is estimated that one bank branch serves 53,156 people, which is way below even at sub-Saharan standard. This shows the fact that Ethiopia indeed, is under-banked country with limited outreach.

According to national bank of Ethiopia, 2013, the total capital of the banking system reached about Birr 21.0 billion (about USD 1 billion) at the end of March, 2013. From this private Banks jointly accounted for 49.4 percent of the total capital, with the remainder being held by state owned banks. During the time period, the banking system collected Birr 8.4 billion in loans. Of the total loan collection, the share of private banks was Birr 4.2 billion (50.5 percent) and that of public banks Birr 4.2 (49.5 percent). However, total outstanding credit of the banking system (excluding credit to the central government) increased to Birr 132.9 billion at the end of March 2013. About 94.5 percent of the outstanding loans of private banks were a claim on private sector including cooperatives while the remaining balance was claim on central government. While about 53.7 percent loan was on private sector, 46.3 percent for public banks. The table below illustrates that the year were banks start operations.

Table 2.1 List of commercial banks in Ethiopia

S/No.	**Commercial Bank** in Ethiopia	**Year of Establishment**
1	Abay Bank	2010
2	Addis International Bank	2011
3	Awash International Bank	1994
4	Bank of Abyssinia	1996
5	Birhan International Bank	2009
6	Bunna International Bank	2009
7	Commercial Bank of Ethiopia	1963
8	Construction and Business Bank	1983
9	Cooperative Bank of Oromia	2004
10	Dashen Bank	1995
11	Debub Global Bank	2012
12	Development Bank of Ethiopia	1909
13	Enat Bank	2012
14	Lion International Bank	2006
15	Nib International Bank	1999
16	Oromia International Bank	2008
17	United Bank	1998
18	Wegagen Bank	1997
19	Zemen Bank	2008

source: www.nbe.gov.et

Chapter Three: Literature Review

It has been argued since long time that private ownership of firms leads to better firm performance, since private ownership leads to better intra-firm allocation of resources (Jensen and Meckling, 1976). However, it does not guarantee that privately-owned firms would always perform better than public or state-owned firms. Knowledge of the relationship of ownership and performance is assumed to have significance importance. Hence, this chapter serves as a base for this research by describing the relation between ownership structure and firms performance. In light of the above, the purpose of this chapter is to review the literatures related to firm performance and its relationship with ownership structure. Sub-topics which build on this chapter are described here below. First, this chapter explains some theoretical frameworks that are helpful in assessing the effect of ownership structure on banks financial performance, then, empirical review follows. Finally, conclusions on the literature review and knowledge gaps are presented.

3.1. Theoretical review

There are a number of theories which are used in explaining the effect of ownership structure on firms' financial performance. This chapter has two sections; the theoretical section documents pertinent theories and findings from previous work upon which the study will be anchored. Among the theories of ownership structure and its impact on financial performance of firms; agency, stakeholders', structure of objective function approach and neo-classical economic are included in this section. The most important theories that the researcher reviewed are the agency, stakeholders', structure of objective function and neo-classical economic theory. Agency theory, stakeholders' theory and structure of objective function approach explained the poorer

performance of public firms which are compared with private firms ownership. Even though the first two theories i.e. agency and stakeholders theories have developed independently from each other, the approaches are highly complementary to each other (Freeman et al., 2004). While other theory argued that there is no an association between ownership structure and firms' financial performances (neo-classical theory). Hence, this section presents the theories related to the association between ownership structure and firms financial performance.

3.1.1. Agency theory

Agency theory having its roots in economic theory was exposited by Alchian and Demsetz (1972) and further developed by Jensen and Meckling (1976). As noted by Habbash (2010) agency theory is the most popular and has received greater attention from different academicians and practitioners in the area of finance. Jensen and Meckling (1976) defined agency relationship as a contract under which the principal engage another person or the agent to perform some service on their behalf which involves delegating some decision making authority to the agent. So, the agency theory is based on the principal-agent relationships. The separation of ownership from management in modern firms (particularly corporations) provides the context for the functioning of the agency theory. Since, agency theory hypothesizes that in the modern corporation, in which share ownership is widely held, managerial actions depart from those require to maximize shareholder returns (Mallin, 2007). In modern corporations the shareholders (principals) are widely dispersed and they are not normally involved on the day to day operations and management of their companies, rather they hire managements (agents) to manage the corporation on behalf of them (Habbash, 2010). So, the agents are appointed to manage the day to day operations of the corporation. The separation of ownership and controlling rights results conflicts of interest between agent and principal. To reconcile the conflicting interests of

managers and owners the company incurs controlling costs including incentives given for managers.

Agency theory partially explained by principal-agent relationship about the difficulties faced by state-owned entities on tying manager's incentives with defined goals. According to Alchian and Demsetz (1972) noted that state ownership is underperforming than private, since there are differences in behavior (between private and state firms), not because objectives under each form are different, but because of the differences in specification of individual rights that define how costs and rewards will be allocated among the participants in a firm. Jensen and Meckling (1976) support that identification of right in organization is generally done through contacting, hence individual behavior in company, including behavior of manager, will depend on the nature of these contracts. These arguments is just a subset of the broader view based on agency theory literature.

Other aspect related to the relation between shareholders (principals) and managements (agents) is intervention. The seminal contribution by Sappington and Stiglitz (1987) initiates the application of the theory to interventions. They argue that the main difference between private and state-owned firms centers on the ease of government intervention within firms' production activities. Such an intervention is generally less costly in the state domain, since the major barrier to intervention, the legal protection of private property, is absent in this case. Though the government can intervene in the public firm at a lower cost, its inability to commit to non-intervention or at least prudence still creates a harmful distortion of the behavior of the public.

Moreover, government is assumed to be able to collect data about a state firm, whereas a private firm can observe a variable which cannot be verified by the government. Therefore, only in the

former case principal (the government) and agent (the owner-manager) are symmetrically informed about a variable determined by the state of nature. This can be considered as a logical extension of the assumption of differing costs of intervention in the public and the private sectors (Shapiro & Willig (1990) and Schmidt (1996a, 1996b)).

On the other hand, Jensen and Meckling (1976) explained that state ownership would be deemed inefficient due to the lack of capital market monitoring which according to the agency theory would tempt manager to pursue their own interest at the expense of the enterprise. Managers of private banks will have greater intensity of environmental pressure and capital market monitoring which punishes inefficiencies and makes private-owned firms economically more efficient (Long, 1972). All of the identified authors, clearly identified that the underperformance of state-owned banks as compared with private-owned banks due to incentive, intervention and information related problems.

Supporting ideas for poorer performance of state-owned companies are mainly within the scope of agency theory, under which there are two perspectives - managerial and political - that can be primarily described.

3.1.1.1. Managerial perspective

It suggests that good management behavior under state ownership is hardly observable and inadequately monitored, since state-owned enterprises are not market players, as is the case of private companies (Sheshinski and Lopez, 2003). The residual cash flow claims are not easily transferable like the shares of private company. This weakens the residual claimant's incentives to monitor managers and it results in a decrease of firm's performance as noted by Dewenter and Malatesta (2001). Melitz et al. (1986), Vickers and Yarrow (1988), Tian (2001) note, that the

essential argument for poorer state-owned enterprise (SOE) performance is based on fact that state ownership is diffused among all members of society and no member has a right to sell his shares. As a result there are little or no economic incentives to monitor the behavior of firm's management. In contrast, private company's ownership is concentrated among fewer individuals, each having a right to sell its stocks. Thus, owners have much higher incentives to observe and control management, so that they act in the best principals' interest. In case of SOE, debtors cannot play a significant role in controlling the managers due to the fundamental divergences in state company's debt, since its debt is actually a public debt that is perceived and traded under different conditions than private-owned enterprises (POE's) debt (Sheshinski and Lopez, 2003). From management perspective the first reason of low-incentives is imperfect monitoring. Indeed, Vickers and Yarrow (1988, 1991) admitted that, whenever wide spread ownership, management will tend to have much free hand to pursue its own interest and economic efficiency will suffer. Consequently, one expects publicly owned entities to be less efficient and hence less profitable than private ones.

3.1.1.2. Political perspective

Under the political perspective, it is true, that at the cost of efficiency, public managers tend to seek their political prestige and carriers themselves (empire-building hypothesis) (Sheshinski and Lopez, 2003). Following the empire-building hypothesis, managers tend to invest in new projects unwisely regardless whether it will be profitable or not for the following two reasons; firstly, managers still get a reputation and political benefit of managing larger company. Secondly, the fear of bankruptcy is no credible under public ownership in relation to soft budget constraints. Kornai (1992) support the second reason why state-owned firms poor performance than private-

owned entities. He argues that because of the soft budget constraints, state owned entities can borrow as much as they can without the significant worry of financial distress or bankruptcy. In addition, state-owned firms may enjoy loan guarantees, allowing them to borrow at favorable rates, or even borrow from state government directly (Dewenter and Malatesta, 2001). If any investment or project fails, it will be central government's concern to rescue company using public budget. Government will try to save firm in case of bankruptcy, because otherwise authorities have to deal with political costs (facing union problems, explaining to public why the entity failed). The assumption for this is that as long as political loss involved in closing a state-owned company is larger than the political cost of using taxpayer money to save the company, central government would tend to save firm from facing bankruptcy.

Boycko et al. (1996) emphasizes on similar arguments, although authors divided groups of interest differently. Authors separated managements of state-owned entities from shareholders (government) and shareholders from politicians. While looking from management perspective, their main goal is empire building. Shareholders (government, voters) target is increased social welfare. Whereas politicians prefer their individual interests, through which gain more political benefits. Their targets might be excess labor, that might increase voting support from employees and labor unions (unions are believed to have considerable influence for political parties). Authors further argued that agency problem in SOE, that causes inefficiencies, is related to politicians rather than managers and that managerial problem is rather small in comparison to political problems.

This perspective is supported by social and development view. According to this view, state banks are needed to support local and regional activities. Indeed, the purpose of SOEs is to develop less profitable sectors that provide significant social utility for the community where

they are located. Consequently, these institutions aimed to reduce market inefficiencies by developing industries that would have otherwise been left behind. Therefore, numerous authors are in line with this view concerning state-owned enterprises' mission, which allows them to explain eventual underperformance compared to private institutions. It has also been argued that they help to prevent unfair coalitions of private entities and capital drain, again with a view to improving social welfare (Gerschenkron (1962), Atkinson and Stiglitz (1980), Stiglitz et al. (1993), Beck et al. (2003), Berger et al. (2005), Andrianova et al. (2006), Hakenes and Schnabel (2006)).

In general, supporters of the agency view suggested that bureaucratization and bribery in state enterprises are such that they can offset social gains. They argue that SOEs are more prone to bureaucratization, agency issues and poorer governance than their private counterparts, leading to some misallocations (Barnerjee (1997) and Hart et al. (1997)).

3.1.2. Stakeholders theory

Stakeholder theory is an extension of the agency theory, where the agency theory expects board of directors to protect only the interests of shareholders. However, stakeholder theory extends the narrow focus of agency theory on shareholders interest to stakeholders to take into account the interests of many different groups and individuals, including interest groups related to social, environmental and ethical considerations (Freeman et al., 2004).

According to Freeman et al. (2004), stakeholder theory begins with the assumption that values are necessarily and explicitly a part of doing business. It asks managers to articulate the shared sense of the value they create, and what brings its core stakeholders together. It also pushes managers to be clear about how they want to do business, specifically what kinds of relationships

they want and need to create with their stakeholders to deliver on their purpose. According to stakeholder theory the purpose of the firm is to serve and coordinate the interests of its various stakeholders such as shareholders, employees, creditors, customers, suppliers, government and the community.

According to Habbash (2010), stakeholder refers to any one whose goals have direct or indirect connections with the firm and influenced by a firm or who exert influence on the firms goal achievement. These include management, employees, clients, suppliers, government, political parties and local community. According to stakeholders theory the best firms are ones with committed suppliers, customers, and employees and management. Recently, stakeholder theory has received attention than earlier because researchers have recognized that the activities of a corporate entity impact on the external environment requiring accountability of the organization to a wider audience than simply its shareholders (Kyereboah-Coleman, 2007). Companies are no longer the instrument of shareholders alone but exist within society. It has responsibilities to the stakeholders. However, most researchers argue that it is unrealistic task for managers (Sundaram & Inkpen, 2004b; Sanda et al., 2005). The stakeholder theory has not been subjected to much empirical study.

As stakeholder theory suggests the continuing dependence of state-controlled organizations on the bureaucracy and state in general, restricts the degree of decentralization of decision making to business units (Whitley and Czaban, 1998, pp. 270). Therefore, SOEs are likely to be more centralized, and to utilize more formal, procedural-oriented organizational structures (Whitley and Czaban (1998); Parker (1995)). In addition, Dharwadkar et. al (2000) suggest that SOEs may be constraint in their organizational culture. This constraint can restrict organizational flexibility and as a result it create a more bureaucratic structure. Hence, SOE organizational structures may

be more mechanistic than organic (Parker, 1995). Since, some researchers suggest that an organic organizational structure is best suited to coping with or adapting to a turbulent environment (Jennings and Seaman (1994, pp. 460); Covin and Slevin (1988); Burns and Stalker (1961)). Organic structures are characterized as flexible, informal, and decentralized, while mechanistic structures are normally thought of as rigid, formal, centralized, and bureaucratic.

Private enterprises may be more successful at adopting organic organizational structures. Private owner-stakeholders can pursue goals that decrease employment and increase capital spending, thus providing the firm with greater organizational flexibility (Andrews and Dowling (1998); Megginson et al. (1994)). Whitely and Czaban (1998) and Parker (1995) further suggest that decentralization of decision making and less formality in internal reporting go together with POEs', because its owner-stakeholders normally focus on strategic control and delegate operating control, while SOE owner-stakeholders tend to centralize operating control requiring more formal internal reporting systems. Furthermore, De Castro et al. (1996) suggest that the mode of social control and differences in sources of funding may motivate private firms to utilize more organic organizational structures.

Stakeholder theory also suggests that stakeholders might influence a firm’s strategic orientation. Financial performance differences may occur simply because SOEs give priority to other goals such as full employment and/or improved social welfare, but privately owned enterprises will pursue financial goals (Estrin (1994); Megginson et al. (1994)). Andrew and Dowling (1998) also argues that where government possesses strong control over the company, managerial incentives may not align with state objectives leading again to agency problems. They further posit that compared to privatized enterprises, SOEs tend to be over-staffed also affect negatively performance. Lioukas and Kouremenos (1989, pp. 60) stated that it would be reasonable to

assume that the closer the enterprise to the central government, the more the exposure to political pressures and, consequently, the less the importance assigned to commercial criteria such as profitability. Hence, financial performance may not be target of the state, and therefore may not be pursued by organization. In addition, private firms may achieve higher financial performance because the strategic changes they make, such as changing suppliers, adding new more efficient technology, or changing prices, may not be acceptable alternatives from the state‘s perspective (Whitley and Czaban (1998)).

In addition, stakeholder theory suggests that owner-stakeholders might influence organizational structure. For the reasons noted above, state control may mean that SOEs are pre-clued from making organizational changes that would improve financial performance (Whitley and Czaban (1998)). Private firms are more likely to improve flexibility by reducing staff and decreasing overheads and other burdens imposed by governments, which improves financial performance (Andrews and Dowling (1998); Carlin and Landesmann (1997)).

Furthermore, SOEs may be burdened with centralized control systems that are put in place so that the state owner-stakeholder can monitor and control the daily activities of the firm. Private firms are more decentralized, with decision making authority vested in the firm’s management, not with the owner-stakeholders (Whitley and Czaban (1998)). Internal reporting requirements may also vary between SOEs and POEs. Stakeholders of SOEs may demand more frequent and detailed reports, compared to private-owned firms (Whitley and Czaban (1998)). Centralization and frequent reporting requirements tend to increase formality and costs, which may have a negative impact on financial performance of SOEs.

Because the key stakeholder determines managerial life spans and may control key resources and market channels. They can also provide legitimacy to the enterprises through regulations and law. Authors like Arens and Brouthers (2001) explain the dependency relationships between the key stakeholder and the firm where the owners may obtain power to influence the firm as it possesses multiple points of dependency with the firm. Additionally, stakeholder theory can be used to explain why economic performance of private-owned firms better than that of SOEs. Uhlenbruck and De Castro (1998) explains that since the primary source of funds of SOEs is from the government budget rather than market forces, therefore managers of SOEs are less likely responsible to the market for efficiency and economic performance but are instead responsible to the government for political expediency. Thus, the theory suggests that economic performance may not be pursued vigorously because it is not a primary goal of the government.

3.1.3. Structure of Objective Function

This approach claims that the primary distinction of private and state-owned firms hinges on their respective objective functions. To the extent that the owner of private firms only concerned with profitability, its objective is profit maximization. As property of the government, the objective of the state firms is to fill the interest of the public and the government officials. Consequently, it is a weighted sum of public and bureaucratic welfare. When private and state firms with different objectives are operating in the same market environment, several studies show that they may work equally well. But when political officials have more freedom to pursue their own objectives, the private firm performs better. If externalities are present, the public firm can dominate (Vickers and Yarrow, 1991).

A more complex question is how market structure change will affect the relative performance of private and state-owned firms with different kinds of objective function, if they interact in an imperfectly competitive market. The specific market structures considered include oligopoly (many state-owned firms, no private firms), duopoly (one private firm and one state firm) and monopoly (one state firm). Depending on the market structure (the number of private and state firms in the market) and the amount of extra financial burden those state firms are responsible for (i.e. a wage premium per unit of output), the authors pointed out arguments to support either privatization or nationalization policy.

Interestingly enough, the private firm may not always be the one performing better. In a model developed by Fershtman (1990), a partly nationalized firm can earn a higher profit than a privatized firm in a duopolistic market. But note that strict assumptions, example same cost functions and homogeneous products are imposed in the model. In addition, if we assume that the private and the state firms compete through price rather than quantities, the results can be reversed. Therefore, the effect of privatization on firm's profits is sensitive to which strategic variables firms are competing with.

As noted by Boycko et al. (1996), public enterprises are inefficient and less profitable because they are operated to pursue certain objectives, example excess employment and to satisfy the political parties. They further suggests that after privatization, the cost for politicians to intervene in the firms in order to promote their personal goals become prohibitively high, because privatization drives a wedge between the managements and politicians. The politician may find it unprofitable to convince the management not to undertake restructuring to maintain excessive employment. Consequently, privatization can render firms more efficient by controlling the politician's discretion.

3.1.4. Neo-classical economic theory

According to neo-classical economic theory, efficiency is mainly a function of market and incentive structures rather than ownership. In other words, this theory suggest that it does not matter who owns the enterprise, as long as it operates in a competitive market without barriers to entry or exit; the owner gives autonomy to management and instruct them to follow the signals of the market; and lastly management is rewarded and sanctioned on the basis of performance (Nellis, 1994). States can in this theory still own enterprises and ensure success if the above conditions hold. In practice, however, there are two main problems. Firstly, the full set of the above conditions is rarely met, and secondly even when it is met, it is not normally sustained in the long period. Politicians can impose social objectives on SOEs as well as commercial ones, which could lead to the in-efficient use of resources (Boycko et. al, 1996). Often in times of fiscal crisis governments may focus on commercial objectives and grant managerial autonomy, but as soon as the crisis fades, commitment to managerial autonomy and primacy of commercial goals could fade as well (Kikeri et. al, 1994). While the existence of social goals is morally desirable, one has to ask: under what conditions would such goals be better achieved; under state- or private-ownership? Paradoxically, in most cases private ownership of previously state-owned enterprises, without an explicit focus on social objectives, does result in services of higher quality and more competitive prices for the public than state-owned firms. Privatization is hypothesized to originate a process of change in the organization's goals, incentives, controls, strategy, structure and culture (Cuervo and Villalonga, 2000; Cunha and Cooper, 1998; Zahra et al., 2000), which bring about such improvements. Privatization can engenders gradual and incremental change in actors, public sector norms towards new private sector norms (Johnson et. al, 2000).

3.2. Empirical literature

A number of studies has examined the influence of ownership structure on financial performance on various sectors including banks industry around the world. Most of the studies conducted on either a particular country or a number of countries case. Thus, the following section reviews the empirical literature related to the effect of ownership structure on financial performance with a particular focus on those that have been conducted more recently, as far as they are the best indicators of the current situation. The influence of ownership structure on financial performance studies conducted in single country are reviewed in section 2.2.1. This is followed by a review of 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.

3.2.1. Single country studies

This section presents all the single country studies reviewed by the researcher via thematically and chronologically to gain a better understanding about the issue studied.

The study on the effect of ownership structure on performance began as early as 1971 when Davies (1971) examined the performance difference between state-owned and privately-owned airline at Australian internal flight industry. Author's main goal was to test and advance the various theories and proposition that efficiency and performance will be greater when there is a private ownership. Investigation has shown very little difference between the performances of private-owned and state-owned airlines operated in Australia. Authors Kole and Mulherin (1997) evaluate the performance differences between state-owned enterprises (SOE) and private-owned enterprises (POE) in the same industry. Authors used a sample of U.S. corporations in which government holds 35 up to 100 percent of outstanding shares for periods ranging from one to

twenty three years during and following World War II. Both scholars concluded that the performance of POE was not significantly different from SOE.

Looking at the evidence from other sectors, a good example of this type of study is the paper by Caves and Christensen (1980), who carry out a postwar comparative performance analysis of the Canadian National and Canadian Pacific Railroads. Contrary to the predictions of principal-agent theory, stakeholders theory and structure of objective function approach, they found no evidence for superior productivity efficiency of private ownership over state ownership. Authors argue that this study provides an opportunity to estimate the impact of competition in counteracting the drawbacks of state ownership; and that results showed that the impact of competition can be of considerable importance. Authors concluded that the inefficiency of government enterprises or state-owned enterprises stems from the isolation from effective competition rather than their ownership structure.

Likewise, Majumdar (1996) evaluates the performance differences between state-owned, mixed and privately-owned entities in Indian market over period from 1973 to 1989. By using industry-survey data, author faces limitations to identify specific areas where private ownership or state ownership works best. However, scholar evaluates efficiency scores averaging 0.975 for private companies, which is considerably higher than the average of 0.912 and 0.638 for mixed and state owned companies respectively. Other studies test whether the ownership matters in comparing the performance of SOE and POE when both forms of ownership compete in competitive markets. For instance, Vining and Boardman (1992) examined five hundred largest non-financial corporations in Canada for year 1986. Performance is analyzed by using two types of dependent variables - technical efficiency and profitability. The results revealed that privately owned firms show significantly greater profitability and higher efficiency than state-owned entities. Good

example of empirical work that has focused upon more competitive market structures is the paper by Pryke (1982), where author analyses and compares economic performance in three industries: ferries, airlines and hovercraft. Scholar concludes, that private firms were both - more profitable and more internally efficient, than their public sector rivals. Superior performance of privately owned entities is also shown by Tian (2001), who examines the ultimate ownership and control of 826 corporations listed on China's stock market. With panel dataset of five years period (from 1994 to 1998), author finds that firms where a non government shareholder holds the largest stock (more than 50% of shares) perform better than those with the government as the largest shareholder (more than 50% of shares).

On the other hand, a study conducted in developing country by, Farooque et al. (2007) was examined the corporate ownership and performance relationship in Bangladesh listed firms using simultaneous equation approach. Consistent with contemporary literature a "reverse-way" causality relationship between the two document. Using an unbalanced pooled sample of 660 firms, they found that ownership does not have a significant effect on performance (using Tobin's Q and ROA). However, they found that performance does have a significant negative effect on ownership. With few exceptions, other governance and control variables have significant effects on both performance and ownership. They concluded that despite significant governance differences between Bangladesh and developed economies, there are strong similarities in internal governance mechanisms.

Another recent study by Abdullahi et al. (2012) aimed to investigate the financial and operational efficiency of the privatized firms in Nigeria. Data for their study comes from secondary sources; specifically, Fact Book from the Nigerian Stock Exchange, Offer Prospectuses, as well as published annual reports and financial statements of the privatized firms. Their study used

sample firms that were drawn from manufacturing, oil marketing, banking and insurance sub-sectors in the Nigerian economy. The period of analysis covers five years before, and five years after privatization, to test their predictions, they follow the techniques of Megginson et al. (1994) in order to determine the association between ownership structure and financial performance. They calculate the mean value of each variable for each firm over the pre and post privatization periods, then use the T- test and the Wilcoxon sign rank test as principal methods of testing for significant changes in the variables. Results obtained from the study were mixed. Whereas some companies in its sample shown improvements in some indicators, other companies had shown decline in some indicators after privatization. However, in spite the mixed results, the overall picture showed improvement in profitability for at least half of the firms in its sample. Overall, they conclude that its results provide little evidence that privatization has caused significant improvement by all indicators.

Subramanian and Swami (1994) was the first study to examine the comparative performance of public-owned banks and private-owned banks in India, they have analyzed and compared the performance and efficiency in six public sector banks, four private sector and three foreign banks for the year 1993-94. They were computed operational efficiency in terms of total business and salary expenditure per employee. Their analysis revealed that higher per employee salary level need not result in poor efficiency and business per employee efficiency co-efficient was also calculated. Their findings revealed that among the private-owned banks, Bank of Baroda registered the high efficiency and operating profit per employee. Among the private sector banks Indus Bank followed by Citibank Registered highest and second highest operating profit per employee respectively. However, among the state-owned banks there existed wide variations in efficiency. Finally, supporting the predictions of principal-agent theory, stakeholders theory and

structure of objective function approach, the authors concluded that Bank of Baroda one of the sampled private-owned bank outperform than the rest of state-owned banks.

On the contrary, author Ram Mohan (2003) has made an attempt to compare the three categories of banks; public, private and foreign by using physical quantities of inputs and outputs and he also compared the revenue maximization efficiency of banks over the period from 1992 - 2000. His findings showed that public or state-owned banks performed significantly better than private-owned banks but not differently from foreign banks. The conclusion points to a convergence in performance between public and private sector banks in the post-reform era, using financial measures of performance. D'souza and Megginson (1999) in his study evaluated the performance of public, private and foreign banks during the period 1991 to 2000. The efficiency of the banking system was measured in terms of spread over working funds ratio and turnover over employees ratio. With reference to the spread working funds ratio, the efficiency of the commercial banks as a whole has declined in the post-reform period. The state-owned banks' have been responsible for this decline in efficiency, as the efficiency of the private and foreign banks has improved over the course of 1990s. Through the turnover over employee ratio has risen in the state-owned banks, the turnover per employee in the private and foreign banks doubled relative to the ratio for state-owned during this decade. However, his findings revealed that the profitability of the public-owned banks in late nineties improved relatively to that of private and foreign banks.

Recently, Moussa (2012) aimed to investigate the impact of bank-specific and macroeconomic determinants of bank profitability for a sample of 25 commercial banks in Turkey over the period from 2001 to 2010. He categorized those sample banks into three groups as follow: public, private and foreign banks. A panel regression was used by the author to carried empirical

investigation based on the unique feature of the three categories mentioned above; then a general model was formulated to check the combined effect of bank-specific and macro-economic variables on commercial bank profitability in Turkey. Further, the author compare the bank profitability factors on different ownership structure. In addition, his study examined the impact of the sub-prime mortgage crisis of 2008 and also includes the consequences of 2001 national crisis in Turkey and he tried to see the impacts of it as well on those selected commercial banks. He found that out of public, private and foreign banks definitely indicates that foreign banks are efficient, reliable than domestic banks (public and private). The reason that foreign banks in Turkey hold a huge amount of assets which play an important in their success. For instance, from the selected factors, inflation which was expected to be negative in relation to profitability like in the case of public banks, but he found that it causes a positive impact on profitability of foreign banks. This indicates that foreign banks were able to forecast the overall prices and knew how to adjust with it and make profit in a ways that none of domestic banks could. Moreover, the author found that management efficiency and bank size affect the domestic banks in some cases in a positive way. Although they were not as good as foreign banks but still they can stand up for themselves in a financial failure or in any other default as find by him. When considering the crisis of 2001 and 2008, the author found that foreign banks were able to resist them in any way to avoid deficiency. This give them the courage of attract more customers. However, his finding clearly shows that public and private banks are the victims of the crisis, but still some of them are still in the market.

Prior to a study done by Moussa (2012) another research was conducted by Unal et al. (2007) in Turkey. They aimed to compare the performance between state-owned and privately-owned commercial banks of Turkey. The study was carried out over the period 1997 to 2006. On the

contrary to expectations, statistical findings of the study produce surprising results. The results suggested that state-owned banks are as efficient and profitable as private banks, and even outperform at some aspects. Thus, they were rise the question of ‘‘whether to privatize banks or not?’’. Using net profit-loss (NPL), return on assets (ROA) and return on equity (ROE) to determine profitability and net profit and net asset efficiencies relative to total employment and total number of branches for operational efficiency, the authors have tested their hypothesis. The initial assumption before the performance of tests was that the performance of private banks surpasses that of the government banks. Although after statistical tests were applied on the data collected the results were pretty much different; there was no significant difference in the profitability and operational efficiency of private and state-owned banks. The empirical findings suggest that if net profit/loss are kept constant then the government banks shown higher profitability but when standard deviation is employed the data doesn’t give and any substantial results. Therefore the authors concluded that proxies of profitability did not shown any conclusive results of the performance of private and state-owned banks during 1997-2006. Similarly the two variables used for determining operating efficiency gave opposite results therefore in that are at the results were inconclusive. Concluding the study they state that although the market trend has been to encourage the ‘invasion’ of private banks in Turkey but statistical analysis proves that there is not much difference between the performance of state-owned banks and private banks. They believe there is still room for further research to be carried out in this financial area so that it can provide valuable insight to the policy-makers of Turkey. The authors suggested that there was a pre-conceived notion that the government banks are meant to serve the sole purpose of financing economy friendly projects but research conducted in Turkey suggested differently. Similarly, Chen (2005) found that state banks outperformed other

types of banks. According to authors some previous researchers like La Porta et al. (2002) and Barth et al. (2004) believe that government banks do more harm than good to the economy because the hidden political agendas prevent them from fulfilling their expected role of economic prosperity. In the developing countries where the legal tier is weak the possibility of corruption in government banks cannot be ruled out. But on the other hand researchers such as Yevati et al. (2004) believe that government banks should not be judged solely on profitability but also on the way they so the economic conditions of any country. But a research by, Altunbas et al. (2001) on a developed country other than the US provide evidence that government banks in Germany areas efficient as their private counter parts.

On the other hand, study conducted by Ntiri (2010) was comparing the financial and operating performance of pre and post privatization process in Ghana. The indicators examined were profitability, operating efficiency, output, capital investment, employment, leverage and dividend. Since the sample size was small the researcher used Wilcoxon Signed Rank Test to test for the significant of the difference between pre and post privatization performance indicators. His study measures the change in the performance indicators by comparing its average value for five years before and five years after privatization. However, the researcher could not found convincing evidence that support significant change in financial and operating performance post privatized firms. Finally, the researcher concluded that ownership does not affect operating and financial performance of firms.

Another research by Omran (2007) analyzes both private and state banks' relative performances and also evaluates bank privatization process in Egypt by comparing the pre- and post-privatization performances of privatized banks. He addressed the financial and operating performance of a sample of 12 Egyptian banks from 1996 to 1999, during which time control

was transferred from the state to the private sector. Following privatization, the results indicate that some profitability and liquidity ratios for private-owned banks decline significantly, but other performance measures were virtually unchanged. Antithetically, the results indicate that the relative performance changes of private-owned banks were better than those of mixed banks with majority state ownership but worse than those of banks with other ownership forms (state-owned and mixed private ownership). Yet, the study finds a strong evidence to support the theory and previous empirical findings that banks with greater private ownership perform better. Therefore, the author reports that private banks outperform government banks. Similarly, Garcia-Herrero et al. (2009) found that less concentrated banking system as well as lower government intervention increases bank profitability. They concluded that companies under control of government as shareholder are valued lower than the comparable companies under control of non-government shareholder. In this regard, many authors present evidence justifying the view that state-owned enterprises are less efficient than private firms.

For instance, Shankar and Sanyal (2007) examines the impact of ownership, competition and productivity on profitability and spreads in India's commercial bank sector following the 1991 reforms. Their main results that, private-owned banks showed better performance relative to state banks in terms of profitability and foreign banks outperform Indian domestic private and state banks. In addition, they found that profitable banks are more likely to have a diverse range of output, to be operationally efficient, and to have high spreads. Productivity has increased across all bank categories, but its impact was relatively small in magnitude when compared to the output expansion variables. This leads them to conclude that banks in India have resorted to output expansion rather than efficiency enhancement as a strategy to boost profits. They also found the profitability of state sector banks has improved in response to greater competition. In

addition, when competition is taken into account, they found that private banks have lower spread than state banks and there was no difference between old and new private banks. Additionally, all categories of domestic banks have lower spreads than their foreign counterparts. Lastly, productivity lowers spreads, although the magnitude was relatively small.

Likewise, Ben Naceur & Goaied (2008) examined the impact of bank characteristics, ownership structure and macro-economic conditions on Tunisian banks' net interest margins and profitability during the period of 1980 - 2000. The empirical findings suggested that private banks were relatively more profitable than their state-owned counterparts. Moreover, 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 result indicated that macroeconomic conditions had no significant impact on Tunisian banks' profitability.

On the other hand, the research conducted by Hsiao et al., (2010) emphasized and analyzed the operating efficiency changes in the pre- and post-reform period. For the purpose of their study the researchers used a samples of 40 Taiwanese banks over the period of five years from 2000-2005 and Data Envelopment Analysis (DEA) tool used. The results of DEA showed that banks faced lower operating efficiency during First Financial Restructuring reform era (2002-2003) in comparing to pre-reform period (2000-2001), yet in the post-reform period (2004-2005) faced higher operating efficiency. The results also shown that banks with a higher non-performing loan ratio have lower operating efficiency meanwhile banks with a high capital adequacy ratio have higher operating efficiency.

On the same country, Lin and Sum (2012), using a panel of Taiwanese bank data over the period from 1997-2010, the paper conducts a joint analysis to examine the static, selection, and dynamic effects of ownership on bank performance. Simultaneously, the researchers attempt to determine whether politics had a significant effect on the performance of public banks, by incorporating dummy explanatory variable that represents a pan-public bank in a major election year was also included. The results indicate that both the pure-public banks and the private banks experiencing mergers and acquisition significantly outperform the pure-private banks in most performance measures (static and selection effects). Private banks experiencing mergers and acquisition had consistently ascending non-performing loan ratios in both the short and long term, yet four other performance measures display a short-term improvement but a long-term deterioration after the mergers and acquisition (dynamic effects). They found that public banks undergone privatization had particularly poor loan growth rates which improve significantly following the privatization, in addition all other performance measures presented short-term deterioration but long-term improvement after the privatization (selection and dynamic effects). Banks participated or acquired by foreign banks perform significantly outperform than the pure-private banks in all five performance measures, yet had all measures show short-term deterioration but long-term improvements following the ownership change (selection and dynamic effects) indicating that foreign participation and acquisitions had a positive effect on bank performance. Finally, the pan-public banks have ascending NPL ratios in the major election years indicated that politics do matter.

A research done by Jiang and Yao (2011) paying special attention to the ownership, selection effect and dynamic effects of governance changes on bank performance. For the purpose of their study the researchers used a samples of Chinese banks over the period of thirteen years from

1995-2008 and one-step stochastic frontier analysis (SFA) approach was employed. The results of SFA approach showed that Joint Stock Commercial Banks and City Commercial Banks (the two private-owned banks) outperform State-owned Commercial Banks. The results also showed that bank efficiency has improved over the data period 1995-2008, since the estimated average cost and profit efficiencies were 74% and 63% respectively. Moreover, the researchers found that foreign ownership participation has a negative effect on profit efficiency in the long-term while initial public offerings (IPOs) improve bank profitability in the short-term. Finally, the researchers recommended that bank reforms in China should be done to tackle the current financial crisis.

Another research done by Qasim et al. (2012) found mixed results. They was made an attempt in order to compare the financial performance of public and private banks of Pakistan for a samples of twenty-five private and two public-owned commercial banks during the period of 2006-20011. From the sampled period, the researchers found that public and private banks have different ranking based on different financial ratio. For instance, on the basis of return on equity (ROE), return on asset (ROA), breakup value per share, cash and cash equivalent deposit to total assets, non performing loans (NPLs) to gross advances and NPLs to equity ratios, the performance of public banks were at first while private banks are at second. On the other hand, on the basis of investment to total assets, total liabilities to total assets, advances to total assets, net interest margin, interest expenses to total income, spreads and capital ratios, the private banks are at first while public banks were second.

On the same country, the primary research question of the study conducted by Haider et al. (2013)**,** was to find out, whether the privately owned banks perform better than state owned banks? To answer their research question performance of both types of banks i.e. private and

state owned banks was examined. The sample for their study consists of eighteen public and private commercial banks operated in Pakistan over the period from 2005 to 2010, the data for the study was obtained from the financial statements of all the sampled banks. Twelve ratios in terms of profitability, liquidity and efficiency were used as a performance measurement. Apart from the financial ratios, t-test was used by the researchers for the purpose of comparing the means of both types of banks. In order to see the association of ownership and performance, they run multiple regressions in SPSS. All financial ratios except advances to deposit ratio showed that there was no statistically significant difference between performance of public and private bank. They also found that no statistical empirical differences between state and private-owned banks. The association of ownership with performance with the help of multiple regression models provide the same results from T-test. These findings are very much consistent with some of the other researches which showed no performance difference between state-owned and private-owned banks, like Micco at al. 2005, Unal et al. 2007 etc. For instance, based on a sample of 1999-2002 data on Russian banks, Styrin (2005) also proved that there were no noteworthy correlations between type of ownership and efficiency. On the other hand, the findings of Grigorian and Manole (2006) and Bonin et al. (2004) (cited in Karas et al. (2010)) are completely different. Indeed, these authors verify that the better performance of private banks was not statistically significant.

Most recently, Mishra et al. (2013) studied the soundness and efficiency of twelve public and private sector banks based on market cap. CAMEL approach has been used over a period of twelve years from 2000-2011, and they found that private sector banks were at the top of the list, with their performances in terms of soundness being the best. Public sector banks like Union Bank and SBI have taken a backseat and display low economic soundness in comparison. On the

other hand, they measure the efficiency change of selected banks operating in India during 2010-2012. By using frontier based non-parametric technique, Data Envelopment Analysis (DEA), provides significant insights on efficiency of different banks and places private sector ones at an advantage situation and thereby hints out the possibility of further improvisation of most of the public sector banks. DEA results exhibited that among the public sector banks, the performance of Bank of India, Canara Bank and Punjab National Bank got dampened in the last two years under study where as among the private sector banks, except the case for Axis Bank which was not found to be satisfactory at all, the remaining private sector banks shows marked consistency at their efficiency level during the period under the study used.

3.2.2. Panel country studies

Until recent days, the body of empirical evidence on state-owned enterprises (SOE) versus private-owned enterprises (POE) related with performance is mixed. Nevertheless, most authors find significant results confirming superiority of privately owned enterprises against state owned. Supporting this, Boardman and Vining (1989) more or less belonged to one of the earliest researches conducted in the area of ownership structure and financial performance of non-financial sectors. A research conducted by Boardman and Vining (1989) built on 500 largest non-U.S. industrial companies for year 1983, classified by ownership structure as state-owned, privately owned, or mixed ownership enterprises. By analyzing results, scholars highlight Italian and French companies as performing notably worse than companies in other countries. But authors suggested that these differences in the highlighted countries might be due to differences in accounting practices. They also found that state-owned entities were less profitable and efficient than private corporate firms.

By using the same data bases from the previous study conducted by Boardman and Vining (1989), through using 500 largest non-US state owned firms from three separate periods (1975, 1985 and 1995), Dewenter and Malatesta (2001), made an international cross-section comparison of SOEs and POEs performance in terms of profitability, efficiency and capital structure. The results showed quite robust multi-year results that government-owned firms were significantly (often dramatically) less profitable than private firms and use more leverage than private firms do. Authors stress out that the divergences in profitability were not only significant, but also they were large. Moreover, they provide support for the evidence that government companies were less efficient than private ones, as SOEs tend to display excess labor intensity compared with POE. Both univariate analysis and regression test results presented that publicly held firms had considerably larger employees-to-sales ratios, however, employees-to-assets ratios do not differ significantly.

Recently, the study done by Savickaite and Rimkus (2011) investigates the performance of large public and private entities in the European Union, by employing measures of capital structure, profitability and efficiency. Authors perform a comparative analysis, raising a question whether ownership matters, based on 10,150 private and 313 public entities observed over period between 2005 and 2009. Due to expected divergence in performance measures among companies established in Western and Eastern European Union, the researchers was separated sample accordingly. The authors conducted their study through three main stages: firstly, tests of equality; they evaluated the significance of differences in performance measures among private and public entities; secondly, regression analysis was performed in order to assess whether generally accepted firm specific and country specific explanatory variables affect companies performance under two types of ownership in the same manner; lastly, based on 75 privatized

companies in the EU over period between 2005 and 2007, tests of equality indicate the significance of differences in performance measures by comparing pre- with post-privatization values. They found that leverage, profitability and efficiency ratios were generally lower for publicly-owned entities, therefore, the researchers indeed by providing suggestion ownership structure would matter performance. Subsequently, the regressions partly explain the divergences between sub-groups, indicating different statistically and economically significant groups of variables for private and public companies. They also showed that, the effects of explanatory variables vary in magnitude among private and public companies, as well as between the Western and Eastern EU sub-samples, and in external cases even change the sign. Finally in the last stage of their analysis, they found as their expectations that private ownership type was superior by analyzing privatized companies' performance. Even though insignificant, they found that privatization leads to lower levels of leverage and higher profitability and efficiency, as compared between pre- and post-privatization performance measures.

Fernández et al. (2000) was one of the first study conducted on banks in cross country, the paper examine association between ownership structure and banks financial performance. Fernández et al. (2000) was aimed to investigate how bank profitability varies depending on the type of bank ownership. They compared stock banks, mutual banks, state-owned banks and saving banks organized as foundations, using cross-country level panel data from eight OECD countries to correct for unobserved country heterogeneity. Their result indicated that mutual and state-owned banks have higher interest margins and higher profit before taxes than commercial stock banks after adjusting for risk. Whereas the higher profit before taxes of state-owned banks is based on their lower risk-taking, the use of provisions for income smoothing seems to explain the same result in mutual banks. Another studies on the profitability of banks shows that public banks are

relatively less efficient than private ones in the OECD countries. Numerous authors as well as International Monetary Fund shared this view, claiming that state-owned banks are characterized by low profits and low cost efficiency, sometimes leading to reduced access to credit (La Porta et al. (2002), Barth et al. (1999), Beck et al. (2003)). It has also been found that state ownership of banks is linked to a higher likelihood of financial crisis (Caprio and Martinez Peria (2000) cited in Rudolph (2009)).

As a result of the former communist regimes and their policies, numerous banks in transition countries are still state-owned. Here too many authors favor privatization. For instance, the findings published by Fries and Taci (2005) tend to prove that state-owned banks are less cost-efficient than privately owned banks (out of a sample of 15 Eastern European countries), suggesting that private banks (especially those that are foreign-owned) are the most efficient. Other authors are more neutral, concluding that neither underperformance nor over performance can be established, and suggesting that ownership structure might not be correlated with performance. As a result, they state that public banks should not necessarily be considered less efficient a priori for the industrial countries (Levy-Yeyati et al. (2004) using La Porta et al. (2006) data, Micco et al. (2004).

In addition a more comprehensive study was conducted by Micco et al (2007) examined large sample commercial banks covering approximately 50,000 observation for 179 countries during the period 1995-2002. The objective of the study was to examined the relationship between bank ownership and performance and to test whether there was a political factor effect. The results indicated that state-owned banks operating in developing countries tend to have lower profitability, lower margins and higher overhead costs than their privately-owned counterparts. This relationship was weaker in the case of industrial countries. In particular, the paper indicated

that state-owned banks operating in developing countries tend to have lower profitability and higher costs than their private counterparts, and that the opposite is true for foreign-owned banks (which tend to be characterized by higher profitability and lower costs). They also find that, in developing countries, the entry of foreign banks plays a useful role by making domestic banks more efficient in terms of overhead cost and spreads, although they do not find any effect on profitability of domestic banks.

On the other hand another authors Figueira et al. (2009) studied in different region. They begin their article "The effects of ownership on bank efficiency in Latin America" by stating that the Latin American economy has undergone dramatic changes after the liberalization of its financial market causing a large share of its banking sector to be operated by the private sector. The level of privately-owned assets has increased to almost 60% in Peru and 50% in Argentine and Venezuela. The reason for such a large influx is attributed to a global trend of raising production, services provided and decreasing costs. Using cross-sectional data the authors have tried to compare the performance of foreign/domestically-owned and state/private owned banks. Using a sample of 20 (twenty) Latin countries the authors have tried to judge whether there is any performance differences that arise because of the ownership of banks.

A research carried out by, Marcia et al. (2005) investigated performance differences between privately-owned and state-owned banks in sixteen Far East countries. By using cash flow and accounting based measures of performance, they found that state-owned bank generally operate less profitably and efficiently than privately-owned banks. Moreover, the data suggested that performance differences are highly significant in those countries where government involvement in the banking system is the greatest. And accordingly greater state ownership of banks results in

slower economic and financial development for the countries. Finally, they conclude that bank performance worsens as the extent of state ownership increases.

Similar to the above, Cornett et al. (2009) examines how government ownership and government involvement in a country's banking system affect bank performance from 1989-2004. Their study uncovers an interesting pattern of changing performance differences between state-owned and privately-owned banks around the Asian financial crisis. They found that state-owned banks operated less profitably, held less core capital, and had greater credit risk than privately-owned banks prior to 2001, and the performance differences were more significant in those countries with greater government involvement and political corruption in the banking system. In addition, from 1997 to 2000, the four year period after the beginning of the Asian financial crisis, the deterioration in the cash flow returns, core capital, and credit quality of state-owned banks was significantly greater than that of privately-owned banks, especially for the countries that were hardest hit by the Asian crisis. However, state-owned banks closed the gap with privately-owned banks on cash flow returns, core capital, and nonperforming loans in the post-crisis period of 2001-2004.

Prior to the above study they themselves, the authors Cornett et al. (2005) examined performance differences between privately-owned and state-owned banks in sixteen far east countries from 1989 through 1998. They found that state-owned banks generally operate less profitably and less efficiently than privately-owned banks over the sampled period, and bank performance worsens as the extent of state ownership increases. They also found that in 1997 and 1998, during the Asian economic crisis, the performance of both privately-owned and state-owned banks deteriorated significantly. However, the deterioration in the performance of state-owned banks was significantly greater than that of privately-owned banks rivals. Moreover, they found that

performance differences were most significant in those countries where government involvement in the banking system is the greatest. Finally, they find that greater state ownership of banks results in slower economic and financial development for the countries. Differences in corporate governance and leads in managers' incentives and objectives were offered as explanations for the results.

The main objective of the study conducted by, Farazi et al (2011), was to assess whether bank ownership affects performance, as measured by profits, margins, costs, and the quality of loan portfolios. They investigated the impact of ownership structure on financial performance using the Middle East and North Africa region (MENA) bank-level panel dataset for the period 2001-08, by accounting key bank characteristics such as size and balance sheet composition. The paper analyzed headline performance indicators as well as their key drivers and they found that state-owned banks exhibit significantly weaker performance, despite their larger size. The results was mainly driven by a larger holding of government securities, higher costs due to larger staffing numbers, and larger loan loss provisions reflecting weaker asset quality. The results reflect both operational inefficiencies and policy mandates. The paper also provides a detailed performance analysis of domestic and foreign-owned banks. They found that foreign banks exhibit superior performance driven by higher interest margins even in the face of higher costs than counter parts of domestic-owned banks. Finally, they recommended that governments have to reduce the share of state banks in some countries and it helps to clarify the mandates, improve the governance, and strengthen the operational efficiency of most state banks in MENA region, because their results supported the superior performance of private-owned banks than state-owned banks. Prior to this, the authors, Kobeissi and Sun (2010) analyze the impact of ownership structure on bank performance in 17 MENA countries, and found that private banks perform better than state

banks, as measured by higher returns on assets and equity. They also found that the presence of foreign banks seems to have a positive impact on the performance of domestic-owned (this, include both private and state banks owned by domestically) banks. Moreover, banks listed in the stock market are also found to have higher performance rates.

The research conducted by Kobeissi and Sun (2010) was similar from the study done by Farazi et al. (2011) (the above reviewed studies) in some methodological aspects, but also has some differences. First, the samples are not identical – while Kobeissi and Sun (2010) adopt a broad definition of MENA that includes Iran, Israel, Mauritania and Turkey, Farazi et al. (2011) not only exclude these countries, but also focus the statistical analysis on the non-GCC countries. Second, Kobeissi and Sun (2010) only focus on measures of profitability, while the recent study done by Farazi et al (2011), explored other measures of performance, and make an attempt to explain the differences between the profitability of state and private banks from its main determinants, i.e. margins, costs, employment, wages, and loan-loss provisions.

3.2.3. Review of previous related studies in Ethiopia

Geda (2006) examines liberalization program by analyzing the performance of the sector before and after the reform. His study notes that given the recent nascent development the financial sector in the country, the relatively good shape in which the existing financial institutions find themselves, and given that supervision and regulation capacity of the regulating agency is weak, the government's strategy of gradualism and its overall reform direction is encouraging. However, He argue for charting out clearly defined time frame for liberalization and exploring the possibility of engaging with foreign banks to acquire new technology that enhance the efficiency of the financial sector in general and the banking sector in particular. Similarly, Kiyota

et al. (2007) focuses on issues of financial sector liberalization in Ethiopia, with reference in particular to the Ethiopian banking sector. They identified two factors that may constrain Ethiopia's financial development. One was the closed nature of the Ethiopian financial sector in which there are no foreign banks, a non-competitive market structure, and strong capital controls in place. The other was the dominant role of state-owned banks. Their observations suggested that the Ethiopian economy would benefit from financial sector liberalization, especially from the entry of foreign banks and the associated privatization of state-owned banks.

Likewise, Lelisa (2007) aimed to assess the impact of financial liberalization on the ownership structure, market concentration and profitability performance of the Ethiopian banking industry. He found out that the reform has brought a lot of remarkable changes on the structure and performance of the banking sector as compared with the situations prevalent before the reform period. However, the reform has restricted the advantages that could be obtained from a diversified ownership structure via prohibiting operation of foreign banks and participation of the private sector to the ownership of government banks. Furthermore, the researcher through tested by both two firm concentration ratio and HHI using total deposits, loans, capital and assets, the banking industry in Ethiopia can still be distinguished by its market concentration towards the big government owned commercial banks and by a market characterized by little and insufficient competition. Moreover, the researcher found that the profitability of the industry has also shown a tremendous improvement after the reform measure has been taken. However, the existing government banks are enjoying having the higher share of profit from the industry and still the pattern of the industry profit is following the profitability structure of the giant bank, CBE, as mentioned by him. Finally, he identified and recommended areas that need further liberalization measures so as to enhance the performance of the industry.

More specifically, Rao and Lakew (2012) examine the relationship between cost efficiency and ownership structure of commercial banks in Ethiopia using data envelopment analysis (DEA). Moreover, the study made an attempt to explore the key factors that affect the cost efficiency of the commercial banks using the Tobit model. In measuring the cost efficiency of the commercial banks the study used the input-oriented BCC model. They found that the average cost efficiency of state-owned commercial banks over the period 2000-2009 was 0.69, while that of the private commercial banks is 0.74. The aggregate cost efficiency of Ethiopian commercial banks was found 0.73. The Kruskal- Wallis (K-W) non-parametric test indicates that the difference between cost efficiency of the state-owned and private commercial banks was statistically insignificant. They also found little statistical evidence to conclude that the state-owned commercial banks were less cost efficient than the private commercial banks**.** Thus, ownership structure has no significance influence on the cost efficiency of commercial banks in Ethiopia. In addition, the study has identified bank size, loan loss reserve to total assets, market share, market concentration, capital adequacy, and return on average assets as the key factors that influence the cost efficiency of the commercial banks.

Another study done by Kapur and Gualu (2012) was try to examined the impact of ownership structure on performance of commercial banks in Ethiopian. They used eight Ethiopian commercial banks over the period from 2001-2008. They have employed both parametric and nonparametric tests of differences among public and private sector banks. Their results revealed that private sector banks had better profitability, asset quality and capital adequacy performance and public sector banks were better in cost management measures. In terms of liquidity, there was no difference observed between the private and public sector bank. On the contrary, Yaregal (2011) examined the performance of banks by classifying in terms of their ownership type to

explore the effects of ownership on performance over the period from 2005-2010. The researcher begin by documenting the extent of, theoretical rationale and measured performance of state and private owned banks around the world, and then assessed the performance of banks in Ethiopia. His empirical evidence clearly shows that state owned banks are superior in performance than privately owned banks, and from eleven ratios used to measure performance seven supports for state ownership and the remaining supports private ownership. In case of growth pattern of deposit, loan and asset, the researcher founded better trends in private banks than state owned banks.

Most recently, Eshete et al. (2013) assessed the trend, nature, and extent of competition in the Ethiopian banking industry using qualitative, descriptive and econometric techniques. They mentioned that the financial system in Ethiopian is dominated by banking industry, and yet, it is amongst the major under-banked country in the globe. Moreover, they mentioned that Ethiopian banking industry can be characterized as highly profitable, concentrated and moderately competitive. In addition they mentioned that Commercial Bank of Ethiopia (state-owned bank) seizes quasi-monopoly power. In terms of contestability, they indicated that the Ethiopian banking industry could be characterized as incontestable as entry in the industry was difficult; due to legal, technological and economic factors. Competition in terms of price was relatively weak in the Ethiopian banking industry. Their econometric study also confirmed that there was monopolistic competition among banks in terms of prices. In a nut shell, banks in the Ethiopian case were competing in terms of service quality and efficiency (including use of technological advances), branch network expansions, advertising and prices, as mentioned by them.

3.3. Conclusions and knowledge gap

The review of the literature reveals the existence of many gaps of knowledge in respect of the effect of ownership structure on banks performance, 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 the effect of ownership structure on banks performance belong to country wide studies particularly in eastern and western Europe countries, OECD countries, middle east and north African countries (MENA) and Far East countries and some country specific studies such as China, Turkey, India, Pakistan, Taiwan and Germany. 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 the effect of ownership structure on banks financial performance in Africa and Sub Saharan Africa countries in general and Ethiopia in particular.

In the context of Ethiopia, the related study conducted by Rao and Lakew (2012) mainly examined the relationship between cost efficiency and ownership structure of commercial banks in our country, even if it tries to explore the key factors that affect the cost efficiency of banks. Accordingly, this study clearly failed to used most of the financial performance measurements which should be consider to examined the impact of ownership structure on banks performance as far its main focus was an assessment of the association between cost efficiency and ownership structure of commercial 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 factors that affect the cost efficiency of banks and the association between cost efficiency and ownership structure of

commercial banks and it also fills to constitute another important performance indicators such as management quality, operating efficiency, profitability, capital adequacy, liquidity etc.

The recent study of Yaregal (2011) assessed the performance of banks by classifying in terms of their ownership type to explore the effects of ownership on performance of commercial banks in Ethiopia. The recent study of Yaregal (2011) also fails to disclose the knowledge gap that exists in the area as far as it limits its scope only in case of eight commercial banks of the country over the period of six years and also it overlooked some important indicators that can significantly measure Ethiopian banks performances from the point of view of the theories and previous empirical studies reviewed above. In addition his study highly depends on ratio and trend analysis which has a lot of limitations.

The most recent study conducted by Kapur and Gualu (2012) tried to investigate the impact of ownership structure on performance of commercial banks in Ethiopian. This study also fills to fill the knowledge gap that exists in the area. That means, even if the study of Kapur and Gualu (2012) tried to address the issue in a better way as compared to the previous work of Yaregal (2011), surprisingly, the study fails to disclose in its data analysis three of the performance measures such as management quality, operating efficiency and solvency. In addition to this, the study fails to disclose the association between ownership structure and banks performance using regression analysis.

Besides, most studies adopt a descriptive statistics mainly on ratio and trend explanation only to analysis their data without considering a lot of limitations of it. Moreover, previous works failed to use deferential statistics like regression and correlation to examine the effect of ownership structure on banks financial performance. 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 in area of the effect of ownership structure on financial performances of commercial banks in the context of Ethiopia and the existence of knowledge gap in the area initiate this paper. Therefore, the objective of this research thesis is to examine the effect of ownership structure on banks performances in Ethiopia and to fill the knowledge gap that exists in this arena.

Finally, in order to investigate the effect of ownership structure on financial performances of Ethiopian commercial banks, the researcher conducted this study by using quantitative research approach through; descriptive statistics, correlation matrix, regression and test of means equality and longest time span and by including missed performance indicators. This makes complete difference from the previous researches, because they used more of descriptive statistics and trend analysis with some performance indicators and short time span.

Chapter Four: Research Methodology

The preceding chapter indicated the literature on the effect of ownership structure on banks' performance has empirically limited. Especially from Ethiopian perspective, banking sector in particular, it has been shown that there is no comprehensive study on the effect of ownership structure on financial performance. The purpose of this chapter is to present the underlying principles of research methodology and the choice of the appropriate research method for the study. Therefore this chapter is arranged as follows: section 4.1 presents the research questions and hypothesis. Section 4.2 discusses the description of different variables and measurements. Sections 4.3 identify the different research approach and the methods adopted in this study. Section 4.4 and 4.5 presents the data collection instruments and its source and sampling design respectively; while the model specification part discussed in section 4.6; finally, conclusions along with the link between hypothesis/research questions and data sources are presented in section 4.7.

4.1. Research questions and Hypothesis

As already shown in the first chapter, the intent of this study is to examine the effect of ownership structure on financial performance of banks and to identify which of the two sectors i.e. private or state owned banks are superior in performance. In order to achieve this objective, seven research questions (RQ) and one hypothesis (HP) have been developed. The hypothesis constructed to test the association between the independent variable ownership structure i.e. private and state owned banks that is selected from the theoretical and empirical literature and the performance (proxy by return on asset and return on equity) as dependent variable. While to identify which of the two sectors i.e. private or state owned banks are superior in performance

seven research questions have been developed. Thus, the developed hypothesis and research questions presents in the rest of this section.

HP. There is a positive or negative relationship between ownership structure (banks owned by state or private) and performance of banking industry in Ethiopia.

In addition the study has the following research questions;

RQ1. Is there a difference in asset quality between private and state-owned banks in Ethiopia?

RQ2. Is there a difference in management quality between private and state-owned banks in Ethiopia?

RQ3. Is there a difference in capital adequacy between private and state owned-banks in Ethiopia?

RQ4. Is there a difference in earnings performance (profitability) between private and state-owned banks in Ethiopia?

RQ5. Is there a difference in liquidity management between private and state-owned banks in Ethiopia?

RQ6. Is there a difference in efficiency between private and state-owned banks in Ethiopia?

RQ7. Is there a difference in solvency and risk management between private and state-owned banks in Ethiopia?

4.2. Description of variables and measurements

In this study, the variables were selected based on alternative theories and previous empirical studies related to ownership structure and firm performance. In accordance with the theory and empirical studies; independent, dependent and control variables of the study were identified in order to test the association between ownership structure and firms' financial performance.

4.2.1. Dependent variables

In this study, the dependent variables are variables that are used to measure the financial performance of sample commercial banks. To measure the financial performance of banks Tobin's Q and other market based measures were used by many researchers. However, in Ethiopia there is no secondary market so that it is not possible to use Tobin's Q as well as other market based measures. Therefore in the literature, there are two major alternative accounting measures of performances; namely ROA and ROE (see for example Erhardt et al., 2003; Abu-Tapajeh, 2006; Bathula, 2008; Ibrahim et al., 2010; Adusei, 2011; Aldamen et al., 2011; Al-Manaseer et al., 2012).

1. **Return on Asset (ROA)** - measures the overall efficiency of management. Meaning it 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. So it gives an idea as to how efficient management is at using its assets to generate earnings.

$$ROA = \frac{\text{Profit after Tax}}{\text{Total Asset}}$$

2. **Return on Equity (ROE)** - measures a firm's financial performance by revealing how much profit a company generates with the money shareholders have invested. It shows how well the shareholders funds are managed and used to generate return.

$$ROE = \frac{\text{Profit after Tax}}{\text{Total Equity}}$$

In general as highlighted by Athanasoglou et al. (2008) and Sufian (2011), many scholars suggest that ROA is the key ratio for the evaluation of bank performance given that ROA is not distorted by high equity multipliers, while ROE disregards the risks associated with high financial leverage. In this respect, the researcher rarely find the paper utilizes ROE as a single measure of profitability. Rumler & Waschiczek (2010) is one of the example. While a bulk of studies employ both ROA and ROE as profitability measure, e.g. Altunbas et al. (2001), Berger et al. (2005), Micco et al. (2004), Cornett et al. (2005), Farazi et al. (2011), Valahzaghard et al. (2012), Kapur and Gualu (2012) and Moussa (2012). Therefore, this study attempts to measure performance by using both ROA and ROE similar to most of the aforementioned researchers.

4.2.2. Independent variable

In this study, the independent variable is variable that is used to test the association between ownership structure and financial performance of the sample Ethiopian commercial banks. The independent variable of the study is ownership structure. The definition and measurements of the variable is as follows:

Ownership structure: A firm ownership structure can be defined along two main dimensions. First, the degree of ownership concentration: firms may differ because their ownership is more or

less dispersed. Second, the nature of the owners: firms can differ because their owner is private or government (state). This ranges from banks that are owned entirely by private investors to banks owned entirely by the government i.e. private and state-owned banks. In the context of this research state ownership is to mean banks which are under the control of government and private banks are those which are established by individual investors and by issuing shares for the public. Ownership structure has long been considered as an important variable explaining firm performance. The common argument is that performance will be different in the private and state-owned firms; because of ownership objectives, management incentives and monitoring arrangements differ from each other. The theoretical work of many scholars supports this idea. In the current study, dummy variable were used. A dummy variable that equals 1 if the bank is private owned banks, and zero if banks ownership is state owned is used. The researcher use this as a proxy for ownership structure and the researcher expect both positive and negative sign for its coefficient sign.

4.2.3. Control variables

Studies, such as Megginson and Netter (2001), Cabanda and Ariff (2002), and Kikeri and Nellis (2004), suggest that performance of enterprises may be influenced by a variety of factors other than ownership structure. Thus, in addition to examining the effect of ownership structure on firms' performance, this study also investigates variables that may effect on the performance of enterprises. These variables include size (Ozgulbaset et al., 2006), age (Glancey, 1998), GDP growth (Athanasoglou et al., 2005) and (Kosmidou, 2008) and inflation (Revell, 1979 cited in Ponce 2012)). Description and measurements of these control variables discussed below:

Size

There is consensus in 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 empirical literature. This study uses the natural logarithm of total asset to capture the potential non - linear effect of size similar to Athanasoglou et al. (2008) and Sastrosuwito & Suzuki (2011). Therefore the researcher expected significant positive/negative relationship between the size of a bank and the bank's performance.

Age

According to Evans (1987), who looks from managerial perspective and suggests positive influence of companies' age on performance measures, if managers are able to learn from experience over time. Similar arguments are presented by Glancey (1998), He states that firms benefit from dynamic economies of scale by accumulating experience. Additional argument, strengthening positive relation between age and profitability could be reputation effects, that can be built over time and allow to require higher premiums over services or goods provided by company. On the other hand, Keramidou (2010) and Kravtsova (2007) suggested that if older firms develop routines that are impeding innovative mindset and are not up to date, negative relation between age and performance can be expected. The researcher uses the natural logarithm of the number of years since the establishment of the firm to capture the potential non - linear

effect of age similar to Savickaite and Rimkus (2011). However, the author expect to find positive/negative correlation between age and 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 banks performance in this study.

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 performance. While if there is improvements in economic conditions, increasing sales or rendering services allow companies to decrease unit costs by spreading fixed costs over larger output levels in addition to improving the solvency of borrowers, decreases unit costs by banks have positive effects on performance (Athanasoglou et al. 2008). This is measured by the real GDP growth rate. Thus, GDP growth is positively correlated with banks performance.

Inflation

Another important macro-economic condition which may affect the performance of banks is the inflation rate (INFL). Inflation defined as continuous increment of the price of general goods and services. Regarding to this, Revell (1979 as cited in Ponce, 2012)) introduces the relationship between bank performance and inflation, stating that the effect of inflation on bank performance depends on how inflation affects both salaries and the other operating costs of the bank. In this

context, Staikouras and 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 performance of banks. Perry (1992) also suggests that 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 performance. Revell (1979 as cited in Ponce, 2012)) noted that, when inflation is anticipated, banks can timely adjust interest rates, which consequently results in revenues that increase faster than costs, with a positive effect on profitability. Consequently, the bank performance can be improved. Thus, the expected sign of inflation is negative/positive related to the banks performance.

4.2.4. Other variables

Whether performance differences between private and state-owned banks is there or not, the researcher uses various performance indicators (i.e. asset quality, management quality, capital adequacy, profitability, liquidity management, efficiency, risk management and solvency). The definition and measurements of these variable was as follows:

Asset Quality

Gunsel (2007) explained in his study that asset quality is the main source of risk that banks could face, as a bank includes non performing loans in the portfolio, the exposures of failures are likely. The highest risk facing a bank is the losses derived from delinquent loans (Dang, 2011). Thus, lowest non-performing loan shows that the good health of the portfolio of asset at bank. The lower the ratio the better the bank performing (Sangmi and Nazir, 2010). It is the major concern of all commercial banks to keep the amount of nonperforming loans to low level. Different types of financial ratios used to study the asset quality of banks by different scholars.

But, nonperforming loan ratios are the best proxies for asset quality. Therefore, in this study similar to Olweny & Shipo (2011) the ratio of non-performing loan to gross loan and advances a proxy to measure asset quality was used.

Management quality

Sound management is crucial for the success of any institution; management quality is generally accorded greater weighting in the assessment of the overall performance of banks (Brickwork rating, 2008 (as cited in Habtamu, 2012)). The performance of management is often expressed qualitatively through subjective evaluation of management systems, organizational discipline, control systems, quality of staff, and others. Yet, some financial ratios of the financial statements act as a proxy for management quality. The capability of the management to deploy its resources efficiently, income maximization, reducing operating costs can be measured by financial ratios. One of this ratios used to measure management quality is operating profit to income ratio (Rahman et al. in Ilhomovich, 2009; Sangmi and Nazir, 2010). The most important ratio is that proxy management quality is expense to asset ratio. The ratio of operating expenses to total asset has negative effect on performance of banks. In this regard, management quality determines the amount of operating expenses and in turn affect performance (Athanasoglou et al. 2005). Therefore, in this study similar to the aforementioned scholars the ratio of expense to asset the proxy to measure management quality was used.

Capital Adequacy

Capital is the amount of own fund available to support the banks' business and act as a buffer in case of adverse situation (Athanasoglou et al. 2005). Banks capital creates liquidity for the bank due to the fact that deposits are most fragile and prone to bank runs. Moreover, greater bank

capital reduces the chance of distress (Diamond, 2000). However, it is not without drawbacks that it induce weak demand for liability, the cheapest sources of fund. Capital adequacy is the level of capital required by the banks to enable them withstand the risks such as credit, market and operational risks they are exposed to, in order to absorb the potential loses and protect the bank's debtors. According to Dang (2011), the adequacy of capital is judged on the basis of capital adequacy ratio (CAR). Capital adequacy ratio shows the internal strength of the bank to withstand losses during crisis. Capital adequacy ratio is directly proportional to the resilience of the bank to crisis situations. It has also a direct effect on the profitability of banks by determining its expansion to risky but profitable ventures or areas (Sangmi and Nazir, 2010). Thus, in this paper similar to Dang (2011) the ratio of equity (capital) to total asset ratio to measure capital adequacy is used.

Earning performance (profitability)

The most common measure of bank performance is profitability. In accounting profitability is simply the difference between revenues and costs. ROA and ROE are the two common ratios uses to measure earning performance (profitability). The higher the profitability ratios the better will be the performance (Ross et al., 2002). These ratios have been previously used by Micco et ai. (2005) and Unal et al. (2007) to measure the profitability of commercial banks. Following two profitability ratios will be used in this study:

- ✓ Return on Assets = Profit After Tax / Total Assets
- ✓ Return on Equity = Profit After Tax/ Total Equity

Liquidity Management

Liquidity of a commercial bank is a key indicator of its financial strength. By definition liquidity means ability of the firm to meet its short-term (less than a year) obligations and reveal short-term financial strength and weakness (Ross et al. 2005). This ability depends not only on the extent of conversion of assets without loss but also on the bank's ability to raise loans in the market to meet debts, that is the broader aspects of asset and liability management. Higher liquidity ratio means bank has higher margin of safety and ability to meet its short-term obligations. The most common financial ratios that reflect the liquidity position of a bank according to Cornett et al. (2009) are Loan to Deposit Ratio (LDR) (Loans/Total Deposits) and Liquid Asset to Deposit Ratio (LADR) (Liquid Asset/Total Deposits). Other scholars use different financial ratio to measure liquidity. For instance Ilhomovich (2009) used cash to deposit ratio to measure the liquidity level of banks. In this study similar to Cornett et al. (2009) the ratio of Loan to Deposit Ratio (LDR) (Loans/ Total Deposits) and Liquid Asset to Deposit Ratio (LADR) (Liquid Asset/Total Deposits) the proxy to measure liquidity management is used.

Efficiency

Efficiency or activity ratios is also one of the key drivers of performance that is examined. These ratios measure overall effectiveness of the firm in utilizing its assets to generate sales, quality of receivables and success in collection, effectiveness of inventory management practices and efficiency of the firm in controlling its expenses. In simple term, efficiency or activity ratios are used to measure how effectively the firm’s resources are managed. Different researchers have used the operating efficiency and asset utilization for measuring the efficiency of the commercial banks e.g. Lannotta et al. (2006). Following two efficiency ratios would measure in this study:

- ✓ Operating Efficiency =Total operating Revenue/Total Operating Expenses
- ✓ Asset utilization Ratio =Total Revenue/Total Assets

Solvency and Risk

These ratios measure risk and solvency of firms by determining how much the firm depends on debt financing rather than equity capital and determine the probability that the firm default on its debts. Greater the debts, greater is the probability that the firm will become unable to fulfill its contractual obligations leading to bankruptcy and financial distress. Although debt is important source of financing and provide significant tax advantage but it may create conflict of interest between debtors and shareholders (Ross et al. 2005). If amount of assets held by a firm is greater than all types of liabilities then firm is considered solvency. Proxies that are used to measure solvency in this study are Debt-Equity Ratio (DER) (Total Debt / Shareholders' Equity) and Equity Multiplier (EM) (Total Assets/ Shareholders' Equity).

4.3. Research approach

When conducting a study the researcher has to make a choice on what method should be used, either a quantitative or a qualitative approach or a combination of the two approaches Creswell (2009). The quantitative approach and quantitative empirical research is often concerned with establishing relationships between variables Theobald et al. (2002). According to Bryman and Bell (2003), a quantitative method means that measurements are done when collecting data. This is followed up by statistical processing and analysis method that is based on the collected data. Creswell (2009), defined, in contrast, that "quantitative research is explaining phenomena by collecting numerical data that are analyzed using mathematically based methods".

Bryman (2008) states that qualitative research has as its strength the effective obtaining of a complex specific description of how people experience a given research issue regarding values, opinions, behaviors, emotions and relationships of individuals. However, measurement is the strong point of quantitative research. Its advantages bring consistency to the work which is influenced neither by the timing of its administration nor by the person who administers it, and it allows the researcher to describe the difference among the samples towards the characteristic or characteristics in question. Moreover, measurement permits the investigator to know the relationship between the concepts (Bryman and Bell, 2003). Bryman and Bell (2003) further explained that the concept of the research guides the researcher to know which type of research approach will be employed; qualitative or quantitative. According to this paper, the purpose is to examine the effect of ownership structure on financial performance of Ethiopian commercial banks. The authors collected numeric data of variables from financial reports of ten consecutive years. The Eviews 6 software package is used to analyze. Therefore, the quantitative approach is employed in analyzing the collected data to achieve the stated objective.

4.4. Data collection instruments and its sources

It is crucial that the data collected and the method used in a research work affect its outcome. Therefore, the data for the study was collected using structure documentary reviews of target companies audited financial statements like balance sheet and income statement. Since the required data for the study is more of quantitative, appropriate data couldn't be collected using simply distributed questionnaires to the company's managers or other concerned bodies. For this reason, reviewing selected companies balance sheet and income statement items would be the right avenue to met the stated objective. Additionally, it was preferred for its convenience and

cost effectiveness. Thus, the data used for this study were purely secondary taken from each banks operated in Ethiopia. The book value based yearly financial data were used and collected from the audited financial statements of banking sector. Book value based yearly financial information was used for this study since data availability problem restrict to measure the variables in book value alone, while the theory of price suggests that they should be measured in market value terms (Panno, 2003).

4.5. Sampling design

Currently, nineteen banking companies are operating in Ethiopia; and the researcher believe that, for meaningful analysis, there is no need to sample from the nineteen banking companies as they are already few in number to collect information over the period of 2004-2013. However, ten banking companies (such as Enat Bank, Bunna International Bank, Birhan International Bank, Abay Bank, Addis International Bank and Debub Global Bank etc) did not have information for the required period; their year of service was below ten, and thus they were excluded in the sampling frame to make the balanced data structured, i.e. every cross section follows the same regular frequency with the same start and end dates. Therefore, purposive sampling is employed so as to include all commercial banks established and serving with in the specified period of time from 2004 to 2013 and the size for sample is eight commercial banks operating over the period of ten years and the rest of commercial banks will not have a chance to be included. Ten years is assumed to be relevant because five years and above is the recommended length of data to use in most finance literatures.

4.6. Model specification

In order to investigate formulated research questions and hypothesis two approaches would used. Firstly, panel data methodology will be applied to test hypothesis. Secondly, to test the performance difference between private and state-owned banks i.e. for research questions test for means equality will be applied. The nature of panel data model and test for means equality clearly discussed as follows:

4.6.1. Panel data model

The nature of data used in this study enables the researcher to use panel data model which is deemed to have advantages over cross section and time series data methodology. Panel data involves the pooling of observations on a cross-section of units over several time periods. A panel data approach is more useful than either cross-section or time-series data alone. As Brook (2008) stated the advantages of using the panel data set; first and perhaps most importantly, it can address a broader range of issues and tackle more complex problems with panel data than would be possible with pure time-series or pure cross-sectional data alone. Second, it is often of interest to examine how variables, or the relationships between them, change dynamically (over time). To do this using pure time-series data would often require a long run of data simply to get a sufficient number of observations to be able to conduct any meaningful hypothesis tests. But by combining cross-sectional and time series data, one can increase the number of degrees of freedom, and thus the power of the test, by employing information on the dynamic behavior of a large number of entities at the same time. The additional variation introduced by combining the data in this way can also help to mitigate problems of multicollinearity among explanatory variables that may arise if time series are modeled individually. Third, by structuring the model

in an appropriate way (fixed or random effect), we can remove the impact of certain forms of omitted variables bias in regression results and it can allow controlling for individual unobserved heterogeneity among the cross sections. Thus, the general form of the panel data model can be specified as:

$$Y_{it} = \alpha + \beta X_{it} + \boldsymbol{\varepsilon_{it}}$$

In this equation, Y_{it} represents the dependent variable, which is the firm's performance and X_{it} contains the set of explanatory variables in the model. The subscripts i and t denote the cross - sectional and time - series dimension respectively. Also α is taken to be constant over time t and specific to the individual cross-sectional unit i. If is taken to be the same across units, then Ordinary Least Square (OLS) provides a consistent and efficient estimate of α and β.

In the light of the above model and on the base of selected variables the current study used econometric model as shown below.

PRO = *f* (OS, BSIZ, AGE, GDP, INFL)

$$ROA_{it} = \alpha + \beta_1 (OS)_{it} + \beta_2 (BSIZ)_{it} + \beta_3 (AGE)_{it} + \beta_4 (GDP)_{it} + \beta_5 (INFL)_{it} + \varepsilon_{it} \text{.....(1)}$$

$$ROE_{it} = \alpha + \beta_1 (OS)_{it} + \beta_2 (BSIZ)_{it} + \beta_3 (AGE)_{it} + \beta_4 (GDP)_{it} + \beta_5 (INFL)_{it} + \varepsilon_{it} \text{.....(2)}$$

Where:

$_i$ denote banks ranging from 1 to 8 (cross-sectional dimension).

$_t$ denote years ranging from 2004 to 2013 (time-series dimension).

Dependent Variables

ROA_{it} Return on Asset for $_i^{th}$ bank and time period $_t$.

ROE_{it} Return on Equity for $_i^{th}$ bank and time period $_t$.

Independent Variable

OS_{it} Ownership Structure for $_i^{th}$ bank and time period $_t$.

Control Variables

$BSIZ_{it}$ Bank Size for $_i^{th}$ bank and time period $_t$.

AGE_{it} Age of Bank for $_i^{th}$ bank and time period $_t$.

GDP_{it} Gross Domestic Product for $_i^{th}$ bank and time period $_t$.

$INFL_{it}$ Inflation Rate for $_i^{th}$ bank and time period $_t$.

The following table 4.1 presents the summary of expected sign for the relationship between the explanatory variables (independent variable and control variables) and banks' performance (dependent variable).

Table 4.1 Proxy variable definition and expected sign

Proxy variables	Definition	Expected sign
Ownership structure (OS)	Dummy variable: private = 1; state = 0	+/-
Bank Size (BSIZ)	Natural logarithm (Ln) of Total assets	+/-
Age of Bank (AGE)	Natural logarithm (Ln) of age	+/-
Gross Domestic Product (GDP)	Real GDP growth (in %)	+
Inflation (INFL)	The annual inflation rate (in %)	+/-
Return on Asset (ROA)	Net profit after tax/total asset ratio	
Return on Equity (ROE)	Net profit after tax/total equity ratio	

One issue that may arise from the use of panel data is whether the individual effect is considered to be fixed or random. On the one hand, while random effects estimation addresses the endogeneity issue by instrumenting potentially endogenous variables, it also assumes that the individual firm effects are uncorrelated with the exogenous variables. On the other hand, the fixed effect estimation deals successfully with the correlated effects problem, yet it fails to account for potential endogeneity of regressors.

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.

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.

4.6.2. Test for means equality

The main goal of this study is discovering whether performance differences between state and private banking in Ethiopia is there or not. Asset quality, management quality, capital adequacy, earning performance (profitability), liquidity management, efficiency, risk and solvency are chosen to test whether significant differences between private and state - owned banks is there or not. Test for means equality are designed to compare two experimental conditions or means i.e. between private and state-owned banks. This statistical technique tests the research questions that the population mean of a variable is the same for two groups of cases. In addition, it defines a confidence interval for the difference between the population means of the respective groups. Moreover, the independent samples test for means equality can accommodate different sample sizes. In general, non-parametric approach is used to be relaxed from the problem of no normal and heterogeneity. These problem may exist if the approach is parametric. In order to analyze performance differences, mean values and all other statistics are calculated by using Eviews 6.

4.7. Conclusions and the relationships between research questions, hypothesis and the data

This chapter discussed the research questions, hypothesis, research methods and different data sources which were used to address the study problem. In general basing the research problems and objective the study developed seven research questions and one hypothesis. Similarly, based on the underlying principles of research methods and research problem quantitative method were chosen. Specifically, document review was used to collect quantitative data. Finally, the research questions and hypothesis with their respective variables and data collection were summarized in table 4.2 below.

Table 4.2 Linkage between hypothesis/research questions, variables and data source

Hypothesis/research questions	Variables	Data sources
HP. There is a positive or negative relationship between ownership structure (banks owned by state or private) and performance of banks industry in Ethiopia.	Dependent variables: performance Independent variables: ownership structure	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
RQ1. Is there a difference in asset quality between private and state owned banks in Ethiopia ?	Asset quality	
RQ2. Is there a difference in management quality between private and state owned banks in Ethiopia ?	Management quality	
RQ3. Is there a difference in capital adequacy between private and state owned banks in Ethiopia ?	Capital adequacy	
RQ4. Is there a difference in earnings performance (profitability) between private and state owned banks in Ethiopia ?	Profitability	
RQ5. Is there a difference in liquidity management between private and state owned banks in Ethiopia ?	Liquidity management	
RQ6. Is there a difference in efficiency between private and state owned banks in Ethiopia ?	Efficiency	
RQ7. Is there a difference in solvency and risk management between private and state owned banks in Ethiopia ?	Solvency and risk	

Chapter Five: Empirical Results and Discussion

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, using the annual balanced panel data, where all the variables are observed for each cross-section and each time period. The study has a time series segment spanning from the period 2004 up to 2013 and a cross section segment which considered eight Ethiopian commercial Banks. Such as Commercial Bank of Ethiopia, construction and Business bank, Awash International Bank, Dashen Bank, Bank of Abyssinia, Wegagen Bank, United Bank and Nib International Bank. The remaining part of the chapter is organized into two sections. The first section discusses the results of the regression analysis. While, the results of test for means equality between private and state owned banks are presented in the second section.

5.1. Regression analysis

5.1.1. Random versus fixed effect model

It is necessary to determine whether the fixed effect (FE) or random effect (RE) model is appropriate. A common practice in finance is to make the choice between both approaches by running a Hausman test. To conduct a Hausman test the number of cross-section should be greater than the number of coefficients to be estimated. So, in this study the numbers of coefficients are lower than the number of cross-sections as a result it is possible to conduct a Hausman test. According to this test null hypothesis says that random effects model is appropriate than the fixed effects model (Brooks,2008, p.509). As indicated by the Hausman test on both equation (see table 5.1), the difference in coefficients between FE and RE is systematic,

providing evidence in favor of a RE model. The p-value of 0.5037 and 0.3236 for ROA and ROE models respectively, so the test result was greater than 5%, indicating that the RE model is appropriate and hence the FE specification is not preferred, since the null hypothesis is fail to reject at 5% significant level. Hence, the cross-section RE model is the appropriate for this study. Accordingly, RE model was employed to estimate the relationship between the dependant variable, independent variable and the control variables.

Table 5.1 Correlated Random Effects - Hausman Test

Test Summary	Model	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	ROA	3.333225	5	0.5037
Cross-section random	ROE	2.256226	5	0.3236

Source: Eviews results from f/statements of banks & MoFED reports and own computation

5.1.2. Classical Linear Regression Model (CLRM) assumption and diagnostic test

Before going further in to panel data econometric procedures, the second issue is test the assumption of classical linear regression model (CLRM). These are checked by testing each assumptions. 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 that hypothesis tests regarding the coefficient estimates could validly be conducted. If the 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. In this study as mentioned in chapter four diagnostic tests were carried out to ensure that the data fits the basic assumptions of classical linear regression model. Consequently, this section presents the test for the assumptions of CLRM namely hetroskedasity, autocorrelation, normality and multicollinearity test.

Test for Heteroscedasticity

As mentioned by Brooks (2008, pp.133) it has been assumed that the variance of the errors is constant, this is known as the assumption of homoscedasticity. 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 (homoscedacticity) or no heteroscedasticity versus the alternative that the errors do not have a constant variance.

In this study as shown in table 5.2, 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 to both ROA and ROE model, 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 to both ROA and ROE, since the p-value was considerably in excess of 0.05. Thus, as indicated in table below fail to reject the null hypothesis even at 10% significant level.

Table 5.2 Heteroscedasticity test

Heteroscedasticity - White test							
ROA Model				**ROE Model**			
F-statistic	1.210028	Prob. F(5,74)	0.3129	F-statistic	1.039629	Prob. F(5,74)	0.4009
Obs*R-squared	6.046350	Prob. Chi-Square(5)	0.3017	Obs*R-squared	5.250773	Prob. Chi-Square(5)	0.3860
Scaled explained SS	4.566935	Prob. Chi-Square(5)	0.4710	Scaled explained SS	3.529315	Prob. Chi-Square(5)	0.6190

Source: Eviews results from f/statements of banks & MoFED reports and own computation

Test for Autocorrelation

The second important diagnostic test which is performed in this paper is autocorrelation test. This assumption of OLS theoretically expressed by the numbers of scholars among that Brooks (2008) and Verbeek (2004) founded, both of them described as; cov (ui, uj) = 0, this is another assumption that is made of the CLRM's disturbance terms is that the covariance between the error terms over time (or cross-sectionally, for that type of data) is zero. In other words, it is assumed that the errors are uncorrelated with one another. If the errors are not uncorrelated with one another, it would be say that they are 'autocorrelated' or that they are 'serially correlated'. The most common test of this assumption is by using the Durbin–Watson test and the Breusch-Godfrey test (Boorks, 2008, pp. 144). As far as concerning this paper the researcher used both the Durbin–Watson test and the Breusch-Godfrey test to detected the problem of autocorrelation.

Table 5.3 Serial Correlation LM Test

Null hypothesis (Ho): There is no autocorrelation; against, Alternative hypothesis (Ha): There is autocorrelation							
ROA Model				**ROE Model**			
F-statistic	1.176873	Prob. F(10,64)	0.3229	F-statistic	0.870623	Prob. F(10,64)	0.5646
Obs*R-squared	12.42595	Prob. Chi-Square(10)	0.2576	Obs*R-squared	9.579626	Prob. Chi-Square(10)	0.4781
Durbin-Watson stat		1.977497		Durbin-Watson stat		2.179221	

Source: Eviews results from f/statements of banks & MoFED reports and own computation

In the above table, the first test was Durbin-Watson which is shown in the regression output of the two models separately. As per this test the values of Durbin-Watson for the two models are 1.97 and 2.18 all are near to two. Thus, the null hypotheses were not rejected for the two models so there was no problem of autocorrelation. However, Durbin-Watson is a test for first orders autocorrelation. It tests only for a relationship between an error and its immediate previous value. Therefore, in addition to DW test it is desirable to conduct Breusch-Godfrey Serial Correlation LM test to examine a joint test for autocorrelation that will allow examination of the relationship between error term and several of its lagged values at the same time. So, Breusch-Godfrey test was also conducted for the two models and showed no problem of autocorrelation for the two models (See above table 5.3). Thus, the conclusion from both test is that the null hypothesis of no autocorrelation is fail to reject; this indicates that there is no problem of autocorrelation on both ROA and ROE models.

Test for normality

Another third important diagnostic test conducted in this paper is the normality assumption i.e. the errors should be normally distributed. Brooks (2008) stated that the normality assumption is required in order to conduct single or joint hypothesis tests about the model parameters. 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 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.

The normality tests for this study (as shown in appendix I), the coefficient of kurtosis was close to 3 for both ROA and ROE models. In addition the Bera-Jarque statistic had a P-value of 0.794 and 0.504 for ROA and ROE models respectively, this implies that the data were consistent with a normal distribution assumption.

Test for Multicollinearity

The final test which is conducted in this study is the 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, Cooper and Schindler (2009) argued that as any correlation coefficient above 0.8 could cause a serious multicollinearity problem leading to inefficient estimation and less

reliable results. But in this study there is no correlation coefficient that exceeds or even close to 0.8 (see table 5.5 below). Accordingly, in this study there is no problem of multicollinearity which enhanced the reliability for regression analysis.

Table 5.4 Correlation matrix of explanatory variables (Multicollinearity test)

	OS	BSIZ	AGE	GDP	INFL
OS	1.000				
BSIZ	-0.386	1.000			
AGE	0.420	0.676	1.000		
GDP	0.250	0.369	-0.143	1.000	
INFL	-0.046	0.312	0.279	-0.404	1.000

Source: Eviews results from f/statements of banks & MoFED reports and own computation

According to the table 5.4 above, there is a positive correlation between ownership structure and control variables; bank's age and GDP level. On the other hand, ownership structure negatively correlated with bank size and inflation. Age is highly correlated with bank size as compared to other variables, since the banks size boosted if the age of the banks increases. Whereas, real GDP growth rate negatively and highly correlated with inflation.

5.1.3. Descriptive statistics of the study variables

This section discussed the summery statistics of each variables of the study. The variables include the dependent, independent and control variables. The dependent variables used in this study in order to measure the sample commercial banks financial performance are return on asset and return on equity whereas the explanatory variable is ownership structure. In addition to the

explanatory variable, control variables were included those are bank size, bank's age, growth domestic product and inflation rate. Accordingly, the descriptive statistics for all variables are involved in the regression model presented below in table 5.5. 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 5.5 Descriptive Statistics

Variables	Observations	Mean	Median	Maximum	Minimum	Std. Dev.
ROA	80	0.033	0.034	0.085	0.004	0.016
ROE	80	0.308	0.311	0.581	0.035	0.081
OS	80	0.750	1.000	1.000	0.000	0.435
BSIZ	80	22.524	22.647	25.999	20.328	1.179
AGE	80	2.818	2.708	3.932	1.792	0.565
GDP	80	0.112	0.115	0.126	0.088	0.011
INFL	80	0.170	0.146	0.364	0.028	0.110

Source: Eviews results from f/statements of banks & MoFED reports and own computation

As presented in the above table, table 5.5, the profitability measurements (ROA and ROE) indicates that, the Ethiopian commercial banks have an average positive profit over the last decade. From the total of 80 observations, the mean of ROA and ROE equals 0.033 (3.3 percent) and 0.308 (30.8 percent) with a minimum of 0.004 (0.4 percent) and 0.035 (3.5 percent) and a maximum of 0.085 (8.5 percent) and 0.581 (58.1 percent) respectively. That means, most of the sample banks earned 3.3 cents of net income from a single birr of asset investment in-line with this the shareholders earned 30.8 cents from their capital investment. While the maximum return earned by some of the sample banks are a profit of 8.5 cents on each birr of asset investment with

the shareholders investment of 58.1cents. On the other hand, the minimum return earned by some of the sample banks are an income of 0.4 cents on each birr of asset investment with the shareholder investment of 3.5 cents. Similar to Amdemikeal (2012) there is less variation in profitability reflected by the difference between the mean and median. Regarding to the standard deviation statistics for ROA and ROE was 0.016 and 0.081 respectively, which indicates that the profitability (both in ROA and ROE) variation between the selected banks was very small as compared with some explanatory variables. The result implies that these banks need to optimize the use of their assets and capital to increase the return on their assets and shareholders equity capital. Generally, the two earning financial performance measures have not the same value in different aspects of descriptive statistics indicators.

Regarding the explanatory variable of the model there are some interesting statistics that have to be mentioned. Despite the descriptive statistics values for dummy ownership structure difficult to interpret; mean, median, minimum, maximum and standard deviation was 0.750, 1.000, 1.000, 0.000 and 0.435 respectively. The mean of dummy ownership structure 0.750 (75 percent) indicated that majority of Ethiopian commercial banks are owned by private because dummy 1 represent private ownership.

Continuing to control variables of the model, bank size which is measured by natural log of total asset had the highest standard deviation (1.179), which means it is the most deviated variable from its mean compared to other variables. The smallest standard deviation was reported in real GDP growth which was 0.011 and this implies that economic growth in Ethiopia during the period of 2004 to 2013 remains reasonable stable. In addition the mean real GDP growth in Ethiopia for the last twelve years was 0.112 (11.2 percent), with a maximum of 0.126 (12.6 percent) and a minimum of 0.088 (8.8 percent). Another control variable bank's age, which is

measured by natural log of bank's age has a mean of 2.818,with a maximum of 3.932 and a minimum of 1.792. There are slightly significant differences among sampled banks age because value of the standard deviation as shown in the above table is 0.565. The other macro-economic control variable employed in this study INFL, had somewhat a higher standard deviation (0.110) compared to GDP; this implies that inflation rate in Ethiopia during the study period remains somewhat unstable.

5.1.4. Correlation analysis

In the following section the correlation between earning performance (profitability) measures; return on asset (ROA) and return on equity (ROE); explanatory variable; dummy ownership structure and control variables; bank's size, bank's age, GDP and inflation have been presented and analyzed.

5.1.4.1. Correlation analysis between return on assets (ROA) and variables (explanatory and control variables)

The ROA reflects the ability of a bank's management to generate profits from the bank's assets and this profitability measure has correlated with other explanatory and control variables either positively or negatively. In table 5.5 below, the correlation analysis was undertaken between profitability measure; return on asset and explanatory variable; dummy ownership structure and control variables; bank's size, age, GDP and INFL.

Table 5.6 Correlation matrix: ROA

	ROA	OS	BSIZ	AGE	GDP	INFL
ROA	1.000					
OS	0.507	1.000				
BSIZ	-0.628	-0.386	1.000			
AGE	0.108	0.420	0.676	1.000		
GDP	0.560	0.250	0.369	-0.143	1.000	
INFL	0.074	-0.046	0.312	0.279	-0.404	1.000

Source: Eviews results from f/statements of banks & MoFED reports and own computation

As could be seen in table 5.6, the bank size was the most negatively correlated variable with ROA. This correlation clearly shows that, as the bank size increases, profitability as measured by ROA moves in the opposite direction. on the contrary, the real GDP growth and bank's age seems to be positively correlated with the profitability measure of ROA, indicating that, when the real GDP growth and bank's age increase, profitability also rise. In addition, dummy ownership structure was positively correlated with ROA, indicated by the correlation of 0.507 between dummy ownership structure and ROA. Similar to the GDP, amazingly, the inflation rate was positive correlated with profitability with a correlation of 0.074 between INFL and ROA. Generally, the researcher found positive correlation between ROA and ownership structure, inflation, GDP, bank's age whereas there was negative correlation between ROA and bank's size.

5.1.4.2. Correlation analysis between return on equity (ROE) and variables (explanatory and control variables)

Return on Equity (ROE), the net income per birr of equity capital, which is more concerned about how much the bank is earning on their equity investment. The correlation analysis was done between profitability measures; return on equity and explanatory variable; dummy ownership structure and control variables; bank's size, age, GDP and INFL.

Table 5.7 Correlation matrix: ROE

	ROE	OS	BSIZ	AGE	GDP	INFL
ROE	1.000					
OS	-0.341	1.000				
BSIZ	-0.373	-0.386	1.000			
AGE	0.102	0.420	0.676	1.000		
GDP	0.685	0.250	0.369	-0.143	1.000	
INFL	0.397	-0.046	0.312	0.279	-0.404	1.000

Source: Eviews results from f/statements of banks & MoFED reports and own computation

As noted in the above table, surprisingly, there is a negative relationship between return on equity and ownership structure. This is contrary to the previous correlation matrix result. In addition, as it is shown in the above correlation matrix the control variables such as GDP, inflation and age are positively correlated with return on equity. From this variables, GDP which was measured by real growth rate has a considerable relationship with ROE (a coefficient of 0.685), because the growth of the GDP of the country has a great positive contribution to the

profitability of banks. However banks age less correlated with ROE. On the contrary, bank's size negatively and highly correlated with ROE.

Generally, the correlation analysis shows only the direction and degree of association between variables and it does not permit the researcher to make causal inferences regarding the relationship between the identified variables. Therefore, it is not possible to explain the effect of ownership structure on profitability measures by controlling the influence of some selected variables using correlation analysis. As a result the main analysis is left for regression analysis that overcomes the shortcomings of correlation analysis.

5.1.5. Results of regression output

This section presents the empirical findings from the regression result on the effect of ownership structure on performance of banks in Ethiopia. Thus, this 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 models used in the study in order to identify the factors that can affect performance of Ethiopian banks was provided as follows:

$$ROA_{it} = \alpha + \beta_1 (OS)_{it} + \beta_2 (BSIZ)_{it} + \beta_3 (AGE)_{it} + \beta_4 (GDP)_{it} + \beta_5 (INFL)_{it} + \varepsilon_{it} \quad \text{.....(1)}$$

$$ROE_{it} = \alpha + \beta_1 (OS)_{it} + \beta_2 (BSIZ)_{it} + \beta_3 (AGE)_{it} + \beta_4 (GDP)_{it} + \beta_5 (INFL)_{it} + \varepsilon_{it} \quad \text{.....(2)}$$

As indicated in the first section of this chapter, the estimation result of cross-section random effect model used in this study. Table 5.8 and table 5.9 shows the regression results of the two models ROA and ROE respectively.

Table 5.8 Results of regression analysis for model 1

ROA Model
ROA= -0.018 + 0.027OS - 0.005BSIZ + 0.018AGE + 0.089GDP + 0.25INFL

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.018150	0.010590	-1.713897	0.0907
OS	0.027811	0.012362	2.249680	0.0274**
BSIZ	-0.004695	0.000971	-4.721652	0.0000***
AGE	0.017551	0.011863	1.479523	0.1432
GDP	0.089852	0.037295	2.408272	0.0184**
INFL	0.250214	0.507181	0.492963	0.7065

R-squared	0.668295	Adjusted R-squared	0.645882
F-statistic	29.81790	S.E. of regression	0.003277
Prob(F-statistic)	0.000000	Durbin-Watson stat	1.977497

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

Source: Eviews results from f/statements of banks & MoFED reports and own computation

Table 5.9 Results of regression analysis for model 2

ROE Model				
ROE= 0.053 - 0.002OS - 0.003BSIZ + 0.13AGE + 0.029GDP + 0.015INFL				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.053523	0.086014	0.622258	0.5357
OS	-0.001808	0.001060	-1.704464	0.0925*
BSIZ	-0.003457	0.001914	-1.806319	0.0747*
AGE	0.132512	0.090070	1.471208	0.1455
GDP	0.029945	0.005213	5.744680	0.0000***
INFL	0.014627	0.006169	2.371255	0.0203**

R-squared	0.795258	Adjusted R-squared	0.781425
F-statistic	37.48626	S.E. of regression	0.037929
Prob(F-statistic)	0.000000	Durbin-Watson stat	2.179221

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

Source: Eviews results from f/statements of banks & MoFED reports and own computation

As clearly indicated the above table 5.8 and table 5.9, the R-squared statistics and the adjusted R-squared statistics of the model 1 (ROA model) was 66.8% and 64.6% respectively. The result indicates that the changes in the independent and control variables explain 64.6% of the changes in the dependent variable (ROA). That is dummy ownership structure, bank size, age, gross domestic product, and inflation rate collectively explain 64.6% of the changes in ROA. The remaining 35.4% of changes was explained by other factors which are not included in the model. While, the R-squared statistics and the adjusted R-squared statistics of the model 2 (ROE model) was 79.5% and 78.1% respectively. This indicates the explanatory and control variables in this study jointly explain about 78.1 percent of the variation in the profitability measure, return on

equity. The remaining 21.9 percent of the variation in the ROE explained by other variables which are not included the model. Thus, in both model, these variables collectively, are good explanatory variables of the performance of commercial banks in Ethiopia. Beside this, F-statistics (29.8) and (37.5) for ROA and ROE model respectively, which are used to measure the overall test of significance of the models was presented, and null hypothesis can be clearly rejected since the p-value was sufficiently low for both model. Because P value of 0.000 for both models indicates strong statistical significance, which enhanced the reliability and validity of the model. Thus the following sections discussed about regression results of all variables.

Table 5.8 and 5.9 shows the regression out put on particularly ROA and ROE models separately. According to the regression result bank's age (AGE), real GDP growth rate (GDP) and inflation rate (INFL) have commonly positive effects on both models. Besides GDP and INFL (only on ROE model) have positive and significant effects while AGE and INFL (only on ROA model) have insignificant and positive effects on both models. On the contrary variable like bank size (BSIZ) has commonly negative effects on both models. However variable like ownership structure (OS) have different effects on both models. Meaning ownership structure (OS) had a positive and significant effect on ROA model while it had a negative and significant effect on ROE model. The above explanatory and control variables are individually discussed in the next paragraphs referring regression result of table 5.8 and 5.9.

Ownership structure (OS): The coefficient of the ownership structure (OS) is positive and it has statistically significant effect on profitability for ROA at 5% significance level. The positive coefficient indicated that private banks could out perform their state owned counterparts. This finding is consistent with previous studies with Altunbas et al. (2001), Berger et al. (2005), Dewenter and Malatesta (2001), Farazi et al. (2011), Valahzaghard et al. (2012) and Kapur and

Gualu (2012). According to those researchers private banks are relatively more profitable than their state owned counterparts. This can be attributed in part to the fact that most of the private banks are operating in metropolitan areas where they can maintain higher level of returns with very low investment on fixed assets needed for expanding the branch network. Moreover, the use of advanced technologies also might have influenced private banks to generate higher returns on their asset investment. Besides agency theory, stakeholders' theory and structure of objective function approach explained the poorer performance of public firms which are compared with private firms ownership (see chapter three). Since, these theories argued that private ownership of firms leads to better firm performance state-owned, since private ownership leads to better intra-firm allocation of resources. On the other hand ownership structure (OS) has a negative and significant influence on financial performance of banks at 10% significance level when it is measured by ROE. Negative coefficient of ownership structure described that state banks better in performance than private-owned. These findings in part indicate the presence of special customer preferences towards the state-owned banks or the presence of special protective cover from the government towards state-owned banks which create a low-risk perception in customer minds. Perera et al.(2006) also indicate that bank customers prefer low-risk banks. With regard to ownership structure the result is similar with Chen et. al. (2005) and Kapur and Gualu (2012). Therefore, ownership structure has a mixed effect depending on the measure which used. The result is somewhat inconclusive.

In addition to what has been discussed above, table 5.8 and 5.9 depicts the result of the regression analysis. The four control variables and financial performance indicators of sample Ethiopian commercial banks, which are interpreted below.

Bank size (BSIZ): Estimation results in this study revealed that bank size has a negative and significant effect on profitability in terms of ROA and ROE at 1% and 10% significant level respectively. This inverse relationship between bank size and profitability, highly significant in return on asset model, suggesting that larger banks tend to earn lower profits. This is consistent with prior empirical evidence for instance; Athanasoglou et al. (2005) on Greece banks, Aburime (2008) and Ngo (2006) suggests that diseconomies scale for large banks due to possible bureaucratic bottlenecks and managerial inefficiencies or economics of scale for small banks. In addition to these researchers, Kosmidou et al. (2006) compare the performance of UK banks over the period 1998-2002 and find that smaller banks performed better than larger banks. In contrary, this study inconsistent with the other empirical literatures such as; Athanasoglou et. al. (2006) on South Eastern European banks and Kosmidou (2008) on Greece banks, they found that size is economics of scale for large banks.

The finding of this study implies that in Ethiopia banking industry the large size banks (e.g. CBE) are adversely affected their profitability by its size. This might, due to the existence of bureaucratic bottlenecks system and managerial inefficiencies to manage their assets. In other way the smaller size banks might be advantageous by their size to generating more return from their assets. In addition to asset performance, bank size also affect the return on equity of the sampled banks negatively and slightly significant at 10% significance level. In fact, the negative coefficients bring to limelight the possibility that diseconomies exist, which adversely affect their profitability.

Bank's Age (AGE): In this study, cross-section random effect regression result shows that age of bank has no significant effect on both models. As shown in the above tables, the regression coefficient of age 0.017 and 0.133 with significance value of 0.145 and 0.143 for ROA and ROE

models respectively. Thus from the results we can conclude that age was not a significant factor which affect the profitability of banking sector in Ethiopia. Hence this result is not consistent as expected of the study. A research previously conducted was also resulted in inconsistent results some indicated that age is negative effect on profitability. For instance Swiss Re (2008) in Egypt indicated that larger younger firms found to grow faster than older firms. In contrast, Al-Shami (2008) found no significant relation between age and profitability of firms in UAE. Although the results showed no statistical significance between these variables, it can be concluded that the age of a firm still explains the variation in profitability of banks in Ethiopia positively.

Real GDP growth rate (GDP): Turning to the macroeconomic variables, the researcher observe that GDP has highly statistical significant and positive impact on ROA and ROE at 5% and 1% significance level respectively. This results about GDP support the argument of the positive association between economic growth and the financial sector performance that revealed by the numbers of researchers (e.g. Neely and Wheelock, 1997; Demirguc-Kunt and Huizinga, 2000; Athanasoglou et al., 2005 and Bikker and Hu, 2002). They concluded that positive and strong correlation existed between economic growth (GDP) and bank profitability. This is because the default risk is lower in upturn than in downturn economy and another important point is higher economic growth may lead to a greater demand for both interest bearing and non-interest bearing financial services. Like with the empirical evidence, this study also find a positive and highly significant impact of Ethiopia real GDP growth rate on banks profitability in terms of both ROA and ROE. This is because, the current Ethiopian economy growth could create new and potential demand for financial services and it might reduce the probability of default loan.

Inflation rate (INFL): Turning into another macroeconomic variables, the result indicates that inflation rate (INFL) variable which was captured in the model is significant at 5% significance

level and it had a positive effect on bank profitability in terms of ROE. This implies that during the period of study inflation is anticipated which gives banks the opportunity to adjust the interest rates accordingly, resulting in revenues that increase faster than costs, with a positive impact on profitability. This result is consistent with the findings by Pasiouras and Kosmidou (2007) for EU as well as Fadzlan and Kahazanah (2009) and Garcia-Herrero et al. (2009) for Chinese banks. On the other hand inflation rate (INFL) had a positive and insignificant effect on ROA model. Thus, findings suggested that inflation has not effect of banks' profitability (in terms of ROA) in Ethiopia as far as the parameter for this variable is insignificant as illustrated by the large p-values of 0.706.

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 and discussed. 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 effect of ownership structure on bank performance. The following section discuss the results of test for means equality which was gathered from Ethiopian commercial banks' financial statements through using different financial performance indicators.

5.2. Results and discussion for test of means equality

In the last section the researcher examine the effect of ownership structure on bank performance with panel-data regressions. Now, the researcher present and discuss the empirical results of the test of means equality to identify whether significant performance differences between state- and private banks is there or not. The test assume that performance measures are normally distributed

and the two populations (i.e. state-owned banks and privately-owned banks) have the same variance. To relax these assumptions, the researcher used non-parametric test i.e. test for equality of means to examine whether the two sample group i.e. state-owned banks and privately-owned banks had the same means within the sample period. The two sample group compared through different performance measures. The measures include asset quality, management quality, capital adequacy, profitability, liquidity management, efficiency, solvency and risk. The results of each performance measures presented and discussed in the following manner.

Asset quality (AQ): As indicated in the table below, state-owned banks generally hold no more low quality loans than privately-owned banks as measured by nonperforming loan as a percent of total loans. Hence, loan quality for state-owned banks is almost the same as in privately-owned banks. So, the asset quality of privately-owned banks is not significantly different from state-owned banks.

Table 5.10 Test for Equality of Means between state and private banks of asset quality

Ho: $\mu^{st} = \mu^{pr}$; Ha: $\mu^{st} \neq \mu^{pr}$					
Sector	No. Obser.	Mean	Std. Dev.	t-test	Probability
State	20	4.115350	1.414970	-0.625260	0.5396
Private	60	3.283333	0.819968		
Industry	80	3.699342	1.109475		

Source: Eviews results from f/statements of banks & MoFED reports and own computation

Table 5.7 shows that the asset quality of banks measured by nonperforming loan to gross loan and advances for state-owned banks and private-owned banks had a mean value of 4.12% and 3.28% respectively. It indicates that on average, private-owned banks had better asset quality than state-owned banks, but the difference was insignificant even at 10% significance level. This

finding is similar with the previous research conducted by Unal et.al. (2007) at Turkey banking industry. Generally, the researcher fail to reject the null hypothesis which states that the mean values of nonperforming loan to gross loans for state- and private-owned banks is not statistically different.

Management quality: The following table clearly shows that management quality in terms of operating expenses to total asset ratios (OEA) of private- and state-owned banks had a mean value of 1.03% and 1.87% respectively, it indicate that management qualities of state-owned banks better than private counterparts.

Table 5.11 Test for Equality of Means between state and private banks of management quality

Ho: $\mu^{st} = \mu^{pr}$; Ha: $\mu^{st} \neq \mu^{pr}$					
Sector	No. Obser.	Mean	Std. Dev.	t-test	Probability
State	20	1.028500	0.252125	-8.382321	0.0000***
Private	60	1.870167	0.193013		
Industry	80	1.449333	0.483921		

*****significant at 1%**

***indicate reject the null hypothesis at 1% significant level.

Source: Eviews results from f/statements of banks & MoFED reports and own computation

The above table presented both t-test and probability value of the Eviews results, it indicate that the null hypothesis of no mean difference between the two sample group i.e. state- and private-owned banks rejected at 1% significant level, this indicates that there is a highly significant difference between state- and private-owned banks of management quality in terms of operating expense to total asset ratio. The good management quality of state-owned banks over private-owned banks may be a result of government banks paid high salary and compensation for managements than private counterparts, however this findings contradict with agency and

stakeholders' theories which supports private firms outperform state-owned firms since they have better management compensation schemes. In addition operating expenses to assets ratio as a proxy of management quality was the only performance indicator variable that is significant at 1% significance level which support the superiority of state-owned banks over their counterparts.

Capital adequacy: It is another performance indicator which the researcher uses to examine the performance difference between the two ownership categories. As indicated in the previous chapter, capital adequacy measured by capital over total assets ratio. According to Athanasoglou et al. (2005) and Flamini et al. (2009) 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.

Table 5.12 Test for Equality of Means between state and private banks of capital adequacy

Ho: $\mu^{st} = \mu^{pr}$; Ha: $\mu^{st} \neq \mu^{pr}$					
Sector	No. Obser.	Mean	Std. Dev.	t-test	Probability
State	20	7.749000	1.898050	-6.928605	0.0000***
Private	60	12.48367	1.032999		
Industry	80	10.11633	1.848014		

*****significant at 1%**

***indicate reject the null hypothesis at 1% significant level.

Source: Eviews results from f/statements of banks & MoFED reports and own computation

As indicated in the above table private sector commercial banks had greater CA (Mean= 12.48%, SD= 1.89%) than public sector commercial banks (M = 7.75%, SD = 1.03%). Here, private banks had significantly higher level of capital availability for each unit of total investment showing the ability to meet sudden losses than their state counterpart as measured by capital

adequacy during the study period. Thus, private banks had high capital adequacy ratios than state banks which means the assets of private banks are more financed through capital than state banks.

Earning performance (profitability): The ratios included in this section are return on assets (ROA) and return on equity (ROE).

Return on Assets (ROA): As shown the table below, mean ROA of private banks i.e. 3.83% was greater than that of state banks i.e. 2.78% which shows that private banks are more profitable than state banks in terms of ROA.

Table 5.13 Test for Equality of Means between state and private banks of ROA

Ho: $\mu^{st} = \mu^{pr}$; Ha: $\mu^{st} \neq \mu^{pr}$					
Sector	No. Obser.	Mean	Std. Dev.	t-test	Probability
State	20	2.774500	0.899353	-2.148605	0.0412**
Private	60	3.825500	1.406650		
Industry	80	3.300000	1.205581		

****significant at 5%**

**indicate reject the null hypothesis at 5% significant level.

Source: Eviews results from f/statements of banks & MoFED reports and own computation

As indicated in the above table private sector banks had significantly higher level of profitability than their public counterpart as measured by ROA during the study period. Here, private banks has high ROA than state banks which means they are using their assets efficiently to generate profits than private banks. This may be due to size differences between the two sectors. Private sector banks had perform better in generating profits from their asset investment than state-owned banks. And this findings is consistent with private banks been more profitable than public

banks due to high net interest margin and better asset quality (Laporta et. al., 2002; Micco et al., 2004). The reason for this is very simple. A bank with a higher equity capital (private banks) needs to borrow less in order to support a given level of asset investments. As a result its interest expenses are lower and this causes the return on asset to be higher.

Return on equity (ROE): This ratio is also an indicator of profitability. It measures profitability of banks in terms of their equity. Higher the ratio, more profitable is the bank. It can be seen from the table below that in the period analyzed at the level of the Ethiopian banking system, state-owned banks was registered a higher level of ROE than private counterparts.

Table 5.14 Test for Equality of Means between state and private banks of ROE

Ho: $\mu^{st} = \mu^{pr}$; Ha: $\mu^{st} \neq \mu^{pr}$					
Sector	No. Obser.	Mean	Std. Dev.	t-test	Probability
State	20	31.65000	8.936555	1.658605	0.0992**
Private	60	29.94067	6.893247		
Industry	80	30.79335	8.011284		

****significant at 10%**

**indicate reject the null hypothesis at 10% significant level.

Source: Eviews results from f/statements of banks & MoFED reports and own computation

As indicated in the table above, mean ROE of state banks i.e. 31.65% is greater than that of private banks i.e. 29.94% which explains that state banks are more profitable than private banks in terms of ROE. State-owned banks had significantly profitable (as measured by ROE) than private banks at 10% significance level. This may be because of the leverage. Because, private banks much depend on equity financing to finance their capital. While, state owned banks much depend on debt financing to finance their capital. In general, state-owned banks has high ROE than private banks which means they are paying high returns to owners than private banks.

Liquidity management: The ratios included in this performance indicator are loan to deposit ratio (LDR) and liquid assets to deposit ratio (LADR).

Loan to deposit ratio (LDR): This ratio is important indicator of liquidity of banks. Higher LDR means that banks have more loans than deposits received from customers and banks have higher ability to meet their short term obligations. It reduces risk of bank and also reduces chances of earning from deposits.

Table 5.15 Test for Equality of Means between state and private banks of LDR

Ho: $\mu^{st} = \mu^{pr}$; Ha: $\mu^{st} \neq \mu^{pr}$					
Sector	No. Obser.	Mean	Std. Dev.	t-test	Probability
State	20	66.81550	9.826006	-1.593995	0.1283
Private	60	65.24633	13.53506		
Industry	80	66.03092	12.29704		

Source: Eviews results from f/statements of banks & MoFED reports and own computation

As shown in the above table, overall, the mean LDR of state banks i.e. 66.82% is greater than that of private banks i.e. 65.25% which leads to the conclusion that state banks are more liquid than private banks in terms of LDR. But, the difference between private and state banks was slightly insignificant even at 10% significance level.

Liquid asset to deposits ratio (LADR): This ratio shows liquidity position of banks and their ability to meet cash withdrawal demands of depositors. It increases customer trust but reduces chances of earning profit from cash. Higher the ratio, more liquid is the bank. In other words, bank has higher margin of safety and ability to meet their short term obligations. Assessing liquidity has the objective of ensuring that each bank is capable of meeting the day-to-day cash deposit withdrawal needs of customers. In this regard, taking prudential mix of liquid assets is

important in the operation of banks. NBE supervises this and such analysis needs to be carried more frequently since liquidity problems can easily lead to the collapse of banks. According to NBE's Directive No SBB/44/2008, any licensed bank shall maintain liquid assets of not less than 25% of its total demand, saving and time deposits and similar liabilities with less than one month maturity period.

Table 5.16 Test for Equality of Means Between state and private banks of LADR

Ho: $\mu^{st} = \mu^{pr}$; Ha: $\mu^{st} \neq \mu^{pr}$					
Sector	No. Obser.	Mean	Std. Dev.	t-test	Probability
State	20	54.41410	1.026006	1.468977	0.1461
Private	60	52.27676	1.153506		
Industry	80	53.33712	1.079704		

Source: Eviews results from f/statements of banks & MoFED reports and own computation

As indicated in the above table, overall, the mean LADR of state banks i.e. 54.41% is greater than that of private banks i.e. 52.28% which leads to the conclusion that state banks are more liquid than private banks in terms of LADR. But, the difference between private and state banks was insignificant even at 10% significance level.

As far as liquidity management is concerned, there was no significant difference between state and private banks. Thereby the liquidity position could be rated as excess as it is far above the requirement of the regulatory authority. The amount of liquid assets that was held by commercial banking sector from 2004 to 2013 was 53.34%.

In Ethiopia banking industry, for the purpose of meeting the liquidity requirement, any licensed bank shall maintain liquid assets of not less than 25% (twenty five percent) as noted by NBE. Thus, the liquidity position could be rated as excess as it is far above the requirement of the

regulatory authority. This could be because of the stringent liquidity requirement by the regulatory body (i.e. NBE, the central bank of the country), or low demand for bank loans, difficulty in loan approval procedures of banks, unavailability of feasible projects and the like. Thus, one can need to analyze the reasons for such excess liquidity as excess cash that is held is unproductive and could lead to reduce the profitability of banks.

Efficiency: In this section, analysis and empirical findings of those ratios are presented that provide information about efficiency of banks. The ratios included in this section are asset utilization ratio (AUR) and operating efficiency (OE).

Operating efficiency (OE): This ratio measures efficiency of banks in generating operating revenues and in controlling operating expenses. Higher the ratio, more efficient is the bank.

Table 5.17 Test for Equality of Means Between state and private banks of OE

Ho: $\mu^{st} = \mu^{pr}$; Ha: $\mu^{st} \neq \mu^{pr}$					
Sector	No. Obser.	Mean	Std. Dev.	t-test	Probability
State	20	2.282000	0.959659	1.559649	0.1363
Private	60	1.767167	0.410713		
Industry	80	2.024583	0.765436		

Source: Eviews results from f/statements of banks & MoFED reports and own computation

Table 5.17 shows that the efficiency of banks measured by total operating revenue to operating expenses for state-owned banks and private-owned banks had a mean value of 2.28% and 1.77% respectively. It indicates that on average, state-owned banks had more efficient than private-owned banks, but the difference was insignificant even at 10% significance level. State banks has higher total operating revenue to operating expense ratio than private banks which means that

public banks has greater operating revenue than private banks. This also may be that state-owned banks are better in maintaining their operating expenses in proportion to the amount of assets held as compared to private banks.

Asset utilization Ratio (AUR): This ratio determines that how efficiently the bank is utilizing its assets in generating revenues. Higher value of it reveals that bank is efficient in utilizing its resources.

Table 5.18 Test for Equality of Means Between state and private banks of AUR

Ho: $\mu^{st} = \mu^{pr}$; Ha: $\mu^{st} \neq \mu^{pr}$					
Sector	No. Obser.	Mean	Std. Dev.	t-test	Probability
State	20	6.509500	1.262355	-6.521526	0.0000***
Private	60	14.02517	3.418718		
Industry	80	10.26733	4.599524		

*****significant at 1%**

***indicate reject the null hypothesis at 1% significant level.

Source: Eviews results from f/statements of banks & MoFED reports and own computation

As indicated in the table above, private-owned banks had significantly greater AUR (Mean= 14.03%, SD= 3.42%) than state-owned banks (M = 6.51%, SD = 1.26%). These results suggest that privately-owned banks operate more efficiently than state-owned banks during the study period in terms of AUR. This could be because of the size of state banks were bigger and they had inefficient utilization of resources due to diseconomies of scale.

Solvency and risk: In this section, analysis and empirical findings of those ratios are presented that measure ability of banks in meeting long term obligations. The ratios included in this section are debt-equity ratio (DER) and equity multiplier (EM).

Debt-Equity Ratio (DER): This ratio measures the extent to which a bank depends on debt financing than equity financing. Higher the ratio, more risky is the bank operations and higher will be the chances that bank will default on its debts. So this ratio measures ability of banks to absorb financial shocks.

Table 5.19 Test for Equality of Means Between state and private banks of DER

Ho: $\mu^{st} = \mu^{pr}$; Ha: $\mu^{st} \neq \mu^{pr}$					
Sector	No. Obser.	Mean	Std. Dev.	t-test	Probability
State	20	12.84400	2.796925	5.833296	0.0000***
Private	60	7.511000	0.731749		
Industry	80	10.17750	3.382841		

*****significant at 1%**

***indicate reject the null hypothesis at 1% significant level.

Source: Eviews results from f/statements of banks & MoFED reports and own computation

As shown in the above able, the mean DER of state owned banks i.e. 12.84 was significantly different from that of privately owned banks i.e. 7.51 at 1% significant level, which leads to the conclusion that private banks are more solvent and less risky than state-owned banks in terms of DER, this may be because CBE (the largest state commercial bank in Ethiopia in terms of size) highly depend on debt financing than equity financing. This leads state-owned banks less solvent

and more risky than private counterparts. In generally, it is clear from the table 5.19 that DER of private banks is less than state owned banks in all the analysis year.

Equity-multiplier (EM): This ratio is another important indicator of solvency of banks. It measures how much the banks have converted their debts to assets in comparison to their equity. Higher value of this ratio leads to risky situations.

Table 5.20 Test for Equality of Means Between state and private banks of EM

Ho: $\mu^{st} = \mu^{pr}$; Ha: $\mu^{st} \neq \mu^{pr}$					
Sector	No. Obser.	Mean	Std. Dev.	t-test	Probability
State	20	13.89550	2.810817	5.968805	0.0000***
Private	60	8.518667	0.698607		
Industry	80	11.25208	3.440701		

*****significant at 1%**

***indicate reject the null hypothesis at 1% significant level.

Source: Eviews results from f/statements of banks & MoFED reports and own computation

As clearly indicated in table 6.7, state-owned banks had significantly higher EM as measured by assets to shareholders equity (M=13.89; SD=2.81) than private counterparts (M=8.52; SD=0.69). And the difference was highly significant i.e. at 1% significance level. This is may be because state-owned banks are largest size. And state-owned banks are more dependent on debt financing than private banks and denotes risky situations than private banks.

The above two ratios of solvency i.e. DER and EM concluded that state owned banks has higher ratios of solvency than private banks. It stands for how much the banks have converted their debts to assets in comparison to their equity and depends on debt financing than equity financing.

Based on the findings state owned banks are converting most of their debts in to asset compared to their equity and more dependent on debts which show lower ability of state-owned banks to meet long term obligations than their counterparts. It is the reliability of a financial institution in terms of solvency and of whether customers can be sure to get their money back. Overall, from the results it can be concluded that private banks are more solvent than state-owned banks.

This chapter discussed the analysis of the results of multiple linear regressions model and test for means equality separately. From the above data analysis (particularly from regression results and discussion) Ethiopian banks profitability are highly affected by size, GDP, Ownership structure and inflation rate. That means except age all the factors included in this study are proved as they had major impacts on banks performance in Ethiopia banking sector. On the other hand, test of means equality of different variables provided inconsistent result. Meaning, out of eleven ratios, only five ratios (CA, DER, ROA, AUR & EM) proved that private ownership is greater. On the contrary, in terms of ROE and OEA state owned banks are greater than private banks. While, there is insignificant difference between state- and private banks in terms of AQ, LDR, LADR and OE. Thus, next chapter will discuss the conclusions and recommendations of the study.

Chapter Six: 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

The participation of domestic private banks has been increased with a series of financial reforms that have substantially reshaped the banking system in Ethiopia in the recent past. However, substantial amount of studies have not been conducted to assess the performance differences among different ownership structure. Moreover, the literature provides ambiguous findings on ownership structure and financial performance of banks relationship while fewer studies have focused on developing countries. Thus, an attempt is made in this study to empirically examine the effect of ownership structure on performance of commercial banks in Ethiopia. To comply with the objective of this research, the paper is primarily based on quantitative research method which is supplemented by different techniques. The quantitative data were mainly obtained from NBE and MoFED through documentary analysis in order to achieve the research objective. In specific, multiple regression analysis is adopted to measure the effect of ownership structure and some selected control variables like bank's size, age, GDP and inflation on banks performance. On the other hand, test for means equality is adopted to determine the performance differences between private- and state-owned banks through different performance indicators such as asset quality, management quality, capital adequacy, earning performance, liquidity management, efficiency and solvency and risk.

For testing the research hypothesis and to answer the research questions, a sample size of eight Ethiopian commercial banks were selected and the necessary financial data were collected for the time period of 2004 to 2013. Based on the results of the descriptive statistics, correlation, regression analysis and test for means equality the researcher made the following conclusions.

Based on the descriptive statistics the financial performance of sample commercial banks had mean value of 0.033 (3.3 percent) and 0.308 (30.8 percent) as measured by return on asset and return on equity respectively. It is therefore the sample commercial banks are performing better in utilizing shareholders capital. From sample commercial banks, ownership is characterized by the presence of majority of private banks as compared with state-owned banks. But, the size is dominated by state-owned banks than private counterparts.

The correlation analysis indicates that most of the selected variables highly correlated with the financial performance of sample Ethiopian commercial banks. However, the correlations of explanatory and some control variables differ depend on the indicator used to measure financial performance.

The regression result shown that ownership structure has a significant positive effect on return on asset whereas it has significant negative effect on return on equity. Hence, the findings indicated that private banks outperform state-owned banks in terms of return on asset while state-owned banks outperform private counterparts in terms of return on equity. This findings consistent with the results of test for means equality between private- and state-owned banks. Accordingly, the researcher concludes from both findings that ownership structure has significantly positive and negative influence on sample commercial banks financial performance as measured by return on asset and return on equity respectively.

Turning to the control variables, the coefficient of the bank's size (BSIZ) is negative and it is statistically highly significant impact on performance for the two ROA and ROE models at 1% and 10% significance level respectively. This inverse relationship between bank's size and performance, significant in return on asset and return on equity cases, suggesting that larger banks tend to earn lower profits. From this findings the researcher concludes that, in Ethiopia banking industry the large size banks (e.g. CBE) are adversely affected their profitability by their size. Probably, this might due to the existence of bureaucratic bottlenecks system and managerial inefficiencies to manage their assets.

The beta values of another control variables age and performance are with a positive coefficient sign. However, the impact of age on performance is not statistically significant with the large p-value. Therefore, bank's age is not considered as powerful explanatory variables to define the performance of banking industry in Ethiopia over ten years.

With regarding to the macroeconomic indicators, GDP has highly statistically significant and positive impact on ROA and ROE at 5% and 1% significance level respectively on Ethiopian commercial banking industry. These results about GDP support the argument of the positive association between economic growth and the financial sector performance revealed by the empirical financial literature. The finding of the this research indicate that, the current Ethiopian economy growth could create a new and potential demand for financial services and it might reduce the probability of default loan. However, inflation rate is significant only on ROE model. According to the estimation results of this model the research finding indicate that inflation rate of the country has positive and significant (at 5% significance level) effect on return on equity of the commercial banks of Ethiopia. In Ethiopia banking business environment, this positive effect of inflation rate indicated that inflation rate was anticipated, hence banks can timely adjusted its

interest rates, which consequently lead in revenues that increase faster than costs, with a positive impact on profitability. With this, bank performance could be improved. From this can concludes that, the current economic growth of the country can stimulate the banking industry by create positive financial environment. Other important point is, inflation rate was not the problem of banking industry.

Out of eleven performance indicators used in test for equality of means between private- and state-owned banks, only two performance indicators significantly supports state-owned banks for superior performance as compared to private ownership and five performance indicators quote that privately-owned banks were superior in performance than state-owned banks significantly while four performance indicators supports there are no performance difference between private- and state-owned banks. So, from this empirical findings, it can be concludes that private banks was better than state-owned banks in most performance indicators in Ethiopia in terms of ROA, capital adequacy, AUR, DER and EM.

Turning to test for means equality tests details, capital adequacy is significantly better in private sectors as measured by capital to total asset ratios, showing the ability of private banks is better in meeting un-expected operational losses as compared to private banks.

Concerning main performance indictor, private-owned banks had greater profitability measures from their state counterparts as measured by return on asset. This shows that the effectiveness in utilization of assets were better in private banks as compared to state banks. This is consistent with the arguments of structure of objective function, which stated private investment is better in effectively allocating scarce resources. On the other hand, state-owned banks had better in return on equity as compared to private counterparts. Thus, ownership structure had significant impact

on the profitability of commercial banks in Ethiopia. But, state banks were significantly better in management quality indicator as they are able to keep the proportion of expenses to assets lower from private banks. Hence, state-owned banks were better in interest expenses, general and staff expenses management. This need further research to rectify the reason for this result as it is not reflected in the overall profitability.

As far as asset quality and liquidity management concerned, there was no significant difference among state and private-owned banks however the liquidity position could be rated as excess as it is far above from the requirement of the regulatory authority. However, another performance indicators such as debt to equity ratios and equity multiplier suggested that private banks are more solvent than state-owned banks.

Generally, from the findings even if private-owned banks have shown some superiority, the difference is not that much greater. This is because ownership structure may have very limited impact on performance of banks in Ethiopia which are operating in environments that are weakly competitive and highly regulated.

6.2. Recommendations

This study examined the effect of ownership structure on performance of commercial banks in Ethiopia over the period of 2004 to 2013. On the basis of the findings and conclusions reached, the following recommendations were forwarded.

Ownership structure, bank size, GDP growth rate and inflation rate are significant factors of profitability of commercials banks in Ethiopia. Indeed focusing and reengineering the institutions alongside these factors could enhance the profitability as well as the performance of the banks in Ethiopia.

Even if the explanatory powers of banks ownership structure is less in explaining the variability in ROA and ROE for commercial banks in Ethiopia than control variables, Ethiopian government in general and national bank of Ethiopia in particular should give an understanding and responsiveness for the effect of ownership structure on performance of banking industry in Ethiopia. Overall, the researcher recommend for private banks and state-owned banks (till the two ownership structure exist) separately in different performance indicators.

Firstly, management of state owned banks should strive to improve returns on their asset investments as compared with private owned banks. Because return on asset is main parameter of financial performance of commercial banks. On the other hand, private commercial banks managements should improve returns on their equity/capital investment as compared with state owned banks.

Secondly, managements of state-owned banks should strive to improve its capital to asset ratio, asset utilization ratio, debt equity ratio and equity multiplier as compared with private banks.

While, managements of private commercial banks should strive to reduce its operating expense to asset ratio as compared with state-owned banks. This can be done through decreasing interest expenses, general and administrative expenses.

Thirdly, the problem of excess liquid asset of the banks should be handled with due attention. In order to utilize the excess liquidity, efficient fund management should be exercised by both private- and state-owned banks.

Generally, until the Ethiopian banks are fully privatized, banks under state control should be made to compete with the private banks. In addition to privatization, in order to enhance the banking sectors, Ethiopian government in general and national bank of Ethiopia in particular, should also permit and encourage foreign entry of banks or be promote joint ventures with foreign banks.

6.3. Future research

By taking this study as a standing point, it could be possible to come up with a better insight and several extensions to this study are possible. Considering the available time and resource the outcome of this study can be more robust, if future researchers conduct a study on this area. Firstly, by including all the state and private banks in Ethiopia by using primary sources of data and including non financial performance indicators. Secondly, by taking evidence from other industries and increasing the number of observations through the use of large sample size and long years data. In general, as results obtained are opposite to some findings and theories, more empirical research can be carried out to find the reasons of these findings.

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Appendices

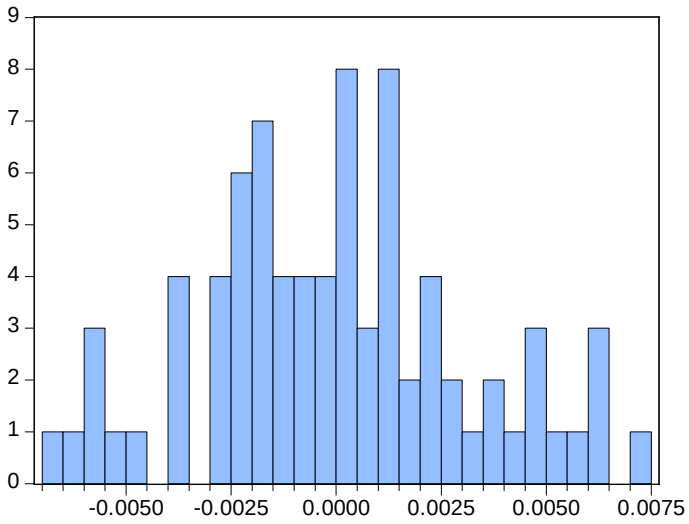
Appendix I: Diagnostic tests results for OLS Assumptions

Normality test

Ho: Residuals are normally distributed

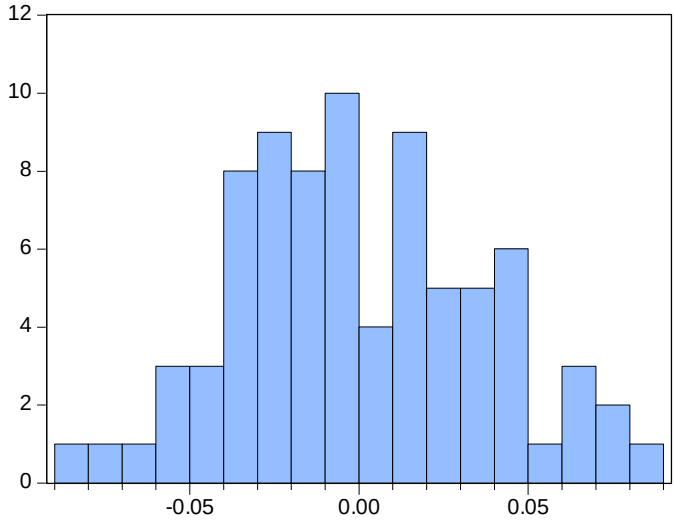
Ha: Residuals are not normally distributed

Model-1: Return on Asset



Series: Standardized Residuals	
Sample 2004 2013	
Observations 80	
Mean	-2.84e-18
Median	-1.71e-05
Maximum	0.007362
Minimum	-0.006796
Std. Dev.	0.003172
Skewness	0.144279
Kurtosis	2.765542
Jarque-Bera	0.460787
Probability	0.794221

Model- 2: Return on Equity



Series: Standardized Residuals	
Sample 2004 2013	
Observations 80	
Mean	-2.25e-17
Median	-0.004581
Maximum	0.089201
Minimum	-0.080231
Std. Dev.	0.036709
Skewness	0.238140
Kurtosis	2.571135
Jarque-Bera	1.369225
Probability	0.504286

Appendix-II: Regression Results

Dependent Variable: ROA
Method: Panel EGLS (Cross-section random effects)
Date: 12/09/14 Time: 19:15
Sample: 2004 2013
Periods included: 10
Cross-sections included: 8
Total panel (balanced) observations: 80

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.018150	0.010590	-1.713897	0.0907
OS	0.027811	0.012362	2.249680	0.0274
BSIZ	-0.004695	0.000971	-4.721652	0.0000
AGE	0.017551	0.011863	1.479523	0.1432
GDP	0.089852	0.037295	2.408272	0.0184
INFL	0.250214	0.507181	0.492963	0.7065

R-squared	0.668295	Mean dependent var	0.033000
Adjusted R-squared	0.645882	S.D. dependent var	0.015507
S.E. of regression	0.003277	Sum squared resid	0.000795
F-statistic	29.81790	Durbin-Watson stat	1.977497
Prob(F-statistic)	0.000000		

Dependent Variable: ROE
Method: Panel EGLS (Cross-section random effects)
Date: 12/09/14 Time: 04:32
Sample: 2004 2013
Periods included: 10
Cross-sections included: 8
Total panel (balanced) observations: 80

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.053523	0.086014	0.622258	0.5357
OS	-0.001808	0.001060	-1.704464	0.0925
BSIZ	-0.003457	0.001914	-1.806319	0.0747
AGE	0.132512	0.090070	1.471208	0.1455
GDP	0.029945	0.005213	5.744680	0.0000
INFL	0.014627	0.006169	2.371255	0.0203

R-squared	0.795258	Mean dependent var	0.307934
Adjusted R-squared	0.781425	S.D. dependent var	0.081128
S.E. of regression	0.037929	Sum squared resid	0.106458
F-statistic	37.48626	Durbin-Watson stat	2.179221
Prob(F-statistic)	0.000000		